2005

REPORT OF THE TWENTY-SECOND ANNUAL MEETINGS OF THE COMMISSIONS

VICHY, FRANCE

6-10 JUNE 2005

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TABLE OF CONTENTS

REPORT OF THE

TWENTY-SECOND ANNUAL MEETING

OF THE

NORTH AMERICAN COMMISSION

6-10 JUNE 2005
VICHY, FRANCE

Chairman:	Mr George Lapointe (USA)
Vice-Chairman:	Mr Guy Beaupré (Canada)
Rapporteur:	Ms Kimberly Blankenbeker (USA)
Secretary:	Dr Malcolm Windsor

NAC(05)8

CONTENTS

NAC(05)8

Report of the Twenty-Second Annual Meeting of the North American Commission of the North Atlantic Salmon Conservation Organization 6-10 June 2005, Vichy, France

1. Opening of the Meeting

1.1 In the absence of the Chairman, Mr George Lapointe (USA), the Vice-Chairman, Mr Guy Beaupré (Canada), assumed the duties of Chairman for the 2005 meeting of the North American Commission. Mr Beaupré opened the meeting and welcomed the participants.

1.2 The Chairman invited opening comments from the Commission members. No statements were made. The Chairman opened the floor for comments by the NGO observers. Mr Chris Poupard (NGO Chairman) made a short statement on behalf of the NGOs (Annex 1).

1.3 A list of participants at the Twenty-Second Annual Meeting of the Council and Commissions of NASCO is included on page 173 this document.

2. Adoption of the Agenda

2.1 The agenda, NAC(05)9 (Annex 2), was adopted with the understanding that item 8 (Impacts of Acid Rain on Atlantic Salmon) would be deferred for discussion in the Council.

3. Nomination of a Rapporteur

3.1 Ms Kimberly Blankenbeker (USA) served as rapporteur.

4. Review of the 2004 Fishery and ACFM Report from ICES on Salmon Stocks in the Commission Area

4.1 The representative of the ICES Advisory Committee on Fishery Management (ACFM), Dr Walter Crozier, reviewed the 2004 fisheries in the North American Commission area and presented scientific advice relevant to the Commission, CNL(05)8. The ACFM report, which contains the scientific advice relevant to all Commissions, is included on page 123 of this document. The presentation overheads are contained in document CNL(05)44.

4.2 The Commission members had no questions on the scientific advice. The Commission took note that it was Dr Crozier's last meeting presenting advice as Chair of the North Atlantic Salmon Working Group. The Parties expressed their sincere appreciation for his excellent work.

5. Review and Discussion of the 2005 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

5.1 A representative of the United States presented a report on US Atlantic salmon management and research activities in 2004, NAC(05)5 (Annex 3).

5.2 A representative of Canada reviewed Canadian Atlantic salmon management measures for 2005, NAC(05)6 (Annex 4).

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6. The St Pierre and Miquelon Salmon Fishery

6.1 A representative of France (in respect of St. Pierre and Miquelon) presented information with respect to its salmon fishing activities and its scientific monitoring program for salmon, CNL(05)28.

6.2 The representative of the United States thanked France (in respect of St. Pierre and Miquelon) for its presentation. She noted strong support for the work France (in respect of St. Pierre and Miquelon) has undertaken, underscoring the vital nature of the scientific monitoring aspects. She expressed the hope that this work would continue and expand.

6.3 The Commission encouraged the continued cooperation of France (in respect of St. Pierre and Miquelon) with NASCO, including participation as an observer in NASCO's Annual Meetings.

7. Salmonid Introductions and Transfers

7.1 A representative of the United States presented a report on the 2004-2005 activities of the NAC Scientific Working Group on Salmonid Introductions and Transfers, NAC(05)4 (Annex 5).

7.2 To address outstanding issues concerning the Commission's Protocols on Introductions and Transfers, the representative of Canada introduced a Memorandum of Understanding (MOU) on this matter, which had been agreed with the United States, NAC(05)7 (Annex 6). In particular, the MOU is meant to reconcile the differences between the methods used by the United States and Canada for authorization of introductions and transfers.

7.3 Given the relevance of this MOU to the Williamsburg Resolution, the Commission agreed to recommend to the Council that the MOU be appended to that document.

7.4 The North American Commission members noted that the MOU addressed the need to revise the North American Commission Protocols and noted their pleasure that this issue had finally been successfully resolved.

8. Sampling in the Labrador Fishery

8.1 The representative of Canada drew the Commission's attention to document NAC(05)6 (see Annex 4) for information on sampling in Labrador.

9. Announcement of the Tag Return Incentive Scheme Prize

9.1 The draw for the Commission's prize in the NASCO Tag Return Incentive Scheme was made by the Auditor on 27 May 2005. The winning tag was of Canadian origin. The tag was applied to a late run wild salmon on 13 September 2004 at the Department of Fisheries and Oceans trapnet on the Southwest Miramichi River at Millerton, New Brunswick, and was recaptured later that year in the Miramichi watershed. The winner of the Commission's prize of $1,500 was Mr Benjamin O. Azenedo, Jr., of Niantic, Connecticut, USA. The Commission offered its congratulations to the winner.

10. Recommendations to the Council on the Request to ICES for Scientific Advice

10.1 The Commission members reviewed the relevant section of document SSC(05)2. The main change from the advice request of previous years was the move to seek multi-annual catch advice (2006-2008). This change was initiated in response to the recommendation from the Next Steps Working Group to consider the feasibility of adopting multi-annual regulatory measures. It was recognized that if there was interest in adopting such measures, the overall nature and scope of the request for scientific advice could be affected as well as the ICES/NASCO MOU.

10.2 The NAC agreed to recommend the relevant section of document SSC(05)2 to the Council as part of the annual request to ICES for scientific advice. The request to ICES, as agreed by the Council, is contained in document CNL(05)12 (Annex 7).

11. Other Business

11.1 The Chairman expressed his gratitude to the members of the Commission for their help in ensuring an efficient and productive meeting. He also thanked the NASCO Secretariat and the Rapporteur for their hard work.

11.2 The Parties thanked Mr Beaupré for his excellent job in Chairing the Commission meeting, particularly in light of the late notice that the Commission's Chairman would be unable to attend the meeting.

11.3 There was no other business.

12. Date and Place of the Next Meeting

12.1 The Commission agreed to hold its next meeting at the same time and place as the Twenty-Third Annual Meeting of the Council, 5-9 June 2006.

13. Report of the Meeting

13.1 The Commission agreed a report of the meeting, NAC(05)8.

Note: The annexes mentioned above begin on page 13, following the French translation of the report of the meeting. A list of North American Commission papers is included in Annex 8 on page 49 of this document.

NAC(05)8

Compte rendu de la Vingt-deuxième réunion annuelle de la Commission Nord-Américaine de l'Organisation pour la Conservation du Saumon de l'Atlantique Nord, 6-10 juin 2005, Vichy, France

1. Séance d'ouverture

1.1 En l'absence du Président, M. George Lapointe (Etats-Unis), le Vice-président, M. Guy Beaupré (Canada), a assumé le rôle de Président pour la réunion de 2005 de la Commission Nord-américaine. M. Beaupré a ouvert la réunion et a souhaité la bienvenue aux délégués.

1.2 Le Président a invité les membres de la Commission Nord-Américaine à présenter leurs déclarations d'ouverture. Aucune déclaration n'a été faite. Le Président a lancé le débat en demandant aux ONG, présentes à titre d'observateurs, d'offrir leurs commentaires. M. Chris Poupard (Président des ONG) a présenté une brève déclaration d'ouverture au nom des ONG (annexe 1).

1.3 Une liste des participants à la Vingt-deuxième réunion annuelle du Conseil et des Commissions de l'OCSAN figure à la page 173 de ce document.

2. Adoption de l'ordre du jour

2.1 L'ordre du jour, NAC(05)9 (annexe 2), a été adopté à l'exception du point 8 (Effets nuisibles des pluies acides sur le saumon atlantique) qu'on a accepté de remettre à plus tard de façon à permettre au Conseil de débattre de la question.

3. Nomination d'un Rapporteur

3.1 Ms Kimberly Blankenbeker (Etats-Unis) a rempli le rôle de Rapporteur.

4. Examen de la pêcherie de 2004 et rapport du CCGP du CIEM sur les stocks de saumons dans la zone de la Commission

4.1 Le représentant du Comité Consultatif sur la Gestion des Pêcheries (CCGP) du CIEM, Dr Walter Crozier, a passé en revue les pêches effectuées en 2004 au sein de la zone de la Commission Nord-Américaine (CNA). Il a également présenté les recommandations scientifiques pertinentes à la Commission, CNL(05)8. Le rapport du CCGP du CIEM qui présente les recommandations scientifiques intéressant l'ensemble des Commissions, figure à la page 123 de ce document. Le document CNL(05)44 regroupe les diapositives projetées au cours de la présentation.

4.2 Les membres de la Commission Nord-Américaine n'ont posé aucune question sur les recommandations scientifiques. La Commission a noté que cette réunion était la dernière pour Dr Crozier, en tant que Président du Groupe de travail du Saumon Nord

Atlantique, et, par conséquent, la dernière où il offrait des recommandations. Les Parties ont exprimé leur sincère appréciation pour l'excellent travail qu'il avait accompli.

5. Examen et Discussion des mesures de gestion du saumon, proposes pour l'an 2005 par le Canada et les Etats-Unis, dans le cadre du mandat de la Commission et des conclusions offertes par le rapport du CCGP du CIEM

5.1 Un représentant des Etats-Unis a présenté un rapport sur la gestion du saumon atlantique des Etats-Unis en 2004 et sur les activités de recherche effectuées au cours de la même année, NAC(05)5 (annexe 3).

5.2 Un représentant du Canada a présenté les mesures de gestion du saumon atlantique proposées pour 2005 par le Canada, NAC(05)6 (annexe 4).

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6. Pêcherie de saumons à Saint-Pierre et Miquelon

6.1 Un représentant de la France (pour Saint-Pierre et Miquelon) a soumis des informations sur les activités de pêche au saumon et sur le programme scientifique de surveillance du saumon, entrepris par la France (pour Saint-Pierre et Miquelon), CNL(05)28.

6.2 La représentante des Etats-Unis a remercié la France (pour Saint Pierre et Miquelon) pour sa présentation. Elle a fait remarquer que le travail entrepris par la France (au nom de Saint Pierre et Miquelon) avait attiré un grand soutien, soulignant combien chaque aspect du contrôle scientifique était essentiel. Elle a indiqué qu'elle espérait voir ce travail continuer si ce n'est aller encore plus loin.

6.3 La Commission a encouragé la France (pour Saint Pierre et Miquelon) à continuer de coopérer avec l'OCSAN, en participant notamment aux Réunions annuelles de l'OCSAN en tant qu'observateur.

7. Introductions et transferts de salmonidés

7.1 Un représentant des Etats-Unis a proposé un rapport sur les activités de 2004-2005 du Groupe de travail scientifique de la Commission Nord-Américaine, chargé de la question des introductions et transferts de salmonidés, NAC(05)4 (annexe 5).

7.2 Pour résoudre les questions restées en suspens concernant les Protocoles de la Commission sur les Introductions et transferts, le représentant du Canada a proposé, à ce sujet, un protocole d'accord qui avait été formulé conjointement avec les Etats-Unis, NAC(05)7 (annexe 6). Ce protocole d'accord était censé réconcilier tout particulièrement les différences qui existaient entre les méthodes employées par les Etats-Unis et celles employées par le Canada quant à l'autorisation des introductions et transferts.

7.3 Etant donné que le protocole d'accord s'alignait sur la Résolution de Williamsburg, la Commission a convenu de recommander au Conseil de l'ajouter à ce document.

7.4 La Commission Nord-Américaine a pris acte du fait que le MOU répondait à la nécessité de réviser les protocoles de la Commission Nord-Américaine et a exprimé son plaisir de voir que cette question avait finalement été résolue.

8. Echantillonnage au Labrador

8.1 Le représentant du Canada a attiré l'attention de la Commission sur le document NAC(05)6 (annexe 4) qui contenait des informations sur l'échantillonnage au Labrador.

9. Annonce du Prix du Programme d'encouragement au renvoi des marques

9.1 Le tirage au sort du prix de la Commission Nord-Américaine du Programme d'encouragement au renvoi des marques de l'OCSAN a été effectué par le vérificateur des Comptes le 27 mai 2005. La marque gagnante était d'origine canadienne. La marque, posée sur un saumon sauvage en fin de saison, le 13 septembre 2004 dans le filet piège du Service des Pêches et des Océans installé au Nouveau-Brunswick, dans la Rivière de Miramichi du Sud-ouest, à Millerton, a été recouverte plus tard, au cours de la même année, dans la ligne de séparation des eaux du Miramichi. M. Benjamin O. Azenedo, Jr., de Niantic dans le Connecticut, Etats-Unis, a remporté le prix de la Commission de 1 500 dollars. La Commission a félicité le gagnant.

10. Recommandations au Conseil en matière de recherches scientifiques dans le cadre de la demande adressée au CIEM

10.1 Les membres de la Commission ont examiné la section pertinente du document SSC(05)2. La modification principale apportée à la demande de recommandations, par rapport aux années précédentes, était la recherche de recommandations de captures portant sur plusieurs années (2006-2008). Cette modification avait été initiée pour répondre à la recommandation proposée par le Groupe de travail chargé des Mesures à prendre à l'avenir, à savoir d'envisager la possibilité d'adopter des mesures de réglementation valables sur plusieurs années. Il a toutefois été reconnu que, si ces mesures s'avéraient d'intérêt, ceci pourrait affecter le caractère de la demande de recommandations scientifiques ainsi que sa portée. Cela aurait également une incidence sur le protocole d'accord entre le CIEM et l'OCSAN.

10.2 La CNA a convenu de recommander la section pertinente du document SSC(05)2 au Conseil dans le cadre de la demande annuelle de recommandations scientifiques adressée au CIEM. La demande de recommandations scientifiques adressée au CIEM et approuvée par le Conseil figure dans le document CNL(05)12 (annexe 7).

11. Divers

11.1 Le Président a exprimé sa gratitude aux membres de la Commission pour leur assistance au bon déroulement de la réunion qui s'était avérée efficace et productive. Il a également remercié le Secrétariat de l'OCSAN et le Rapporteur pour leur travail assidu.

11.2 Les Parties ont exprimé leur gratitude à M. Beaupré pour son excellente direction de la réunion de la Commission, d'autant plus qu'il n'avait appris qu'à la dernière minute que Président ne pourrait pas participer à la réunion.

11.3 Aucune autre question n'a été traitée.

12. Date et lieu de la prochaine réunion

12.1 La Commission a convenu de tenir sa prochaine réunion en même temps (soit du 5 au 9 juin 2006), et au même endroit que la Vingt-troisième réunion annuelle du Conseil.

13. Compte rendu de la réunion

13.1 La Commission a accepté le compte rendu NAC(05)8 de la réunion.

Note: Une liste des documents de la Commission Nord-Américaine figure à l'annexe 8, à la page 49 de ce document.

ANNEX 1

Joint Statement by the NGOs to the North American Commission

Mr Chairman, this will be a brief statement because although our two North American NGOs are represented here, the current impasse on the communications issue continues to prevent their full participation as NGOs. This situation requires an urgent resolution, and I urge the Parties and NGOs concerned to redouble their efforts to find one. (I will, of course, do whatever I can to help in this regard). However, I am pleased to report that in the spirit of openness and transparency which we hope will infuse the whole of NASCO in future, we are sharing information and benefiting from their knowledge and expertise in other capacities.

The NGOs recognise that there is a zero harvest in the US. We urge Canada to adopt management measures that heed the ICES advice, particularly in respect of 2SW salmon.

I noted in our opening statement to the Council that one Party had not reported on their commitments under the Williamsburg Resolution, and I was pleased to hear, in their opening statement, that they will be reporting next year. We look forward to that report and hope it meets the expectations of the Next Steps process.

ANNEX 2

NAC(05)9

Twenty-Second Annual Meeting of the North American Commission
Palais des Congrès, Vichy, France
6-10 June, 2005

Agenda

1. Opening of the Meeting
2. Adoption of the Agenda
3. Nomination of a Rapporteur
4. Review of the 2004 Fishery and ACFM Report from ICES on Salmon Stocks in the Commission Area
5. Review and Discussion of the 2005 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
6. The St Pierre and Miquelon Salmon Fishery
7. Salmonid Introductions and Transfers
8. Impacts of Acid Rain on Atlantic Salmon
9. Sampling in the Labrador Fishery
10. Announcement of the Tag Return Incentive Scheme Prize
11. Recommendations to the Council on the Request to ICES for Scientific Advice
12. Other Business
13. Date and Place of the Next Meeting
14. Report of the Meeting

ANNEX 3

North American Commission

NAC(05)5

Report on US Atlantic Salmon Management and Research Activities in 2004

NAC(05)5

Report on US Atlantic Salmon Management and Research Activities in 2004

Adult Returns

Based upon the sum of documented trap returns and redd count estimates, the total number of returns of Atlantic salmon to US rivers for 2004 was 1,635. Of the 1,635 Atlantic salmon that returned to US rivers in 2004, 1,566 were adults. This is a 14% increase from the number of adult returns estimated in 2003. Most documented returns (1,323) occurred in the Penobscot River (Maine), which accounted for 81% of the total US returns. Returns to other New England rivers were as follows: Merrimack (128), Connecticut (69), Saco (19), Narraguagus (11), Androscoggin (11), Union (2), Pleasant (1), Pawcatuck (1), and Dennys (1). The estimated combined returns to the eight Maine rivers that comprise the endangered distinct population segment (DPS) are 82 fish (90% CI= 60-113). The estimate for returns to DPS rivers was obtained through a return-redd regression model developed specifically for these rivers. The majority of US returns (89%) were of hatchery-smolt origin and the remaining 11% as the products of natural spawning or hatchery-fry stocking.

Stock Enhancement Programs

During 2004 about 15,173,300 juvenile salmon (91.9% fry) were released into 16 river systems. The number of releases exceeds the number of juvenile salmon released in 2003. Fry were released into the following rivers: Connecticut, Merrimack, Saco, Penobscot, and six of the rivers that contain endangered populations within the Gulf of Maine DPS. Smolts were also stocked into US rivers: Penobscot (566,000), Merrimack (50,000), Connecticut (96,400), Saco (5,400), Dennys (56,300), Pleasant (8,800), and Pawcatuck (6,100) rivers. In addition to juveniles, 4,311 (spent/excess broodstock) adult salmon were released into US rivers to enhance spawning and in some cases support a recreational fishery.

Tagging and Marking Programs

Tagging and marking programs facilitated research and assessment programs including: identifying the life stage and location of stocking, evaluating juvenile growth and survival, instream adult and juvenile movement, and estuarine smolt movement. A total of 572,000 salmon released in US waters in 2004 was marked or tagged using the following types of tags/ marks: floy, carlin, PIT, radio and acoustic, fin clips, and visual implant elastomer. Approximately 17% of the marked fish were released into the Connecticut watershed, 1% into the Merimack River watershed, 62% into the Penobscot River, and 20% into other Maine Rivers.

Description of Fisheries

Commercial and recreational fisheries for sea-run Atlantic salmon are closed in US waters, including freshwater systems, coastal/estuarine systems, and marine waters within the US Exclusive Economic Zone (EEZ). Any incidental catch must be released immediately, alive and uninjured, without being removed from the water. Despite this policy and associated regulations, there is the potential for illegal harvest. Suspected poaching in specific areas has in the past (2003) resulted in the closure of those sections of the river and increased

enforcement presence on other rivers. A controlled recreational fishery is also permitted for stocked spent/excess broodstock on the Merrimack River. Bycatch of Atlantic salmon also has the potential to occur. During 2004, a dealer in the State of Connecticut reported 24 pounds of Atlantic salmon bycatch to NOAA Fisheries. No additional information is available on the target fishery that the bycatch resulted from or the vessel of origin at this time; however, NOAA Fisheries continues to pursue additional information.

Commercial Aquaculture Production

Production of farmed salmon in Maine was 9,121 metric tonnes (t) in 2004, an increase from the 6,435 t produced in 2003. Production in each of the last three years has been less than the 13,154 t produced in 2001. Production has declined due to ISAv outbreaks and changes in the industry.

Habitat Conservation, Enhancement, and Restoration

- 2004 is the second and final year for the Atlantic Salmon Commission's pH study. The objective of the study was to create a seasonal snapshot of pH-related water chemistry in Maine salmon rivers. The data collected from this study will be used to compare both within and among Maine rivers with varying flow and precipitation conditions.

- The Maine Atlantic Salmon Commission has been working with Kleinschmidt Energy and Water Resource Engineering of Pittsfield Maine, and Sevee and Mahar Engineers, Inc. of Cumberland Center Maine to develop a better understanding of stream basin hydrology and potential effects of hydrology on salmon habitat. This project was conducted on the Pleasant, Narraguagus, and Machias Rivers in Maine and included cataloguing and assessing existing ground and surface water, geologic, habitat, and climatic data within these watersheds. The data collected as part of this study is now being used to develop linked surface-water and ground-water watershed models as tools to assess the effects of surface and ground water withdrawals, land use/land cover changes on river flows, groundwater, and Atlantic salmon habitat.

- In 2004 the multi-agency New Hampshire River Restoration Task Force continued to work on identifying dams for removal in the Merrimack River watershed. On the Contoocook River (Henniker, NH) the West Henniker Dam was breached in August of 2004. Breaching this dam dewatered a small impoundment and exposed run and pool habitat for a distance of approximately 1.5 km upriver.

- In 2004 the USFWS, in cooperation with the Penobscot Indian Nation, continued work initiated in 2003 to examine fish passage, habitat connectivity, and non-point sources pollution in Maine's rivers.

- Project SHARE, watershed stakeholders, and Watershed Councils, with funding from a variety of sources including National Fish and Wildlife Foundation and Atlantic Salmon Commission, were involved in restoration projects that include revegetating NPS sites and reforesting riparian buffers in 2004.

- In 2004 the US Atlantic Salmon Assessment Committee undertook a review of existing studies that have been completed over the past 30 years on downstream passage. These studies included migration on undammed streams and around dams,

both with and without special downstream passage facilities. A compilation of studies at 36 different hydroelectric dams on 13 rivers in four New England states produced information from 72 studies. However, there were some areas that were not fully represented in the compilation (e.g., salmon migration down free-flowing streams) and all of the studies with the exception of one focused on Atlantic salmon smolts. Given that each hydroelectric plant is configured uniquely (i.e., location of turbines, turbine types, flow characteristics, etc.), the effectiveness of downstream passage is very site-specific. Passage effectiveness has been defined as the percentage of fish approaching the dam that use the downstream passage device and avoid the turbines. Effectiveness estimates ranged for each dam and each study contained high and low estimates. Reviewing the effectiveness of downstream passage is very important as the juvenile rearing habitat is in the headwaters of the large rivers that support some of the larger salmon populations.

The Endangered Gulf of Maine (GOM) Distinct Population Segment (DPS)

The federally endangered GOM DPS of Atlantic salmon, as listed in 2000, includes Cove Brook (a tributary to the lower Penobscot River) the Dennys, Machias, East Machias, Pleasant, Narraguagus, Ducktrap, and Sheepscot Rivers. The total estimated adult returns for the DPS was 82 fish (90% CI= 60-113). Data on adult returns and redd counts collected from 1991-2004 on the Narraguagus, Dennys, and Pleasant rivers from 2000-2004 were used to develop a return-redd model using a linear regression of the natural log of both values. This model and its associated error were used to simulate the most probable adult returns on a river-by-river basis. NOAA Fisheries and USFWS plan to release the final version of the Recovery Plan for the Gulf of Maine DPS of Atlantic Salmon by mid-summer of 2005. Presently, a status review is also underway to determine the relationship of large river systems (e.g., Penobscot, Kennebec) to the GOM DPS as it is currently delineated. This review will also determine the status of current salmon populations within these large river systems, as well as any other additional salmon populations present within the geographic range of the DPS. The outcome of this review may have implications for the recovery strategy of Atlantic salmon in Maine.

Additional Items of Interest

- In 2004 a report showed that many farmed salmon had elevated concentrations of PCBs, dioxins, and/or heavy metals, which was likely to have come from the fish oil in the commercial feed. Therefore, the US Fish and Wildlife Service (USFWS) evaluated their hatchery broodstock fish to determine if they had elevated levels of these contaminants. Many of the fish at the USFWS National Fish Hatchery had higher levels of PCBs than those reported in the 2004 report on farmed salmon. Contaminant levels in the hatchery fish were generally 10-100 times lower than those reported to cause sub-lethal effects in salmonids. However, currently for Atlantic salmon there is no universally accepted lethal/non-lethal threshold and it is difficult to detect what synergistic effects exposure to a mixture of contaminants is having. In addition, the timing of exposure to certain contaminants can also cause non-lethal, yet harmful, effects including hormonal changes and changes in neural development. Therefore, studies on functional deficits associated with contaminants should continue.

- Since 1997 NOAA has conducted ongoing assessments of smolt migration using ultrasonic telemetry. In 2004 three different studies were conducted on smolt

movement through the estuary into the nearshore marine environment. In the Pleasant and Narraguagus approximately 2+ naturally reared smolts were tagged as well as hatchery smolts, and in the Dennys 1+ smolts were tagged. Survival of smolts to the furthest quantitative marine array was variable. Results showed that the Dennys smolts had the lowest survival rate (19.23%), followed by the Narraguagus (42.86%), and the Pleasant (61.56% for naturally reared smolts and 60% for hatchery smolts). Researchers are pursuing a variety of other studies based upon the telemetry results.

- The Penobscot PIT Tag project is a cooperative research project among the Maine Atlantic Salmon Commission, the US Geologic Service, the USFWS, NOAA, and the Penobscot Indian Nation. This project examined temporal and spatial movements of Atlantic salmon during their upstream migration in the Penobscot River basin using PIT tags. Results of this study have yielded information on the movements and distribution of salmon in the Penobscot drainage after they pass upstream of Veazie Dam. The data gained from this project can also be related to season timing, photoperiod, flow, temperature, and final destination of tagged fish.

- The Adopt a Salmon Family Program has been operating for the past 12 years. The Adopt a Salmon Family Program is an education outreach program that operates in the three states where there are active Atlantic salmon restoration and recovery programs (Maine, New Hampshire, and Massachusetts). The Program gives students opportunities to be involved with Atlantic salmon restoration, understanding of watershed health in general, and the importance of river health to all species of fish and aquatic life.

ANNEX 4

North American Commission

NAC(05)6

Review of Atlantic Salmon Management Measures for 2005

(Tabled by Canada)

NAC(05)6

Review of Atlantic Salmon Management Measures for 2005

(Tabled by Canada)

Introduction

The outlook for Atlantic salmon stocks continues to be generally poor throughout Atlantic Canada. There are few areas where returns and spawners are consistently above conservation requirements, other areas where returns are adequate (or close to being so) for conservation, and many areas where there are serious concerns for conservation of the stocks. Low returns are associated with low marine survival.

Aboriginal Food Fisheries

Aboriginal food fisheries for Atlantic salmon take place throughout Atlantic Canada and Quebec. Aboriginal fisheries for food, social and ceremonial purposes are permitted after conservation requirements have been addressed, and take precedence over recreational fishing.

The Department of Fisheries and Oceans seeks to develop food fishery licences with Aboriginal groups that identify allocations, monitoring system requirements (guardians/logbooks, etc.) and in some areas, scientific projects such as tagging or gear trials (such as the use of trapnets instead of gillnets) where practical.

In the Gulf Region, Aboriginal fisheries in 2004 occurred in the southern Gulf of St. Lawrence rivers generally in accordance with agreements and communal fishing licences. The quota was negotiated at 2,801 - MSW and 13,212 - 1SW. It is expected that the agreements will be negotiated at approximately the same levels for 2005.

In Labrador, quota management and the harvest of multi-sea-winter fish are the primary management considerations for the food, social and ceremonial (FSC) salmon fisheries in 2005. In 2004, FSC fisheries resulted in the harvest of approximately 30t of salmon compared to combined quotas of 23.5t.

Quotas – Labrador Food Fisheries

In 2005, the following quotas will apply:

Labrador Inuit Association	10t	(10t in 2004; catch of 16t)
Labrador Métis Nation	10t	(10t in 2004; catch of 11.4t)
Innu Nation	3.5t	(3.5t in 2004; catch of 1.4t)

Labrador Inuit Association (LIA)

To help ensure that the LIA quota is not exceeded in 2005, the number of tags per fisher will be reduced from ten to seven. There will be restrictions on alternate designations that were not in place in 2004.

Labrador Métis Nation (LMN)

There will be a reduction in fishing effort in 2005, which will be achieved through restrictions on the length of the fishing season for individual designates. Designates will be permitted to fish for a maximum of two weeks within a six-week salmon season for the entire area. This was one of the recommendations proposed by the stakeholder groups during the consultations and supported by scientific advice as a measure that should have more impact on the retention of 2SW salmon than a one-week delay in the season opening.

Resident Food Fishery

The resident food fishery is not a directed salmon fishery, but allows the by-catch of four salmon in the directed trout and char fishery. For 2005, DFO will maintain the cap on the number of resident food licences for Lake Melville. In all other areas of SFA 2, no additional trout and char food licences will be issued.

Overall, the management measures for the Labrador food fisheries will help address the conservation concerns with respect to the catch of 2SW salmon and the quota over-runs in the 2004 food fishery.

Commercial Fishery

There are no commercial fisheries for Atlantic salmon on Canada's east coast. The last commercial fishery, a small fishery on Quebec's Lower North Shore, concluded in 1999.

Recreational Fishery

Newfoundland and Labrador

The current 2002-2006 Salmon Management Plan remains unchanged for 2005, with the exception of areas where community conservation initiatives have been introduced. The major elements of the multi-year plan include a River Classification and Adaptive Management strategy.

Community conservation initiatives have been established for seven rivers in Bay St. George, Northwest River (Port Blanford), Terra Nova and the Exploits River. These rivers have seen increased salmon runs in the past several years mainly due to community involvement through stewardship and public awareness campaigns. These initiatives have been successful in rebuilding salmon stocks.

Other key management measures include the mandatory use of barbless hooks on all scheduled rivers, river closures based on Environmental Protocols (low water levels or high water temperatures) as well as selected river closures for the entire season for conservation reasons.

Management measures implemented for the past three years in Southern Labrador for the conservation of 2SW salmon in the recreational fishery will continue in 2005. These measures include a classification system for rivers impacted by the construction of the TransLabrador Highway (designated Class III with 2 grilse seasonal limit, and no retention of large salmon). For all other rivers in Zones 1 and 2 the bag limit continues to be three grilse and one large salmon.

Recreational catches for Labrador increased from 8,584 in 2003 to 10,258 in 2004, while recreational catches for Insular Newfoundland declined from 41,320 in 2003 to 36,676 in 2004.

Salmon monitoring will continue in Labrador for 2005 with assessment facilities at Sand Hill River; Southwest Brook and Muddy Bay Brook in Zone 2 and English River in Zone 1.

Maritimes Region

The Maritimes Region consists of five Salmon Fishing Areas (19, 20, 21, 22 and 23). In 2004, only two monitored salmon rivers in the Region achieved spawning requirements. Rivers in two of these Areas (20 and 21) are negatively impacted by acid rain and are generally of low productivity. Given the stock status and the forecast for similar returns in 2005 management options are limited. Complete closures will be applied to most rivers in the Region with some limited hook and release angling opportunities and aboriginal harvests limited essentially to hatchery-origin fish. Angling licence sales have declined in Nova Scotia by 74% within the past decade.

Area 19 will open for hook and release only. In Areas 20 and 21, seven rivers will open to hook and release, and food fisheries on five those rivers will be permitted for fin-clipped hatchery grilse. This limited access in Areas 20 and 21 is not expected to contribute to any further decline in the stocks.

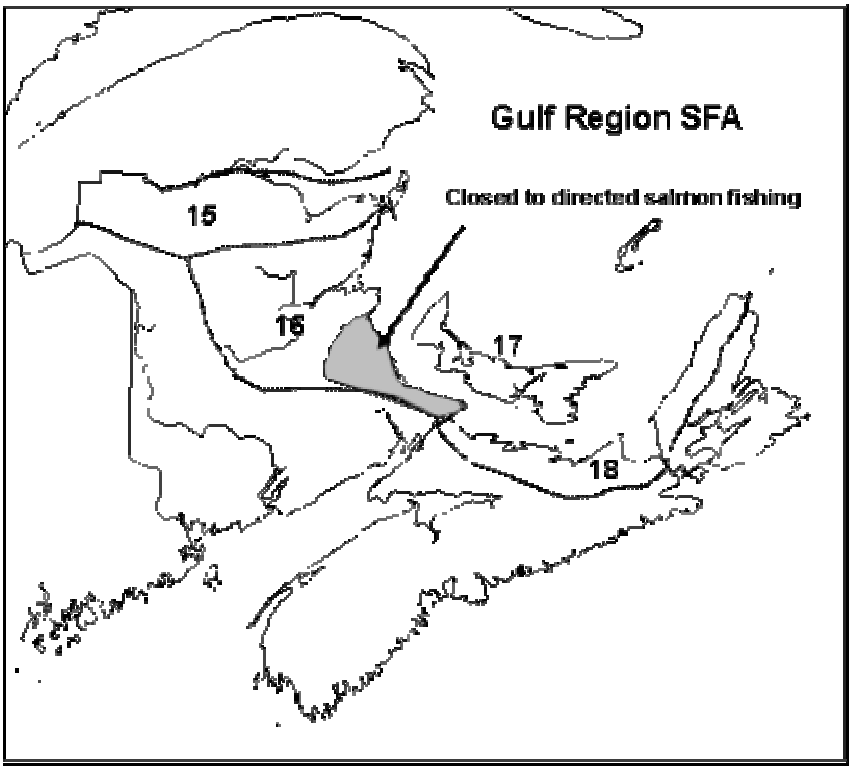
Rivers in the Inner Bay of Fundy portion of Areas 22 and 23 remain closed to salmon fishing (since 1990) and salmon stocks in this area were assessed as "endangered" by the Committee on the Status of Endangered Wildlife in Canada in 2001. They are now listed as "endangered" under Canada's *Species at Risk Act* which means that no fishing or other harmful activity can be directed at these salmon. A live-gene bank program for Inner Bay of Fundy salmon stocks was initiated in 1998 and recovery actions continue for these stocks.

Gulf Region

The Gulf Region consists of four Salmon Fishing Areas (15, 16, 17 and 18). Overall, small salmon abundance in 2004 was higher than in 2003 and large salmon abundance was similar to or above the previous year values. Juvenile production in monitored rivers remains high with annual variations reflecting, in part, variations in egg depositions. Wild smolt production from the three largest rivers in Gulf Region was estimated in 2004 at about 2.1 million smolts compared with 1.4 million in 2003. These rivers collectively represent almost 80% of the salmon-producing area of the Gulf Region. All commercial fisheries for Atlantic salmon remain closed.

Atlantic salmon were harvested by two user groups in 2004: Aboriginal peoples and recreational fishers. Aboriginal peoples were given first access to salmon (after conservation requirements) based on communal needs for food, social and ceremonial purposes.

All angling fisheries for large salmon are mandatory catch and release fisheries. Retention angling fisheries for small salmon (grilse) during 2004 was allowed in most rivers of the southern Gulf of St. Lawrence with the exception of a southeast corner of SFA 16 which remained closed to all directed salmon fisheries.



The daily grilse retention limit in the Miramichi River (SFA 16), Prince Edward Island (SFA 17) and the Nepisiguit River in SFA 15 is one fish. In the Restigouche River system (SFA 15), and Gulf Nova Scotia, Margaree River system (SFA 18), the daily retention limit of grilse is two fish. The maximum daily catch-and-release limit is four fish of any size for SFA 15, 16, 18 and two fish for SFA 17. The season bag limits in New Brunswick and Nova Scotia (SFA 15, 16 & 18) is 8 grilse and 7 grilse in PEI (SFA 17) remains unchanged from previous years.

As in the past the angling seasons vary on a river-by-river management scheme for 2005. In essence it includes various periods starting with a spring April 15 (Black salmon) fishery in the Miramichi and Restigouche Rivers systems to a general summer (bright salmon) fishery on all the salmon rivers. Some late-run rivers are open until late fall.

In summary, the 2005 management measures for SFA 15, 16, 17 and 18 will remain the same, with the exceptions of the Tabusintac River where the daily bag limit has been reduced to one grilse consistent with the Miramichi watershed requirements, and on the main Southwest Miramichi where the expected socio-economic benefits of a season extension in 2004 did not materialize and the season has returned to April 15 to October 15.

Quebec

Quebec has developed a multi-year salmon strategy which establishes conservation limits and management targets for each river. Where the conservation limit is not met, catch and release fishing only is permitted for large salmon and to some extent for grilse, if the latter contribute more than 10% to the egg deposition to reach to conservation limit for each river. The fishing of MSW salmon is permitted, with restrictions, on rivers where the conservation limit is exceeded.

Since 1984 the reporting of catches is mandatory in Quebec. Since 2003, an on-line catch reporting system has been implemented on some rivers to provide timely information on catches (date, length, weight, location). Managers will be able to make better management decisions more quickly with this information.

Stocks improved on the southern shore of the St. Lawrence, and many of the rivers are well above their conservation limits in this region. Stocks on the Upper and Mid North Shore are stable but the level of the stocks is still of concern. River survival is being maintained, but at-sea survival seems to have improved slightly. With the stronger grilse run of 2004, it is expected that there will be a good run of MSW salmon in 2005.

ANNEX 5

North American Commission

NAC(05)4

NAC Scientific Working Group on Salmonid Introductions and Transfers

Report of Activities - 2004/2005

NAC(05)4

NAC Scientific Working Group on Salmonid Introductions and Transfers

Report of Activities - 2004/2005

Members:

Shane O'Neil (Canada Co-chair) Mary Colligan (USA Co-chair)
Gilles Olivier (Canada) Dave Bean (USA)

The Scientific Working Group on Introductions and Transfers (SWG) dealt with issues and produced this report through correspondence. The North American Commission requested that the SWG be convened in 2004 to prepare a revised version of the NAC protocols to reflect changes noted in the NAC in 2004 (2004 NAC Report Items 8.2-8.4). This meeting did not occur and no further action was taken to revise the protocols in 2004. The SWG's activities focused on updating its three databases: 1) inventory of introductions and transfers; 2) table on the status of disease occurrences within the NAC Area; and 3) occurrences of farmed salmonids in rivers.

1. Update of the database for the inventory of introductions and transfers of salmonids within the NAC area

Salmonid introduction and transfer information was obtained from federal, provincial and state agencies and added to the database. Information was received on Atlantic salmon transfers from Maine from the USA and all Canadian agencies except Prince Edward Island. No data on fish or egg movements were provided from the other States. A summary of the introductions and transfers information for 2001 to 2004 is provided in Table 1; and a list of the individual shipments for 2004 is provided in Appendix 1. The database information includes a listing of shipments across international, provincial, or state boundaries. Prior to 2003 the inventory also included a summary of movements within states in the USA. Those data were not provided by those jurisdictions for the past two years.

The current database contains an inventory of introductions and transfers of salmonids from 1996 to the present. A summary of prior activity since the protocols were developed in 1986 has been presented in previous reports to the NAC. The database resides at the Department of Fisheries and Oceans office in Dartmouth, Nova Scotia.

Salmonid movements in 2004 were limited in the NAC area to four (4) species. The majority of shipments were Atlantic salmon eggs or fish which accounted for 83% of all reported activity (Table 1). The transfer or release of rainbow trout accounted for 15% of reports. The remainder of activity was limited to less than 2% combined for Arctic char and brook trout. Most of the transfers were for aquaculture purposes (99%).

- Research into performance of aquaculture strains continued in the NAC area in contained land-based facilities in 2004. There was a single reported shipment of Icelandic "Mowi" strain Atlantic salmon juveniles from PEI to NB. No authorization will be given for these fish to be used in freshwater or marine cage rearing.

- A single shipment of transgenic Atlantic salmon eggs occurred in 2004. Eggs were transferred from PEI into NF for research where the risk of escape is considered low.

- The NASCO Introduction and Transfer Protocols prohibit the use of reproductively viable strains of non-indigenous salmonids for enhancement purposes or marine culture in areas where wild Atlantic salmon populations exist. This continues to occur in some areas of the NAC where rainbow trout are released to provide public fisheries or are reared in sea pens. The presence of multiple year-classes of rainbow trout in some NF streams in recent years is evidence that escapes have successfully reproduced.

2. Update of the databases for fish disease occurrences within the NAC area

The database on the historic occurrences of fish pathogens in the NAC area has been updated and a summary provided in Table 2. The database is not complete because it includes principally a record of Federal Fish Health Officer Information and does not include data from many provincial or private fish health professionals.

ISA management is being handled in NB and NS through a joint federal, provincial, industry committee. Officials from Canada and the USA remain in close communication on the management of this disease. Clinical ISA was confirmed in 2003 in NS and was reported again in 2004. The strain of ISA detected in NS is genetically distinct from the strain found in the Bay of Fundy. Evidence of the NS strain of ISA was first found in 1999 from an Atlantic salmon broodstock population at a marine farm which showed no clinical signs of infection. Other non-clinical reports of detection since 1999 indicate there may be a lower level of virulence associated with the NS strain of the virus.

3. Update database of numbers Atlantic salmon aquaculture escapees and observations of rainbow trout in Atlantic salmon rivers

Each year, the SWG compiles a summary of reports of escaped cultured salmonids in the NAC area. This data is often difficult to obtain because there are: (1) a variety of regulatory policies regarding the reporting of escapes; (2) different levels of interest of reporting agencies; (3) variability in monitoring stations or activities within years and between jurisdictions; and (4) multiple agencies within jurisdictions to seek information from. In addition, escapes may not be easily distinguished from wild fish, particularly when the escape occurs from a hatchery at a relatively young age. Consequently, the summary is incomplete and should be considered an underestimate and only a sample of the escapees in the wild.

Data has been compiled for rivers where reports are available. Some of the information presented was prepared by Canada and USA for ICES. A summary of the data obtained on escapes of Atlantic salmon and rainbow trout has been compiled for rivers in Maine, New Brunswick, Nova Scotia and Newfoundland (Tables 3, 4 and 5).

Atlantic salmon aquaculture escapes were reported captured and identified on 3 rivers in the NAC area in 2004, the Magaguadavic and Saint John rivers in New Brunswick, and the St. Croix River which is located on the Maine – New Brunswick border (Table 3). As has been the case in many years, the greatest numbers of escapes of salmon have been reported on the Magaguadavic River, where smolt (129) and adults (17) were recovered. This river is closest to the concentration of industry net pens in southwest NB and is also where several industry-based hatcheries are located. The number and location of Atlantic salmon escapes being

reported has declined. This apparent decrease may be due to several factors and it is difficult to assign to any one reason.

As previously indicated, rainbow trout continue to be used for enhancement and marine-cage culture in the NAC area. In 2004, escaped rainbow trout were observed in seven (7) rivers in insular Newfoundland (principally on the west and south coasts; Table 4). This is similar to the incidence in previous years. Rainbow trout were noted on 8 rivers in 2003 and 6 in 2002. A relatively large number of rainbow trout continue to be observed at monitoring traps and from a research effort on Trout River where multiple year-classes have been confirmed on more than one occasion.

The number and locations where rainbow trout have been reported on rivers in New Brunswick and Nova Scotia, has been sporadic over the years. Only two (2) reports were received in 2004, for the Saint John and Big Salmon rivers, in NB (Table 5).

4. Other Items of Interest

Triploidy:

In 2003 it was reported that triploid Atlantic salmon were imported into New Brunswick and Nova Scotia for culture trials to examine performance relative to diploid fish. Although data were not available for review on performance of the fish grown in NS, no additional triploid fish were imported into the province in 2004. Triploid fish are currently being grown in sea-cages in NB. Culture of triploid salmon can be seen as a form of biological containment and the practice has been encouraged as a means of reducing the risk of negative interactions with wild Atlantic salmon.

Genetic screening for non-indigenous strains of salmon:

The USA industry has finalized a protocol which the industry must use to screen their salmon to ensure that any of European ancestry are not stocked into marine cages. In Canada, several companies in the Maritime Provinces have instituted genetic screening of Atlantic salmon for strain to meet criteria for movement of fish across the border into the USA. In 2004, a more broadly based industry-government research project began to conduct sampling and screening of Atlantic salmon broodstock that are used to supply the industry in NB, NS and PEI. Genetic analysis is being conducted to determine strain to ensure European strain salmon are not among those in use. Another component of the project is the sampling of wild salmon from tributaries to the Bay of Fundy. Samples from these fish will also be tested for European alleles. Previous work has indicated the presence of fish with evidence of European ancestry in tributaries to the Bay of Fundy. This project is ongoing and results are expected to be reported in the coming year.

Table 1. Summary of total numbers of eggs and fish transferred between Provinces and/or States within the NAC Area from 2001 to 2004. USA transfers also include within state transfers prior to 2003.

	Number of Shipments				Number of Eggs or Fish			
	2001	**2002**	**2003**	**2004**	**2001**	**2002**	**2003**	**2004**
Arctic Char								
Canada	2	8	3	9	20,000	116,300	122,000	261,900
USA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Atlantic Salmon								
Canada	60	30	47	41	31,459,000	43,760,400	30,844,350	34,792,100
USA*	27	31	11	4	8,408,631	16,745,183	3,341,216	807,050
Total	87	61	58	55	39,867,631	60,505,583	34,255,566	35,599,150
Brook trout								
Canada	14	13	12	13	437,050	225,035	313,500	300,000
USA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Brown trout								
Canada	0	1	0	0	0	10,000	0	0
USA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rainbow trout								
Canada	37	41	61	44	5,003,075	9,379,590	7,207,409	6,698,800
USA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 2. Summary of fish disease or agent occurrence for each State and Province within the NAC Area at end of calendar year 2004. See foot note for explanation of "occurrence Codes."

State or Province	Bacterial Kidney Disease (BKD)	Ceratomyxosis X	Enteric Redmouth (ERM)	Furunculosis	Infectious Hematopoietic Necrosis (IHN) X	Infectious Pancreatic Necroisis (IPN)	Infectious Salmon Anemia (ISA)	Oncorhynchus Masou Virus X	Viral Hemorrhagic Septicemia (VHS) X	Whirling Disease	Other CPE viruses (except IPN) X	Salmon Swimbladder Sarcoma[1]
CT	No information for 2004											
LAB	No information for 2004											
MA	No information for 2004											
ME	3	0	1	3	0	2	3	0	0	0	2	1
NB	3	0	3	3	0	2	3	0	3[2]	0	2	0
NFLD	No information for 2004											
NH	1	0	1	2	0	0	0	0	0	1	1	0
NJ	No information for 2004											
NS	3	0	3	3	0	3	2[3]	0	3[2]	0	2	0
NY	1	0	1	3	0	1	0	0	0	2	0	0
ONT	3	0	3	3	0	1	0	0	0	0	1	0
PEI	1	0	0	0	0	1	0	0	0	0	0	0
QUE	3	0	3	3	0	3	0	0	0	0	0	0
RI	No information for 2004											
VT	1	0	0	3	0	1	0	0	0	3	2	0

Occurrence Codes:
0 = No known historical occurrence within State/Province
1 = Historical occurrence but no known occurrence within the last 5 years
2 = Has occurred during the past 5 years but not during the last Calendar Year
3 = Verified occurrence during the last Calendar Year within State/Province
X indicates an "EMERGENCY DISEASE" under NAC Protocols for the Introduction and Transfer of salmon

[1] New virus: not currently included in the NAC Protocols.
[2] North American strain found in striped bass. Not the European or "salmonid" strain.
[3] Nova Scotia strain; distinct from strain found in Bay of Fundy area.

Table 3. Known occurrences of Atlantic salmon aquaculture escapees in salmon rivers within the NAC area.

River (St/Prov)	Number of escapees (escapees as percent of total sample)										Life Stage
	Prior to 1990	1990 - 1996	1997	1998	1999	2000	2001	2002	2003	2004	
CANADA											
Annapolis (NS)		1			R******	15					MSW
Baddeck (NS)		23 (6)***		5 (3)							1SW & MSW
Bear (NS)	Many angled in early 1990's										1SW & MSW
Big Salmon (NB)	1									0	1SW & MSW
Conne (NF)		3	10(2)	2(1)	1(>1)	5(2.3)	0	0	0	0	1SW & MSW
Conne (NF)		71									smolt
Dennis (NB)	R*****										1SW & MSW
Digdeguash (NB)	below hatchery					0					juveniles
Gaspereau (NS)		5		1 (4)		1(2)				0	MSW
Indian Brook (NS)						1					1SW & MSW
LaHave (NS)	1 (<1)	0	0	0							1SW & MSW
Magaguadavic (NB)		2,301	82 (58)	223 (8)	79(77)	30(68)	132(94)	35 (83)	22 (81)	17 (89)	1SW & MSW
Magaguadavic (NB)							35			129	smolt
Mersey (NS)						1					1SW & MSW
Meteghan (NS)						1					1SW & MSW
Middle (NS)				9 (4)							1SW & MSW
North (NS)		14 (8)***		55 (11)							1SW & MSW
Saint John (NB)		several in 1990, Belle Isle Bay			R******	R******	14	8	3 (<1)	1 (<1)	1SW & MSW
Salmon Digby (NS)					2	0					1SW & MSW
St. Croix (NB/ME) *		231	27 (39)	25 (38)	23(64)	30(60)	58(75)	5 (20)	9 (38)	4 (31)	1SW & MSW
Tusket (NS)				2 (<1)							MSW
Waewig (NB)	juvniles below hatch. 1 adult										Juveniles and adults
Stewiacke (NS)		7 (33)	0								MSW
UNITED STATES											
Penobscot River							1(0.1)				
Dennys (ME)**		67	2 (100)	1(100)		29(94)	65(79)	4 (67)	2 (18)	0	Sexually mature & immature
Narraguagus (ME)		9****	0	0	3 (9)	0	0	0	0	0	
Union (ME)					63(90)*****	6(75)	2(100)	6 (55)	0	0	
Other Maine Rivers	Unofficial reports of escapes in various eastern coastal rivers, especially Cobscott Bay area										

* 1994-96 aquaculture fish were estimated to be 13-54% of the run.

** Partial counts in Dennys

*** Includes 1995 only; no earlier data

**** includes 1995 and 1996 only.

***** based on scale samples form 11 of 22 adults

R******* escapees reported but number or presence not confirmed

Table 4. Known occurrences of rainbow trout observed in Newfoundland rivers, believed to be aquaculture escapees or progency of aquaculture escapees.

River (St/Prov)	Number of rainbow trout								Life Stage
	Prior to 1990	1990 - 1998	1999	2000	2001	2002	2003	2004	
Watts Bight Bk (NF)	3								adult
Green Island Cove						1			dult
Western Arm Brook					1		1		
River of Ponds (NF)	1+	4+*	24	2****	6			5	adult
Portland Creek (NF)			1					6	adult
Parsons Pond (NF)		1						1	adult
Deer Arm Brook					1	1			adult
Lomond River					1				
Trout River (NF)	4	2+	1+**	2***	97+	55+	122	43	adult+juv
Bay of Islands						1			adult
Hughs Brook							1		
Humber River (NF)			3	1**	1	1+	3		adult
Serpentine (NF)	2								adult
Flat Bay Brook (NF)		1*	2				5		adult
Robinsons River (NF)			2				1		adult
Crabbes R (NF)				2					immature
La Poila River (NF)			3						adult
Garia Brook (NF)			3						adult
Grandys River (NF)			2	3*****	3				adult
Unnamed Bk (Bay de Vieux)					1				
White Bear River					1+				
White Bear R Estuary					1+				
Grey River (NF)				1			1		immature
Northwest Bk				3					adult
Jeddore lake				3					juvenile
Conne River (NF)		245	21	45	18+	1	15+	36+	adult
Little River (NF)		5	1						adult
Garnish River (NF)		2+							
Long Harbour R (NF)		1+			2				adult
Grand Bank Bk (NF)		1+							adult
Lawn Bk (NF)				1					adult
Holyrood Pond				3					adult
Biscay Bay Bk (NF)		2							adult
Torrent River								3	
Little Barachois Brook								1	

* 1 Male (interally sexed)

** 1 Female (internally sexed)

*** 2 females, immature

**** 1 was a spent female, and 1 was a male

***** 1 was a ripe male

Table 5. Reports of rainbow trout observed in New Brunswick and Nova Scotia rivers. Rainbow trout in some Nova Scotia rivers may be from directed stocking programs. Table is incomplete.

River (Prov)	Number of Rainbow trout							Life Stage
	1995 - 1998	1999	2000	2001	2002	2003	2004	
Saint John (NB)	13		1	2			10	
Nashwaak (NB)								
Big Salmon (NB)			18	8		25	9	
Shepody (NB) *			1					juvenile
Upper Salmon (NB)				1				juvenile
Sutherlands (NS)	1							
Salmon (NS)		2 - 4						immature
Mersey (NS)		2						
Tusket (NS)		5+						
Middle (NS)		2		11		2+		adult
North (NS)		1+			2			juvenile
St. Mary's (NS)		1						juvenile
River Tillard (NS)								
Baddeck (NS)			1+					1 adult + juvenile
Musquodoboit (NS)			8	2+				adult
River Philip (NS)				12				30 cm

* Shepody River has a self-sustaining population of rainbow trout. Rainbow trout angled annually.

Appendix 1. Report of Salmonid Introductions and Transfers in NAC Area - 2004

File #	Facility Of Origin	Stock/Strain	LifeStage	Reprod.	Number Shipped	Receiving Facility Type	Planned Use	Monosex
MAINE								
ATLANTIC SALMON								
1385	Stolt Sea Farms (NB)	St John R	Smolt	Y	219,050	Private	Aquaculture (sea pen)	N
1386	Stolt Sea Farms (NB)	St John R	Fry	Y	550,000	Private	Aquaculture (sea pen)	N
1387	Chamcook-ASF (NB)	St John R	Smolt	Y	15,000	Private	Brood Stock Dev.	N
1384	Stolt Sea Farms (NB)	St John R	Eggs	Y	23,000	Research/Educ.	Research/Education	N
NEW BRUNSWICK								
ARCTIC CHAR								
1401	Icy Waters (YUK)		Eggs	N	1,000	Private	Aquaculture (FW pen)	Y
1501	Pisciculture Alleghanys (QUE)		Eggs	Y	5,000	Research/Educ.	Research/Education	Y
ATLANTIC SALMON								
1405	Gardner Lake Hatchery (ME)	St John R	Smolt	Y	450,000	Private	Aquaculture (sea pen)	N
1409	Atlantic Salmon of Maine-Oquossoc (ME)	St John R	Smolt	Y	120,000	Private	Aquaculture (sea pen)	N
1407	Bingham Aquaculture Ltd. (ME)	St John R	Fry	Y	500,000	Private	Aquaculture (FW pen)	N
1410	Bingham Aquaculture Ltd. (ME)	St John R	Smolt	Y	300,000	Private	Aquaculture (sea pen)	N
1491	Bingham Aquaculture Ltd. (ME)	St John R	Smolt	Y	175,000	Private	Aquaculture (sea pen)	Y
1499	Dover Hatchery (PEI)	St John R	Eggs	Y	5,000,000	Private	Aquaculture (FW pen)	Y
1408	Hassett Lake Hatchery (NS)	St John R	Smolt	Y	200,000	Private	Aquaculture (sea pen)	N
1414	Novagro Aquanauts (NS)	St John R	Smolt	Y	50,000	Private	Aquaculture (sea pen)	N
1398	Little Harbour Hatchery (NS)	St John R	Fry	Y	250,000	Private	Aquaculture (FW pen)	N
1396	Bingham Aquaculture Ltd. (ME)	St John R	Parr	Y	275,000	Private	Aquaculture (FW pen)	N

File #	Facility Of Origin	Stock/Strain	LifeStage	Reprod.	Number Shipped	Receiving Facility Type	Planned Use	Monosex
1493	Cobequid Smolt Farms (NS)	St John R	Fry	Y	300,000	Private	Aquaculture (FW pen)	Y
1403	Scotia Aqua Inc (NS)	St John R	Smolt	Y	125,000	Private	Aquaculture (sea pen)	N
1411	River Bend Fish Farm (NS)	St John R	Smolt	Y	400,000	Private	Aquaculture (sea pen)	N
1494	River Bend Fish Farm (NS)	St John R	Smolt	Y	100,000	Private	Aquaculture (sea pen)	Y
1412	Little Harbour Hatchery (NS)	St John R	Smolt	Y	90,000	Private	Aquaculture (sea pen)	N
1413	Strickland Salmon (NS)	St John R	Smolt	Y	50,000	Private	Aquaculture (sea pen)	N
1489	Novagro Aquanauts (NS)	St John R	Smolt	Y	40,000	Private	Aquaculture (sea pen)	Y
1507	Dover Hatchery (PEI)	St John R	Eggs	Y	600,000	Private	Aquaculture (FW pen)	Y
1492	Heritage Salmon (PEI) (Connors Brothers)	St John R	Fry	Y	1,500,000	Private	Aquaculture (FW pen)	Y
1488	Atlantic Salmon of Maine-Oquossoc (ME)	St John R	Smolt	Y	230,000	Private	Aquaculture (sea pen)	Y
1503	Bingham Aquaculture Ltd. (ME)	St John R	Fry	Y	450,000	Private	Aquaculture (FW pen)	Y
1506	Bingham Aquaculture Ltd. (ME)	St John R	Parr	Y	600,000	Private	Aquaculture (FW pen)	Y
1404	Dartek (NS)	St John R	Smolt	Y	70,000	Private	Aquaculture (sea pen)	N
1391	Atlantic Ova Pro Ltd (NS)	St John R	Eggs	Y	1,500,000	Private	Aquaculture (FW pen)	N
1394	Dover Hatchery (PEI)	St John R	Eggs	Y	200,000	Private	Aquaculture (FW pen)	N
1406	Aquaculture Acadie (NS)	St John R	Smolt	Y	20,000	Private	Aquaculture (sea pen)	N
1390	Atlantic Ova Pro Ltd (NS)	St John R	Eggs	Y	1,000,000	Private	Aquaculture (FW pen)	N
1508	Bingham Aquaculture Ltd. (ME)	St John R	Eggs	Y	1,000,000	Private	Aquaculture (FW pen)	Y
1498	Aqua Fish Farms (NS)	St John R	Eggs	Y	5,000,000	Private	Aquaculture (FW pen)	Y
1392	Atlantic Ova Pro Ltd (NS)	St John R	Eggs	Y	2,500,000	Private	Aquaculture (FW pen)	N
1395	Dover Hatchery (PEI)	St John R	Eggs	Y	100,000	Private	Aquaculture (FW pen)	N
1510	Atlantic Ova Pro Ltd (NS)	St John R	Eggs	Y	3,000,000	Private	Aquaculture (FW pen)	Y
1511	Atlantic Ova Pro Ltd (NS)	St John R	Eggs	Y	2,000,000	Private	Aquaculture (FW pen)	Y
1397	Little Harbour Hatchery (NS)	St John R	Fry	Y	250,000	Private	Aquaculture (FW pen)	N
1393	Bingham Aquaculture Ltd. (ME)	St John R	Fry	Y	50,000	Private	Aquaculture (FW pen)	N
1509	Atlantic Ova Pro Ltd (NS)	St John R	Eggs	Y	10,000	Research/Educ.	Research/Education	Y
1400	Atlantic Ova Pro Ltd (NS)	St John R	Adults	Y	1,600	Research/Educ.	Research/Education	N

File #	Facility Of Origin	Stock/Strain	LifeStage	Reprod.	Number Shipped	Receiving Facility Type	Planned Use	Monosex
1399	Dover Hatchery (PEI)	European/Icela	Fry	N	3,000	Research/Educ.	Research/Education	Y
BROOK TROUT								
1505	Pisciculture Alleghanys (QUE)		Eggs	Y	30,000	Private	Aquaculture (misc. inland)	Y
1490	Pisciculture Alleghanys (QUE)		Eggs	Y	61,000	Private	Aquaculture (misc. inland)	Y
1496	Pisciculture Alleghanys (QUE)		Eggs	Y	20,000	Private	Aquaculture (misc. inland)	Y
1500	Pisciculture Alleghanys (QUE)		Eggs	Y	20,000	Private	Aquaculture (FW pen)	Y
1389	Pisciculture Alleghanys (QUE)		Parr	Y	6,000	Private	Pop. Enhanc. (Inland)	N
1495	Pisciculture Alleghanys (QUE)		Eggs	Y	20,000	Private	Aquaculture (misc. inland)	Y
1502	Pisciculture Alleghanys (QUE)		Eggs	Y	15,000	Private	Aquaculture (FW pen)	Y
1504	Pisciculture Alleghanys (QUE)		Eggs	Y	20,000	Research/Educ.	Research/Education	Y
RAINBOW TROUT								
1388	Rainbow Springs Hatchery (ONT)		Eggs	Y	15,000	Gov-Federal (Can)	Bio-monitoring	N
1497	Pisciculture Alleghanys (QUE)		Eggs	Y	100,000	Private	Aquaculture (misc. inland)	Y
NEWFOUNDLAND								
ATLANTIC SALMON								
1422	Stolt Sea Farms (NB)	St John R	Smolt	Y	175,000	Private	Aquaculture (sea pen)	N
1423	Stolt Sea Farms (NB)	St John R	Smolt	Y	300,000	Private	Aquaculture (sea pen)	N
1429	Stolt Sea Farms (NB)	St John R	Parr	Y	200,000	Private	Aquaculture (FW pen)	N
1416	Dover Hatchery (PEI)	St John R	Eggs	Y	50,000	Private	Aquaculture (sea pen)	N
1430	Dover Hatchery (PEI)	St John R	Eggs	Y	600,000	Private	Aquaculture (sea pen)	N
1417	Oak Bay Hatchery (NB)	St John R	Eggs	Y	600,000	Private	Aquaculture (sea pen)	N
1420	Cascade Aqua Farms (WA)	Gaspé	Eggs	Y	400,000	Private	Aquaculture (sea pen)	N
1432	Aqua Bounty Farms (PEI)	Transgenic	Eggs	Y	12,000	Research/Educ.	Research/Education	N

File #	Facility Of Origin	Stock/Strain	LifeStage	Reprod.	Number Shipped	Receiving Facility Type	Planned Use	Monosex
BROOK TROUT								
1431	Pisciculture St Damien (QUE)	Unknown	Eggs	Y	5,000	Research/Educ.	Research/Education	N
RAINBOW TROUT								
1419	Pisciculture St Damien (QUE)	Unknown	Eggs	N	50,000	Private	Aquaculture (sea pen)	Y
1425	North River Fish Farm (NS)	Unknown	Smolt	Y	350,000	Private	Aquaculture (sea pen)	Y
1428	North River Fish Farm (NS)	Unknown	Parr	Y	500	Private	Unspecified	Y
1424	River Bend Fish Farm (NS)	Unknown	Smolt	Y	300,000	Private	Aquaculture (sea pen)	Y
1426	North River Fish Farm (NS)	Unknown	Smolt	Y	200,000	Private	Aquaculture (sea pen)	Y
1418	Pisciculture St Damien (QUE)	Unknown	Eggs	N	30,000	Private	Unspecified	Y
1427	St Peter's Fish Hatchery (NS)	Unknown	Smolt	Y	150,000	Private	Aquaculture (sea pen)	Y
1421	North River Fish Farm (NS)	Unknown	Smolt	Y	150,000	Private	Aquaculture (sea pen)	Y
NOVA SCOTIA								
ARCTIC CHAR								
1453	Icy Waters (YUK)		Eggs	Y	50,000	Private	Aquaculture (misc. inland)	N
1462	Pisciculture Alleghanys (QUE)		Eggs	Y	50,000	Private	Aquaculture (sea pen)	N
1447	Aquarium et Centre Marin NBDAFA (NB)		Fingerlings	Y	900	Research/Educ.	Research/Education	N
ATLANTIC SALMON								
1457	Oak Bay Hatchery (NB)	St John R	Smolt	Y	150,000	Private	Aquaculture (sea pen)	N
1452	Aqua Fish Farms Penobquis (NB)	St John R	Smolt	Y	500	Private	Aquaculture (sea pen)	N
1450	North Water Products Ltd (NF)	St John R	Fry	Y	50,000	Private	Aquaculture (sea pen)	N
1454	Gardner Lake Hatchery (ME)	St John R	Smolt	Y	20,000	Private	Aquaculture (misc. inland)	N
1456	Oak Bay Hatchery (NB)	St John R	Fry	Y	400,000	Private	Aquaculture (sea pen)	N
1461	Atlantic Sea Smolt (PEI)	St John R	Eggs	Y	2,000,000	Private	Aquaculture (sea pen)	N
1448	Bingham Aquaculture Ltd. (ME)	St John R	Fry	Y	25,000	Private	Aquaculture (sea pen)	N
1464	Stolt Sea Farms (NB)	St John R	Eggs	Y	1,000,000	Private	Aquaculture (sea pen)	N
1455	Stolt Sea Farms (NB)	Triploid	Smolt	Y	300,000	Private	Aquaculture (sea pen)	N

File #	Facility Of Origin	Stock/Strain	LifeStage	Reprod.	Number Shipped	Receiving Facility Type	Planned Use	Monosex
BROOK TROUT								
1458	Wild broodstock (NFLD) Cape Race		Eggs	Y	3,000	Research/Educ.	Research/Education	N
RAINBOW TROUT								
1459	Rainbow Springs Hatchery (ONT)		Eggs	Y	125,000	Gov-Provincial	Pop. Enhanc. (Inland)	N
1463	Trout Lodge (WA)		Eggs	Y	900,000	Private	Aquaculture (sea pen)	N
1460	Brookvalley Marine Farm (PEI)		Smolt	Y	300	Private	Aquaculture (Unspecified)	N
1446	Brookvalley Marine Farm (PEI)		Fingerlings	Y	55,000	Private	Aquaculture (Unspecified)	N
1451	Trout Lodge (WA)		Eggs	Y	240,000	Private	Aquaculture (sea pen)	N
1449	Brookvalley Marine Farm (PEI)		Fingerlings	Y	570,000	Private	Aquaculture (sea pen)	N
ONTARIO								
ARCTIC CHAR								
1436	Icy Waters (YUK)	Unknown	Eggs	Y	10,000	Private	Aquaculture (Unspecified)	N
BROOK TROUT								
1444	Pisciculture Alleghanys (QUE)	Unknown	Eggs	Y	10,000	Private	Aquaculture (Unspecified)	N
1443	Pisciculture Alleghanys (QUE)	Unknown	Eggs	Y	75,000	Private	Aquaculture (Unspecified)	N
1442	Pisciculture Alleghanys (QUE)	Unknown	Eggs	Y	15,000	Research/Educ.	Aquaculture (Unspecified)	N
RAINBOW TROUT								
1441	Troutsprings (WA)	Unknown	Eggs	Y	184,000	Gov-Federal (Can)	Aquaculture (misc. inland)	N
1434	Troutsprings (WA)	Unknown	Eggs	Y	256,000	Private	Aquaculture (Unspecified)	N
1438	Troutsprings (WA)	Unknown	Eggs	Y	300,000	Private	Aquaculture (Unspecified)	N
1433	Troutsprings (WA)	Unknown	Eggs	Y	500,000	Private	Aquaculture (Unspecified)	N
1435	Troutsprings (WA)	Unknown	Eggs	Y	225,000	Private	Aquaculture (Unspecified)	N
1437	Troutsprings (WA)	Unknown	Eggs	Y	100,000	Private	Aquaculture (Unspecified)	N

File #	Facility Of Origin	Stock/Strain	LifeStage	Reprod.	Number Shipped	Receiving Facility Type	Planned Use	Monosex
1440	Troutsprings (WA)	Unknown	Eggs	Y	250,000	Private	Aquaculture (Unspecified)	N
1439	Troutsprings (WA)	Unknown	Eggs	Y	500,000	Private	Aquaculture (Unspecified)	N
QUEBEC								
ARCTIC CHAR								
1485	Icy Waters (YUK)		Eggs	Y	5,000	Final Disp. (QUE)	Aquaculture (Unspecified)	N
1486	Aquarium et Centre Marin NBDAFA (NB)		Eggs	Y	10,000	Final Disp. (QUE)	Research/Education	N
1487	Arctic Ova (YUK)		Eggs	Y	130,000	Final Disp. (QUE)	Aquaculture (Unspecified)	N
RAINBOW TROUT								
1477	Trout Lodge (WA)	All Female	Eggs	N	40,000	Final Disp. (QUE)	Aquaculture (Unspecified)	Y
1470	Trout Lodge (WA)		Eggs	Y	100,000	Private	Aquaculture (Unspecified)	N
1468	Trout Lodge (WA)	All Female	Eggs	N	105,000	Private	Aquaculture (Unspecified)	Y
1474	Trout Lodge (WA)	All Female	Eggs	N	10,000	Private	Aquaculture (Unspecified)	Y
1476	Trout Lodge (WA)	All Female	Eggs	N	81,000	Private	Aquaculture (Unspecified)	Y
1471	Trout Lodge (WA)	All Female	Eggs	N	67,000	Private	Aquaculture (Unspecified)	Y
1465	Trout Lodge (WA)	All Female	Eggs	N	100,000	Private	Aquaculture (Unspecified)	Y
1482	Trout Lodge (WA)	All Female	Eggs	N	30,000	Private	Aquaculture (Unspecified)	Y
1480	Trout Lodge (WA)	All Female	Eggs	N	40,000	Private	Aquaculture (Unspecified)	Y
1473	Trout Lodge (WA)	All Female	Eggs	N	40,000	Private	Aquaculture (Unspecified)	Y
1475	Trout Lodge (WA)		Eggs	Y	120,000	Private	Aquaculture (Unspecified)	N
1481	Trout Lodge (WA)	All Female	Eggs	N	60,000	Private	Aquaculture (Unspecified)	Y
1479	Trout Lodge (WA)	All Female	Eggs	N	35,000	Private	Aquaculture (Unspecified)	Y
1469	Trout Lodge (WA)	All Female	Eggs	N	60,000	Private	Aquaculture (Unspecified)	Y
1484	Trout Lodge (WA)	All Female	Eggs	N	55,000	Private	Aquaculture (Unspecified)	Y
1483	Trout Lodge (WA)	All Female	Eggs	N	15,000	Private	Aquaculture (Unspecified)	Y
1478	Trout Lodge (WA)	All Female	Eggs	N	30,000	Private	Aquaculture (Unspecified)	Y

File #	Facility Of Origin	Stock/Strain	LifeStage	Reprod.	Number Shipped	Receiving Facility Type	Planned Use	Monosex
1472	Trout Lodge (WA)	All Female	Eggs	N	40,000	Private	Aquaculture (Unspecified)	Y
1466	Trout Lodge (WA)	All Female	Eggs	N	40,000	Private	Aquaculture (Unspecified)	Y
1467	Trout Lodge (WA)	All Female	Eggs	N	80,000	Private	Aquaculture (Unspecified)	Y

ANNEX 6

North American Commission

NAC(05)7

Memorandum of Understanding between Canada and USA

NAC(05)7

Memorandum of Understanding between Canada and USA

Preamble

The North American Commission (NAC) of NASCO recognizes the potential effects that introductions and transfers of aquatic species can have on fish health, genetics, and their ecology. In 2003, NASCO adopted the Williamsburg Resolution which referenced the NAC Protocols as contained in NAC(92)24 and ancillary document NAC(94)14. In Canada, the National Code on Introductions and Transfers of Aquatic Organisms was adopted in 2001. It is acknowledged that Canada and the United States utilize different methods within their countries for authorization of introductions and transfers. This Memorandum of Understanding is meant to reconcile the differences between the methods used but recognizes the common goal is the conservation and protection of wild Atlantic salmon.

Memorandum of Understanding

Canada and the United States have agreed to record the following in connection with the introductions and transfers of salmonids in the North American (NAC) area:

A. Authorizations of Introductions and Transfers

In Canada, the National Code on Introductions and Transfers of Aquatic Organisms is the mechanism for approval of introductions and transfers which is authorized by permits. In the United States, state and federal permits are the mechanisms for authorizing introductions and transfers.

B. Requirement to Report

The Parties agree to report to the NAC annually on any decision made under their respective jurisdiction that has an impact on the other jurisdiction. In particular, any decisions made that are not consistent with the NAC Protocols will be identified.

C. Requirement to Consult

The Parties agree to consult with each other if either jurisdiction receives a proposal for an introduction or transfer that may have an impact on the other, including any proposal that would be inconsistent with the NAC Protocols.

D. Need for Review

The Parties agree to convene the NAC Scientific Working Group, from time to time, to review the provisions of the Williamsburg Resolution with respect to developments that may have an application on introductions and transfers in the NAC area and provide recommendations to the Parties for their consideration and action, if required.

ANNEX 7

CNL(05)12

Request for Scientific Advice from ICES

1. With respect to Atlantic salmon in the North Atlantic area:

1.1 provide an overview of salmon catches and landings, including unreported catches by country and catch and release, and worldwide production of farmed and ranched Atlantic salmon in 2005;

1.2 report on significant developments which might assist NASCO with the management of salmon stocks including new or emerging threats to, or opportunities for, salmon conservation and management;

1.3 report on developments in methods to identify origin of Atlantic salmon at a finer resolution than continent of origin (river stocks, country or stock complexes);

1.4 describe sampling programmes for escaped farmed salmon, the precision of the identification methods employed and the reliability of the estimates obtained;

1.5 assess the genetic effects of introgression of farmed Atlantic salmon on wild salmon populations;

1.6 provide an assessment of the minimum information needed which would signal a significant change in the previously provided advice for each Commission area;

1.7 provide a compilation of tag releases by country in 2005;

1.8 identify relevant data deficiencies, monitoring needs and research requirements [1].

2. With respect to Atlantic salmon in the North-East Atlantic Commission area:

2.1 describe the key events of the 2005 fisheries and the status of the stocks; [2]

2.2 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;

2.3 further develop the age-specific stock conservation limits where possible based upon individual river stocks;

2.4 provide annual catch options or alternative management advice for 2006-2008, if possible based on forecasts of PFA for northern and southern stocks, with an assessment of risks relative to the objective of exceeding stock conservation limits and advise on the implications of these options for stock rebuilding; [3]

2.5 update and further refine estimates of by-catch of salmon in pelagic fisheries (including non-catch fishing mortality) with an assessment of impacts on returns to homewaters.

3. With respect to Atlantic salmon in the North American Commission area:

3.1 describe the key events of the 2005 fisheries (including the fishery at St Pierre and Miquelon) and the status of the stocks; [2]

3.2 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;

3.3 update age-specific stock conservation limits based on new information as available;

3.4 provide annual catch options or alternative management advice for 2006-2008 with an assessment of risks relative to the objective of exceeding stock conservation limits and advise on the implications of these options for stock rebuilding. [3]

4. With respect to Atlantic salmon in the West Greenland Commission area:

4.1 describe the events of the 2005 fisheries and the status of the stocks; [2, 4]

4.2 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;

4.3 provide annual catch options or alternative management advice for 2006-2008 with an assessment of risk relative to the objective of exceeding stock conservation limits and advise on the implications of these options for stock rebuilding. [3]

Notes:

1. NASCO's International Atlantic Salmon Research Board's inventory of on-going research relating to salmon mortality in the sea will be provided to ICES to assist it in this task.

2. In the responses to questions 2.1, 3.1 and 4.1 ICES is asked to provide details of catch, gear, effort, composition and origin of the catch and rates of exploitation. For homewater fisheries, the information provided should indicate the location of the catch in the following categories: in-river; estuarine; and coastal. Any new information on non-catch fishing mortality, of the salmon gear used, and on the by-catch of other species in salmon gear, and on the by-catch of salmon in any existing and new fisheries for other species is also requested.

3. In response to questions 2.4, 3.4 and 4.3 provide a detailed explanation and critical examination of any changes to the models used to provide catch advice.

4. In response to question 4.1, ICES is requested to provide a brief summary of the status of North American and North-East Atlantic salmon stocks. The detailed information on the status of these stocks should be provided in response to questions 2.1 and 3.1.

ANNEX 8

List of North American Commission Papers

Paper No.	Title
NAC(05)1	Provisional Agenda
NAC(05)2	Draft Agenda
NAC(05)3	Draft Report
NAC(05)4	NAC Scientific Working Group on Salmonid Introductions and Transfers – Report of Activities – 2004/2005
NAC(05)5	Report on US Atlantic Salmon Management and Research Activities in 2004
NAC(05)6	Review of Atlantic Salmon Management Measures for 2005 (Tabled by Canada)
NAC(05)7	Memorandum of Understanding between Canada and USA
NAC(05)8	Report of the Twenty-Second Annual Meeting of the North American Commission
NAC(05)9	Agenda

Note: This is a listing of all the Commission papers. Some, but not all, of these papers are included in this report as annexes.

REPORT OF THE

TWENTY-SECOND ANNUAL MEETING

OF THE

NORTH-EAST ATLANTIC COMMISSION

6-10 JUNE 2005
VICHY, FRANCE

Chairman:	Mr Steinar Hermansen (Norway)
Vice-Chairman:	Mr Andrew Thomson (European Union)
Rapporteur:	Dr Niall Ó Maoiléidigh (European Union)
Secretary:	Dr Malcolm Windsor

NEA(05)9

CONTENTS

NEA(05)9

Report of the Twenty-Second Annual Meeting of the North-East Atlantic Commission of the North Atlantic Salmon Conservation Organization Palais des Congrès, Vichy, France 6-10 June, 2005

1. Opening of the Meeting

1.1 The Chairman, Mr Steinar Hermansen (Norway), opened the Twenty-Second Annual Meeting of the North-East Atlantic Commission and welcomed delegates to Vichy.

1.2 An opening statement was made on behalf of the Non-Government Organizations (NGOs) attending the Annual Meeting (Annex 1).

1.3 In response to the opening statement by the NGOs concerning the dissolution of the International Baltic Sea Fisheries Commission on the 1st of January 2006, the representative of the European Union informed the Commission that there will be a fishery agreement between the Russian Federation and the European Union under which a new joint fisheries commission will be established with responsibility for Baltic salmon. Furthermore, following review of the Common Fisheries Policy the Commission will establish seven new Regional Advisory Councils, one of which will cover the Baltic Sea area and this will be fully established by September or October of 2005. He reminded the meeting that NGOs can participate in the Regional Advisory Councils and suggested that interested NGOs might seek a seat on the Baltic Council. A meeting of interested parties in relation to the Regional Advisory Councils will be held in June 2005 in Copenhagen.

1.4 A list of participants at the Twenty-Second Annual Meeting of the Council and Commissions of NASCO is included on page 173 of this document.

2. Adoption of the Agenda

2.1 The Commission adopted its agenda, NEA(05)8 (Annex 2).

3. Nomination of a Rapporteur

3.1 The Commission appointed Dr Niall Ó Maoiléidigh (European Union) as its Rapporteur for the meeting.

4. Review of the 2004 Fishery and ACFM Report from ICES on Salmon Stocks in the Commission Area

4.1 The representative of Denmark (in respect of the Faroe Islands and Greenland) reported that there had been no fishery at Faroes in the past four years.

4.2 The representative of ICES, Dr Walter Crozier, presented the scientific advice relevant to the North-East Atlantic Commission, CNL(05)8, prepared in response to a request from the Commission at its Twenty-First Annual Meeting. The ACFM Report from ICES, which contains the scientific advice relevant to all Commissions, is included on page 123 of this document. Dr Crozier's presentation is contained in document CNL(05)44.

4.3 The representative of Iceland noted that the information on by-catch of salmon in pelagic fisheries related only to the mackerel fishery. He stated that adult salmon (2kg weight) are known to have been taken in Icelandic herring catches around Svalbard with up to 200 salmon taken in one trawl which indicated that the by-catch from this fishery may be significant. He asked whether there had been discussions in ICES about the placement of observers on-board herring fishing vessels as larger salmon are separated from the smaller herring following capture, facilitating detection. The representative of ICES replied that sufficient data were only available to examine the by-catch in the mackerel fisheries and not the other pelagic fisheries. While it was not possible at this stage to carry out similar analyses for other pelagic fisheries, he drew attention to the ICES Report of the Study Group on By-Catch of Salmon in Pelagic Fisheries which was available on the ICES web-site and which contained information on these fisheries. He indicated that ICES regards placing observers on-board pelagic fishing vessels as the most appropriate method of obtaining information on by-catch.

4.4 The representative of Norway asked for confirmation from ICES that the scientific advice was unlikely to change in the next two or three years. The representative of ICES stated that the forecast of pre-fishery abundance for the Southern European stock complex suggested that it would be unlikely that there would be a major change in abundance as the trend is downwards and the values had been similar in recent years. While there was no forecast for the Northern European stock complex, the trend was also downward and values had also been similar in recent years indicating again that there was little probability of a significant change in stock status.

4.5 The Chairman noted that this was Dr Crozier's last meeting as the representative of ICES and thanked him for the clarity of his presentation of the advice for the past three years.

4.6 The Secretary introduced document NEA(05)3 regarding the correspondence with the North-East Atlantic Fisheries Commission (NEAFC) on potential by-catch of salmon in pelagic fisheries and asked ICES if this correspondence had been successful in obtaining the desired information on disaggregated catches. The representative of ICES confirmed this, noting that the data identified in the correspondence had been provided as requested. ICES would also appreciate information for earlier years in addition to that provided for the last three years and he understood that the NEAFC parties were working to provide this information and annual updates.

5. Risk of Transmission of *Gyrodactylus salaris* in the Commission Area

5.1 The Chairman referred to the Commission's decision at its last Annual Meeting to establish a Working Group on *G. salaris*. He indicated that Mr. Stian Johnsen of the Norwegian Food Safety Authority had been appointed as Chairman of the Working

Group and the intention is that this group will meet before the next Annual Meeting of the Commission. He asked the Parties to report on any actions taken in relation to the parasite.

5.2 The representative of Norway referred to document NEA(05)5 (Annex 3) which contained correspondence between Norway and the European Commission relating to the "Biocides Directive" 98/8/EC. A consequence of this Directive will be a ban on the use of rotenone from 1 September 2006. The Directive applies to all European Economic Area countries including Norway. He pointed out that the use of Rotenone is a key tool for the eradication of *G. salaris* and that the Directive could have serious consequences in Norway. He indicated that the Commission had advised that there are two options which would allow the continuing use of Rotenone and which were being pursued by Norway. These are that a complete dossier for the evaluation and inclusion of Rotenone in the positive list of the Directive could be prepared and submitted by the Norwegian Authorities to a Rapporteur Member State of their choice (preferably before 1st March 2006 so that placing on the market can continue until the evaluation is completed). Alternatively, Norway could apply for a derogation (temporary authorisation or extension of the phase-out period based on essential use of the substance) while actively pursuing the search for alternative means to combat infestations by *G. salaris*. Norway will be sending an application for an extended phase-out to the European Commission and suggested that it would be helpful if the North-East Atlantic Commission could write a supporting letter to the European Commission. In addition, Norway proposes that a full dossier should be prepared and suggested that this could be done through international cooperation arranged by the Working Group on *G. salaris.* In response, the representative of the European Union agreed that while Rotenone was important in eradicating *G. salaris* he did not feel that it would be possible to provide a supporting letter as this was a European Commission Directive. However, he indicated that individual Member States could do so.

5.3 The representative of the European Union tabled document NEA(05)6 (Annex 4) which provides information on the status of *G. salaris* in community waters and efforts being made to control transmission of the parasite. He further suggested that information on *G. salaris* could be placed on the NASCO website where it could be accessed readily by all interested Parties.

5.4 The representative of the Russian Federation reported that in 2004 a survey had been carried out by the veterinary services in the Murmansk region to identify parasites which posed a threat to salmon populations and to juvenile salmon in particular. The survey concentrated on the Tuloma River, one of the largest rivers in the region and the border river between Russia and Finland. *G. salaris* was not found.

5.5 The Chairman thanked the Parties for their presentations and proposed that Norway should advise the Commission Members, through the Secretariat, of the actions it has taken in relation to *G. salaris* and the Biocides Directive so that the other Parties can consider appropriate action.

5.6 The Secretary referred to the "road map" for taking forward the recommendations of the Commission's Working Group on *G. salaris* which could also be given increased prominence by placing it on the website. With regard to first meeting of the Working Group he indicated that this might be in November 2005 or March/April 2006.

6. Report on a Pilot Study to Improve Understanding of the Migration, Dispersal and Survival of Farmed Salmon

6.1 The representative of Norway outlined the proposal for a simulated escape of tagged farmed salmon in the Commission area. He indicated that three years ago NASCO had asked ICES to design a study to better understand the migration, survival and dispersal of escaped farmed salmon. In 2003, ICES described an experimental design and the Commission had decided to undertake a pilot study in April 2004 involving releases of 500 to 1,000 tagged large salmon in a number of countries. He reported that this study had been postponed in 2004 and again in 2005 as several countries experienced difficulties in participating in the project.

6.2 The representative of the European Union stated that he regretted the delays with the project but informed the Commission that it was necessary to establish the right conditions for such a study. However, one Member State has indicated that it may be possible to conduct simulations and he would endeavour to provide the Commission with more information as soon as this became available.

6.3 The representative of Iceland indicated that, for various reasons, it had not been possible to participate in this study. There was a need to proceed with caution and under the most appropriate conditions.

6.4 The representative of Norway stated that the incidence of fish farm escapees was considered a serious problem and there was a lack of information on the dispersal and behaviour of escaped farmed salmon. He expressed his disappointment that the project had been delayed again and asked whether it was likely that the project could be carried out in 2006.

6.5 The representative of Denmark (in respect of the Faroe Islands and Greenland) also expressed regret that the project had been postponed. He noted that there were also escaped farmed salmon at Faroes, although the numbers appeared to have declined in recent years. He pointed out that lack of funding had caused this delay and indicated that the Faroes would like to be involved in a joint project where funding was made available.

6.6 The representative of Canada drew attention to a similar project being undertaken in Canada and which was described in the Research Board's inventory of research, ICR(05)3.

6.7 The representative of the Russian Federation also expressed disappointment at the delay in implementing the project. Although Russia does not have a large salmon farming industry, negotiations had taken place with the owner of the only salmon farm in the Murmansk area to allow a trial release. While it was understood that other Parties were experiencing some difficulties, she hoped that the project could be carried out in 2006.

6.8 The representative of the European Union indicated that there was a series of issues which had resulted in the delays, including lack of availability of completely disease-

free stock. He stated that he would look into this further and expressed the desire to keep the project on the Commission's agenda.

6.9 The representative of Denmark (in respect of the Faroe Islands and Greenland) asked for clarification on a letter received from the Institute of Marine Research in Norway regarding a release of farmed salmon along the Norwegian west coast. The representative of Norway stated that he had not seen details of the proposal but was aware of plans to release post-smolts rather than the larger salmon which would be used in the Commission's pilot study. He undertook to send out a reminder about the pilot study and a project outline to the participating Parties in the Autumn.

6.10 The Chairman indicated that he found it unacceptable that this agenda item was being repeated without any action being taken. He understood that Parties would seek to have the project carried out as soon as possible.

7. Regulatory Measures

7.1 The Chairman asked the Parties to report on their salmon management measures for 2004.

7.2 The Representative of Norway stated that although catches had decreased in Norway in 2004 no new regulatory measures had been introduced. Norway operates a five-year regulatory regime for salmon fisheries which had been introduced in 2003. During this period there were no plans to make major changes to regulations unless there was a major change in the status of stocks. However, noting the advice from ICES regarding stock status, Norway would review this position at the end of the year with a view to changing regulations if necessary. He also noted that the river owners around the Trondheim fjord had initiated a bag net buy-out scheme aimed at reducing exploitation in the bag net fishery by 80% on an estimated total catch of 15,000 salmon (50-60t). The effects of this measure on the remaining bag net fisheries, in-river fisheries and spawning stocks will be evaluated.

7.3 The representative of the European Union referred to his opening statement regarding the efforts by Member States to reduce mixed-stock fisheries and their continued commitment to further this objective. He referred to a report which has been commissioned by the European Commission to describe the problems posed by mixed-stock fisheries which would assist the Council of Ministers in deciding on appropriate future action.

7.4 The representative of Iceland reported that there had been no change in their salmon fishery regulations.

7.5 The representative of the Russian Federation reported that the quota for the White Sea coastal mixed-stock fishery was reduced by 20% to ensure more salmon would return to spawn in the southern rivers of the Kola Peninsula. The in-river commercial fisheries of the Kola Peninsula had been closed and the practice of catch and release fishing was increasing.

7.6 The representative of Denmark (in respect of the Faroe Islands and Greenland) stated that there had been no fishery at Faroes for four years.

7.7 The representative of the European Union asked if there had been a research fishery at Faroes in 2004 and, if so, what had been the size of the catch taken. The representative of Denmark (in respect of the Faroe Islands and Greenland) responded that there had been no research fishery at Faroes in 2004. During a tagging study carried out in Faroes 127 salmon were caught and released.

7.8 The representative of Denmark (in respect of the Faroe Islands and Greenland) drew attention to his opening statement to the Council in which he had noted NASCO's responsibility with regard to mixed stock fisheries and the need for fairness and balance in their management. He noted the poor condition of stocks with all stock complexes below their conservation limits and the ICES advice recommending the management of fisheries in a precautionary manner. He urged the other Parties to follow this advice. He indicated that the Faroe Islands had managed the salmon fishery with a view to sustainability and there had been no fishery in 2004. He noted that the Commission had not set a regulatory measure since 2001. He indicated that the Faroe Islands' intention is to continue to manage the fishery in a precautionary manner and with due regard to the advice from ICES. With this in mind he proposed continuing with the same arrangement agreed for 2005 in 2006.

7.9 The representative of the European Union referred to his statement made at the Twenty-First Annual Meeting of the North-East Atlantic Commission, which is still the European Union's position. This statement is as follows: "The representative of the European Union stated that the purpose of NASCO is to regulate the distant-water fisheries in the West Greenland and North-East Atlantic Commission areas. He noted that it had been some time since a regulatory measure had been agreed in the North-East Atlantic Commission and this is a deep concern for the European Union delegation. He asked how the Parties could meet their obligations under various international agreements, including the United Nations Convention on the Law of the Sea and the Straddling Fish Stocks and Highly Migratory Fish Stocks Agreement (the Fish Stocks Agreement), if regulatory measures were not established. He referred to the Decision adopted by the Commission at its last Annual Meeting. The European Union delegation felt that this Decision did not fulfil the Commission's obligations. It is the function of NASCO to put order into fishing for salmon in areas where it has authority. He indicated that the Fish Stocks Agreement refers to the need to strengthen the role of fishery Commissions and he asked how that could be achieved if regulatory measures are not established." He indicated that while there had been decisions agreed by the Commission in the past, these were not binding but merely state the good intentions of the Faroes with regard to management of the fishery. However, it is clear that NASCO's role is to establish regulatory measures and he proposed this approach.

7.10 The representative of Norway expressed his appreciation that Denmark (in respect of Faroes and Greenland) had acted in a precautionary manner consistent with ICES advice. He indicated that Norway would prefer to see a research fishery with a small quota but could accept the same arrangement as last year as he was confident that the Faroes would continue to act in a responsible way. With regard to multi-annual arrangements which had been identified within the "Next Steps" process he felt that there was no need for a new agreement each year but rather every three or four years.

7.11 Provided the Precautionary Approach was maintained by the Faroes and that there was no fishery the representative of Iceland stated that he could also accept a similar agreement to last year.

7.12 The Commission considered a proposal from the representative of Denmark (in respect of the Faroe Islands and Greenland) for a Decision regarding the salmon fishery at Faroes in 2006, NEA(05)7. The representative of the European Union indicated that his Member States very much regretted that no regulation had been agreed, as this was the *raison d'être* of NASCO. He considered such an agreement to be a very final solution and he could only accept it on that basis. He referred to the European Union's position on this matter at last year's Annual Meeting which remained unchanged.

7.13 The representative of Norway accepted the proposal as tabled. The representative of the Russian Federation stated that as there had been no commercial fishery at Faroes for several years, and provided the Precautionary Approach continues to be applied by Denmark (in respect of the Faroe Islands and Greenland), she could accept the proposal. The representative of Iceland stated that although he would have preferred a regulatory measure he recognized the restraint shown by Denmark (in respect of the Faroe Islands and Greenland) with regard to the fishery at Faroes and he could therefore also accept the decision.

7.14 The Commission adopted the Decision, NEA(05)10 (Annex 5).

8. Announcement of the Tag Return Incentive Scheme Prize

8.1 The Chairman announced that the winner of the Commission's $1,500 prize was Mr. Dmitriy Kuzmin from Murmansk, Russia. The Commission offered its congratulations to the winner.

9. Recommendations to the Council on the Request to ICES for Scientific Advice

9.1 The Commission members reviewed the relevant section of document SSC(05)2. The main change from the advice request of previous years was the move to seek multi-annual catch advice (2006-2008). This change was initiated in response to the recommendation from the Next Steps for NASCO Working Group to consider the feasibility of adopting multi-annual regulatory measures.

9.2 The Commission agreed to recommend the relevant section of document SSC(05)2 to the Council as part of the annual request to ICES for scientific advice. The request to ICES, as agreed by the Council, CNL(05)12, is contained in Annex 6.

10. Other Business

10.1 There was no other business.

11. Date and Place of Next Meeting

11.1 The Commission agreed to hold its next Annual Meeting in conjunction with the Twenty-Third Annual Meeting of the Council during 5-9 June 2006.

12. Report of the Meeting

12.1 The Commission agreed a report of the meeting, NEA(05)9.

Note: The annexes mentioned above begin on page 73, following the French translation of the report of the meeting. A list of North-East Atlantic Commission papers is included in Annex 7 on page 91 of this document.

NEA(05)9

Compte rendu de la Vingt-deuxième réunion annuelle de la Commission de l'Atlantique du Nord-Est de l'Organisation pour la Conservation du Saumon de l'Atlantique Nord Palais des Congrès, Vichy, France 6-10 juin, 2005

1. Ouverture de la réunion

1.1 Le Président, M. Steinar Hermansen (Norvège), a ouvert la Vingt-deuxième réunion annuelle de la Commission de l'Atlantique du Nord-Est et a souhaité aux délégués la bienvenue à Vichy.

1.2 Une déclaration d'ouverture a été prononcée au nom des Organisations non gouvernementales présentes à la Réunion annuelle (annexe 1).

1.3 En réponse à la déclaration d'ouverture des ONG, à propos de la dissolution de la Commission Internationale des Pêches de la Mer Baltique le 1er janvier 2006, le représentant de l'Union Européenne a informé la Commission qu'un accord de pêche serait conclu entre la Fédération de Russie et l'Union européenne selon lequel une nouvelle Commission des pêches serait établie conjointement. Cette commission aura pour responsabilité le saumon de la Baltique. De plus, à la suite de la révision de la Politique commune de la pêche, la Commission établirait sept nouveaux conseils consultatifs régionaux, dont un qui couvrirait la zone de la mer Baltique. Ceci serait complètement mis sur pied d'ici septembre ou octobre 2005. Le représentant de l'Union européenne a rappelé aux participants de la réunion que les ONG avaient le droit de participer aux Conseils consultatifs régionaux et a suggéré aux ONG intéressées d'essayer d'obtenir un siège au Conseil de la Baltique. Une réunion des parties intéressées par la question des Conseils consultatifs régionaux aura lieu en juin 2005 à Copenhague.

1.4 Une liste des participants à la Vingt-deuxième réunion annuelle du Conseil et des Commissions de l'OCSAN figure à la page 173 de ce document.

2. Adoption de l'ordre du jour

2.1 La Commission a adopté son ordre du jour, NEA(05)8 (annexe 2).

3. Nomination d'un Rapporteur

3.1 La Commission a nommé Dr Niall Ó Maoiléidigh (Union européenne), Rapporteur de la réunion.

4. Examen de la pêcherie de 2004 et du rapport du CCGP du CIEM sur les stocks de saumons dans la zone de la Commission

4.1 Le représentant du Danemark (pour les Iles Féroé et le Groenland) a indiqué qu'aucune pêche n'avait eu lieu aux Iles Féroé ces quatre dernières années.

4.2 Le représentant du CIEM, Dr Walter Crozier, a présenté les recommandations scientifiques intéressant la Commission de l'Atlantique du Nord-Est, CNL(05)8, formulées à la suite d'une demande émanant de la Commission lors de sa Vingt-et-unième réunion annuelle. Le rapport du CCGP du CIEM contenant les recommandations scientifiques pour l'ensemble des Commissions figure à la page 123 de ce document. Le document CNL(05)44 renferme la présentation du Dr Crozier.

4.3 Le représentant de l'Islande a fait remarquer que l'information concernant les captures accidentelles du saumon dans les pêcheries pélagiques n'avait trait qu'à la pêcherie du maquereau. Il a déclaré qu'il avait été établi que des saumons adultes (pesant 2kg) avaient été capturés dans les prises de harengs islandais dans les environs de Svalbard. L'on avait même compté jusqu'à 200 saumons dans un seul chalut ce qui indiquait que les prises accidentelles dans cette pêcherie pourraient être abondantes. Il a demandé si, au sein du CIEM, la question du placement d'observateurs à bord de navires de pêche au hareng avait été abordée. Les saumons (qui sont plus grands) sont en effet séparés des harengs (plus petits) une fois la capture effectuée, ce qui en faciliterait la détection. Le représentant du CIEM a répondu qu'il n'y avait que suffisamment de données pour étudier les prises accidentelles dans les pêcheries de maquereau et non pas dans les autres pêcheries pélagiques. Et bien qu'il ne soit pas possible pour le moment d'effectuer des analyses similaires pour les autres pêcheries pélagiques, il a fait remarquer que le rapport du Groupe d'étude du CIEM, chargé des captures accidentelles de saumons dans les pêcheries pélagiques, contenait des informations sur ces pêcheries. Ce rapport était accessible sur le site web du CIEM. Il a par la suite indiqué que le CIEM considérait que le placement d'observateurs à bord de navires de pêche était la méthode la plus appropriée d'obtenir des informations sur les prises accidentelles.

4.4 Le représentant de la Norvège a demandé au CIEM de confirmer qu'il était fort peu probable que les recommandations scientifiques changent au cours des deux ou trois prochaines années. Le représentant du CIEM a déclaré que la prévision de l'abondance pré-pêche du complexe de stock du sud de l'Europe suggérait qu'un changement notable d'abondance serait improbable car les tendances sont à la baisse et les statistiques avaient été semblables ces dernières années. Bien qu'il n'y ait pas de prévision pour l'ensemble du stock du nord de l'Europe, la tendance était également à la baisse et leur nombre n'avait pas non plus beaucoup changé au cours de ces récentes années, indiquant ainsi qu'il était peu probable de noter un changement significatif dans l'état des stocks.

4.5 Le Président a pris acte du fait que cette réunion était la dernière à laquelle Dr Crozier participait en tant que représentant du CIEM et l'a remercié pour la clarté de sa présentation des recommandations au cours des trois dernières années.

4.6 Le Secrétaire a présenté le document NEA(05)3 qui regroupait les échanges de correspondance avec la Commission des Pêcheries de l'Atlantique du Nord-Est

(CPANE) à propos des possibilités de captures accidentelles de saumons dans les pêcheries pélagiques. Il a ensuite demandé au représentant du CIEM si cette correspondance avait été fructueuse et si elle avait permis d'obtenir les données désagrégées recherchées sur les captures. Le représentant du CIEM a répondu par l'affirmative, indiquant que les données identifiées dans la correspondance étaient celles qui étaient requises. Le CIEM apprécierait toutefois recevoir aussi, en plus des renseignements fournis pour les trois dernières années, des informations sur les années antécédentes. D'après ce qu'il avait compris toutefois, les Parties de la CPANE s'étaient attachées à fournir cette information ainsi que des mises à jour annuelles.

5. Risque de Transmission du *Gyrodactylus salaris* dans la zone de la Commission

5.1 Le Président s'est reporté à la décision d'établir un Groupe de travail sur le *G. salaris*. La Commission avait pris cette décision lors de sa dernière Réunion annuelle. Il a indiqué que M. Stian Johnsen de la *Norwegian Food Safety Authority* (Autorités norvégiennes chargées du contrôle des aliments) avait été nommé Président du Groupe de travail, l'intention étant que ce Groupe se réunisse avant la prochaine Réunion annuelle de la Commission. Le Président a demandé aux Parties de rendre compte de toutes les mesures prises en relation avec ce parasite.

5.2 Le représentant de la Norvège s'est reporté au document NEA(05)5 (annexe 3) qui regroupait les échanges de courrier qui avaient eu lieu entre la Norvège et la Commission européenne à propos de la « Directive des Biocides » 98/8/EC. Une des conséquences de cette Directive était l'interdiction de l'utilisation de la roténone à partir du 1er septembre 2006. La directive était d'application dans tous les pays de la zone économique européenne, y compris la Norvège. Le représentant de la Norvège a souligné que l'utilisation de la roténone était une des principales façons d'éradiquer le *G. salaris* et que la Directive pourrait avoir des conséquences graves en Norvège. Il a indiqué que la Commission avait signalé qu'il y avait deux options qui pourraient permettre de continuer à utiliser la roténone et que la Norvège étaient en train d'étudier. La première consistait à ce que les autorités norvégiennes préparent et soumettent à un Etat membre rapporteur de leur choix un dossier complet pour l'évaluation et l'inclusion de la roténone à la liste positive de la Directive, et ce préférablement avant le 1er mars 2006. Ceci permettrait de maintenir le produit sur le marché jusqu'à ce que l'évaluation soit terminée. La deuxième option exigerait que la Norvège fasse une demande de dérogation (autorisation temporaire ou extension de la période de suppression progressive basée sur le caractère essentiel de l'utilisation de la substance) tout en recherchant activement d'autres moyens pour combattre les infestations par le *G. salaris*. La Norvège fera une demande d'extension du temps accordé à la suppression progressive auprès de la Commission européenne. Le représentant de la Norvège a suggéré qu'il serait bon que la Commission de l'Atlantique Nord-Est envoie une lettre de soutien à la Commission européenne. De plus, la Norvège a proposé qu'un dossier exhaustif soit préparé et a suggéré que ceci pourrait s'effectuer par le biais d'une coopération internationale coordonnée par le Groupe de travail chargé de la question du *G. salaris*. En réponse à ceci, le représentant de l'Union européenne a convenu que la roténone était une substance importante dans le processus d'éradication du *G. salaris*. Toutefois, il ne pensait pas qu'il serait possible de rédiger une lettre de soutien, car il s'agissait d'une Directive

de la Commission européenne ; ceci n'empêchait toutefois pas les Etats Membres de le faire individuellement.

5.3 Le représentant de l'Union européenne a présenté le document NEA(05)6 (annexe 4) qui fournissait des informations sur l'état du *G. salaris* dans les eaux communautaires et sur les efforts réalisés pour contrôler la transmission du parasite. Il a par ailleurs suggéré que les renseignements sur le *G. salaris* pourraient être ajoutés au site web de l'OCSAN permettant ainsi aux Parties intéressées d'y accéder facilement.

5.4 La représentante de la Fédération de la Russie a signalé qu'en 2004, les services vétérinaires de la région de Mourmansk avaient mené une étude pour identifier les parasites qui menacent les populations de saumon et particulièrement les saumons juvéniles. L'étude se concentrait sur le fleuve Tuloma, l'un des plus importants cours d'eau de la région et celui qui forme la frontière naturelle entre la Russie et la Finlande. On n'avait trouvé aucun *G. salaris*.

5.5 Le Président a remercié les Parties pour leurs présentations et a proposé que la Norvège informe les Membres de la Commission, par l'intermédiaire du Secrétariat, des mesures qu'elle prendrait contre le *G. salaris* et à propos de la Directive des Biocides de façon à ce que les autres Parties puissent décider de leurs propres démarches.

5.6 Le Secrétaire a mentionné que l'on pourrait également accroître la proéminence de la « road map » (feuille de route), conçue pour faire avancer les recommandations du Groupe de travail de la Commission chargé de la question du *G. salaris* en la plaçant sur le site web. En ce qui concernait la première réunion du Groupe de travail, il a indiqué que celle-ci aurait lieu en novembre 2005 ou en mars/avril 2006.

6. Compte rendu d'une étude pilote visant à améliorer la compréhension de la migration, de la dispersion et de la survie du saumon d'élevage

6.1 Le représentant de la Norvège a esquissé la proposition d'une simulation d'échappement de saumons d'élevage marqués, dans la zone de la Commission. Il a rappelé que l'OCSAN avait demandé au CIEM, il y avait trois ans de cela, de concevoir une étude qui permettrait de mieux comprendre la migration, la survie et la dispersion des saumons échappés d'élevage. En 2003, le CIEM avait défini une conception expérimentale et la Commission avait décidé d'entreprendre une étude pilote en avril 2004. Celle-ci exigeait le relâchement de 500 à 1 000 grands saumons marqués dans plusieurs pays. Le représentant de la Norvège a indiqué que cette étude avait été reportée à 2004 puis de nouveau à 2005 car plusieurs pays avaient eu des difficultés à participer au projet.

6.2 Le représentant de l'Union européenne a déclaré qu'il regrettait les délais dans la réalisation de ce projet, mais a informé la Commission qu'il était nécessaire pour ce type d'étude de créer les conditions adéquates. Cependant, comme un Etat Membre avait indiqué qu'il était possible d'effectuer des simulations, il s'efforcerait de fournir plus d'informations à ce sujet à la Commission dès que celles-ci seraient disponibles.

6.3 Le représentant de l'Islande a indiqué que, pour maintes raisons, l'Islande n'avait pas pu participer à cette étude. Il fallait avancer avec caution et dans les conditions les plus propices possible.

6.4 Le représentant de la Norvège a déclaré que la fréquence des échappements de poissons d'élevage était considérée comme un problème sérieux et qu'il n'y avait pas suffisamment d'information sur la dispersion et le comportement des saumons échappés d'élevage. Il a exprimé son désappointement à apprendre que le projet avait été, encore une fois, reporté et a demandé s'il était probable que le projet soit réalisé en 2006.

6.5 Le représentant du Danemark (pour les Iles Féroé et le Groenland) a également exprimé sa déception quant à l'ajournement du projet. Il a fait remarquer que l'on comptait également des saumons échappés d'élevage aux Iles Féroé, bien que leur nombre semblait baisser ces dernières années. Il a souligné que le retard avait été causé par un manque de fonds et a indiqué que les Iles Féroé aimeraient participer à un projet collectif où des fonds étaient disponibles.

6.6 Le représentant du Canada a attiré l'attention sur un projet similaire entrepris au Canada. Ce projet figurait à l'inventaire des recherches du Conseil des recherches, ICR(05)3.

6.7 La représentante de la Fédération de Russie a également exprimé sa déception quant au retard pris dans l'exécution du projet. En effet bien que la Russie n'ait pas un secteur salmonicole important, des négociations avaient eu lieu avec le propriétaire de l'unique élevage salmonicole de la région de Mourmansk à propos d'un relâchement pilote. Quant bien même elle comprenait que les autres Parties avaient des problèmes, elle espérait que le projet serait réalisé en 2006.

6.8 Le représentant de l'Union européenne a indiqué que les retards avaient été causés par toute une série de problèmes, dont l'absence de stock entièrement sain. Il a déclaré qu'il examinerait la situation plus profondément et a exprimé le désir de garder le projet à l'ordre du jour de la Commission.

6.9 Le représentant du Danemark (pour les Iles Féroé et le Groenland) a demandé des clarifications sur une lettre reçue de l'Institut de la Recherche Marine de Norvège concernant le relâchement de saumons d'élevage le long de la côte ouest norvégienne. Le représentant de la Norvège a indiqué qu'il n'avait pas vu les détails de la proposition. Il avait toutefois connaissance de plans de relâchement de post-smolts, (plutôt que de plus grands saumons) qui feraient partie de l'étude pilote de la Commission. Il s'est chargé d'envoyer un rappel concernant l'étude pilote et une esquisse du projet aux Parties participantes cet automne.

6.10 Le Président a indiqué qu'il trouvait inacceptable que ce point de l'ordre du jour soit constamment reporté et qu'aucune initiative ne soit prise. Il notait que les Parties s'efforceraient de réaliser le projet aussi tôt que possible.

7. Mesures de réglementation

7.1 Le Président a demandé aux Parties de rendre compte des mesures de gestion qu'elles avaient appliqué au saumon en 2004.

7.2 Le représentant de la Norvège a déclaré que même si les captures avaient baissé en Norvège en 2004, on n'avait introduit aucune nouvelle mesure de réglementation. En 2003, la Norvège avait en effet introduit un régime de réglementation des pêcheries de saumons qui portait sur cinq ans. Au cours de cette période, et à moins que l'on n'enregistre une évolution importante de l'état des stocks, on n'envisageait aucun changement majeur de la réglementation. Cependant, vu les recommandations du CIEM concernant l'état des stocks, la Norvège reconsidèrerait cette position à la fin de l'année dans le but de modifier, le cas échéant, la réglementation. Le représentant de la Norvège a aussi fait remarquer que les propriétaires de la rivière dans le fjord de Trondheim avaient initié un programme de rachat des droits de pêche au filet trappe destiné à réduire de 80% l'exploitation effectuée par la pêche au filet trappe sur une capture totale estimée à 15 000 saumons (50 à 60 t). Une évaluation sera faite des effets de cette mesure sur le restant des pêcheries au filet trappe, sur les pêcheries en eaux intérieures et sur les stocks disponibles pour le frai.

7.3 Le représentant de l'Union européenne s'est reporté à sa déclaration d'ouverture concernant les efforts réalisés par les Etats membres pour réduire les pêcheries de stock mixte et leur engagement continu à poursuivre cet objectif. Il a mentionné un rapport qui a été commandé par la Commission Européenne. Le but de ce rapport était de décrire les problèmes que posaient les pêcheries de stock mixte ce qui aiderait le Conseil des ministres à décider des mesures appropriées à prendre à l'avenir.

7.4 Le représentant de l'Islande a indiqué que la réglementation de l'Islande concernant sa pêcherie de saumon n'avait pas changé.

7.5 La représentante de la Fédération de Russie a indiqué que l'on avait réduit le quota de la pêcherie côtière de stock mixte de la mer Blanche de 20%, et ce pour garantir qu'un plus grand nombre de saumons reviennent frayer dans les rivières du sud de la Péninsule de Kola. Les pêcheries commerciales en eaux intérieures de la Péninsule de Kola avaient été fermées et la pratique des captures avec relâchement des prises devenait de plus en plus courante.

7.6 Le représentant du Danemark (pour les Iles Féroé et le Groenland) a indiqué qu'il n'y avait pas eu de pêcherie aux Iles Féroé depuis quatre ans.

7.7 Le représentant de l'Union européenne a demandé si l'on avait effectué une pêche à des fins de recherche aux Iles Féroé en 2004 et, si cela était le cas, quel avait été le volume des captures. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a répondu qu'en 2004 aucune pêche à des fins de recherche n'avait eu lieu aux Iles Féroé. Au cours d'une étude de marquage, 127 saumons avaient toutefois été capturés puis relâchés.

7.8 Le représentant du Danemark (pour les Iles Féroé et le Groenland) a attiré l'attention sur la déclaration d'ouverture qu'il avait faite au Conseil au cours de laquelle il avait souligné la responsabilité de l'OCSAN vis-à-vis des pêcheries de stock mixte et la

nécessité de démontrer équité et équilibre dans la gestion de ces pêcheries. Il avait pris note de l'état précaire des stocks et du fait que l'ensemble des stocks se trouvait en dessous de leurs limites de conservation. Il avait également noté les recommandations du CIEM qui conseillaient d'appliquer l'approche préventive à la gestion de ces pêcheries. Il a vivement conseillé aux autres Parties de suivre ces recommandations. Il a indiqué que les Iles Féroé avait géré la pêcherie de saumons de manière à en assurer la durabilité et qu'il n'y avait eu aucune pêche effectuée en 2004. Il a fait remarquer que, depuis 2001, la Commission n'avait pas fixé de mesure de réglementation. Il a indiqué que l'intention des Iles Féroé était de continuer à gérer cette pêcherie d'une façon préventive, en respectant les recommandations du CIEM. Tenant compte de ceci, il a proposé de continuer en 2006 de la même façon qu'en 2005.

7.9 Le représentant de l'Union européenne s'est reporté à la déclaration qu'il avait faite lors de la Vingt-et-unième réunion annuelle de la Commission de l'Atlantique du Nord-Est et qui demeurait la position de l'Union européenne. Cette déclaration était la suivante : « Le représentant de l'Union européenne a déclaré que l'objectif de l'OCSAN était de réglementer les pêcheries en haute mer dans les zones du Groenland occidental et de la Commission de l'Atlantique du Nord-Est. Il a noté que cela faisait longtemps qu'une mesure de réglementation n'avait pas été adoptée dans la Commission de l'Atlantique Nord-Est. Ceci suscitait une grande inquiétude auprès de la délégation de l'union européenne. Il a demandé comment les Parties étaient censées remplir leurs obligations, conformément aux accords internationaux, tels que la Convention sur la loi de la mer des Nations Unies et l'Accord sur les stocks de poissons chevauchants et hautement migrateurs (l'Accord sur les Stocks de poissons), si des mesures de réglementation n'étaient pas établies. Il s'est reporté à la Décision adoptée par la Commission, lors de sa dernière Réunion annuelle. La délégation de l'Union européenne considérait que cette Décision ne remplissait pas les obligations de la Commission. C'était à l'OCSAN qu'il revenait de « mettre de l'ordre » dans les activités de pêche au saumon dans les zones de ses compétences. Il a indiqué que l'Accord sur les stocks de poissons faisait allusion à la nécessité de renforcer le rôle des Commissions de pêcherie. Comment cela pouvait-il être accompli si l'on n'établissait pas de mesures de réglementation, a-t-il ainsi demandé ? » Il a indiqué que même si la Commission était arrivée à des décisions, ces décisions n'étaient pas obligatoires et ne constituaient qu'une déclaration de bonne intention de la part des Iles Féroé en ce qui concernait la gestion de la pêcherie. Cependant, il était clair que le rôle de l'OCSAN était de fixer des mesures de réglementation. Et c'était bien là l'approche qu'il proposait.

7.10 Le représentant de la Norvège a exprimé sa reconnaissance aux Iles Féroé pour avoir agi avec précaution et conformément aux recommandations scientifiques du CIEM. Il a indiqué qu'il préfèrerait voir une pêche menée à des fins de recherche scientifique avec un petit quota, mais qu'il était toutefois en mesure d'accepter la même décision que l'année dernière puisqu'il était convaincu que les Iles Féroé continueraient à agir avec responsabilité. Dans le cadre des accords pluriannuels qui avaient été identifiés comme possibilités dans le processus des « Mesures à prendre à l'avenir », il était d'avis qu'il n'était pas nécessaire de changer tous les ans d'accord ; tous les trois ou quatre ans suffirait.

7.11 À la condition que les Iles Féroé maintiennent l'Approche préventive, et qu'il n'y ait aucune pêche effectuée, le représentant de l'Islande a indiqué qu'il pouvait également accepter une décision similaire à celle de l'année dernière.

7.12 La Commission a étudié une proposition de décision concernant la pêche au saumon dans les eaux des Iles Féroé en 2006, formulée par le représentant du Danemark (pour les Iles Féroé et le Groenland), NEA(05)7. Le représentant de l'Union européenne a indiqué que ses Etats Membres regrettaient fortement l'absence d'accord de réglementation, puisque ceci représentait la raison d'être de l'OCSAN. Il n'envisageait cette décision que comme dernière solution possible et ne pouvait l'accepter quant tant que telle. Il a fait référence à la position de l'Union européenne sur cette question, lors de la dernière Réunion annuelle, position qui demeurait inchangée.

7.13 Le représentant de la Norvège a accepté la proposition telle quelle. La représentante de la Fédération de Russie a déclaré qu'il n'y avait eu aucune pêche commerciale effectuée aux Iles Féroé depuis plusieurs années, et du moment que l'Approche préventive continuait à être appliquée par le Danemark (pour les Iles Féroé et le Groenland), elle était en mesure d'accepter la proposition. Le représentant de l'Islande a déclaré que même s'il aurait préféré voir l'établissement d'une mesure de réglementation, il reconnaissait la modération dont avait fait preuve le Danemark (pour les Iles Féroé et le Groenland) en ce qui concernait la pêche aux Iles Féroé. Par conséquent, il était également en mesure d'accepter la décision.

7.14 La Commission a adopté la Décision, NEA(05)10 (annexe 5).

8. Annonce du prix du programme d'encouragement au renvoi des marques

8.1 Le Président a annoncé que M. Dmitriy Kuzmin de Mourmansk, Fédération de Russie avait remporté le prix de 1 500 dollars de la Commission. La Commission a offert ses félicitations au gagnant.

9. Recommandations au Conseil s'inscrivant dans le cadre de la demande au CIEM de recommandations scientifiques

9.1 Les membres de la Commission ont passé en revue la section appropriée du document SSC(05)2. Ce qui différait de la demande de recommandations des années précédentes était principalement la décision de chercher à obtenir des recommandations de captures pluriannuelles (2006-2008). Cette modification avait été initiée pour répondre à la recommandation proposée par le Groupe de travail chargé des Mesures à prendre à l'avenir, à savoir d'envisager la possibilité d'adopter des mesures de réglementation valables sur plusieurs années.

9.2 La Commission a convenu de recommander au Conseil la section appropriée du document SSC(05)2 dans le cadre de la demande annuelle de recommandations scientifiques au CIEM. La demande de recommandations scientifiques au CIEM, CNL(05)12, approuvée par le Conseil, figure à l'annexe 6.

10. Divers

10.1 Aucune autre question n'a été traitée.

11. Date et lieu de la prochaine réunion

11.1 La Commission a convenu de tenir sa prochaine Réunion annuelle lors de la Vingt-troisième réunion annuelle du Conseil, qui se tiendra du 5 au 9 juin 2006.

12. Compte rendu de la réunion

12.1 La Commission a approuvé le compte rendu, NEA(05)9 de la réunion.

Note: L'annexe 7 contient, à la page 91, une liste des documents de la Commission de l'Atlantique Nord-Est.

ANNEX 1

Joint Statement by the NGOs to the North-East Atlantic Commission

Mr Chairman, this Opening Statement covers three main topics:

1. Management of homewater fisheries

The continued exploitation of mixed stocks of salmon in the homewaters of some Parties are a major cause for concern, particularly the Irish drift net fishery, and some smaller coastal fisheries in Scotland.

Current levels of exploitation in the Irish fishery are continuing to cause damage to many river stocks, not only in Ireland, but in France, England and Wales.

The information provided by ICES on stock rebuilding programmes reinforces this concern. That ICES presentation demonstrates quite clearly that once stocks fall below their conservation limit, it is often very difficult to rebuild them, even at low rates of exploitation.

We call on the relevant governments to take urgent action to reduce exploitation in line with scientific advice. This action is required now, not in two years time, and we look forward to seeing details of proposed management actions in the implementation plans which we hope Parties will be preparing as a result of the Next Steps process.

2. *Gyrodactylus salaris*

The NGOs continue to express their concerns at the threat posed by *Gyrodactylus salaris* and are pleased to note the priority given to this dangerous parasite in the Next Steps report.

Our colleagues in Norway are concerned about a ban on the use of rotenone in 2006. However, we are also pleased to hear of developments in Scotland which aim to promote more publicity, create more preventative measures and develop contingency plans should the ultimate situation arise but please speed this process up.

We ask that all Parties note this progress and devote the necessary resources to implement similar measures as soon as possible.

We will also be urging relevant NGOs, river owners and angling clubs to play a full part in this process.

3. Aquaculture

The NGOs are extremely concerned at the continuing high level of escapes in this Commission area, and the sometimes apparent reluctance of member governments to fully report them or acknowledge their potential seriousness.

NASCO has developed containment guidelines with the industry and we could ask in the light of the past winter's events, whether it is time to revise and improve them?

Further, we note the continuing reluctance of the industry to embrace the Williamsburg Resolution, and their continuing refusal to admit NGO representatives to the Liaison Group. We will continue to lobby for a sustainable salmon farming industry and argue that constructive dialogue is the best way forward.

We note the relevant conclusion of the Next Steps Report and agree that, unless there is some evidence of positive progress on these points, that it may be time for NASCO to review its relationship with the industry.

Finally, Mr Chairman can I echo the comments of my colleague from the Coalition Clean Baltic and address a suggestion to the delegations of Russia and the EU. We believe it is important to establish mechanisms for stakeholder engagement for the future management of Baltic salmon especially following the excellent work of NASCO and the Next Steps process.

ANNEX 2

NEA(05)8

Twenty-Second Annual Meeting of the North-East Atlantic Commission

Palais des Congrès, Vichy, France 6-10 June, 2005

Agenda

1. Opening of the Meeting
2. Adoption of the Agenda
3. Nomination of a Rapporteur
4. Review of the 2004 Fishery and ACFM Report from ICES on Salmon Stocks in the Commission Area
5. Risk of Transmission of *Gyrodactylus salaris* in the Commission Area
6. Report on a Pilot Study to Improve Understanding of the Migration, Dispersal and Survival of Farmed Salmon
7. Regulatory Measures
8. Announcement of the Tag Return Incentive Scheme Prize
9. Recommendations to the Council on the Request to ICES for Scientific Advice
10. Other Business
11. Date and Place of the Next Meeting
12. Report of the Meeting

ANNEX 3

North-East Atlantic Commission

NEA(05)5

Gyrodactylus salaris and the Implications of the EU Biocides Directive

NEA(05)5

Gyrodactylus salaris and the Implications of the EU Biocides Directive

1. At the Twenty-First Annual Meeting of the North-East Atlantic Commission, the representative of Norway indicated that the European Union is in the process of implementing a Biocides Directive, a consequence of which will be a ban on the use of rotenone from 1 September 2006. He pointed out that the use of rotenone is a key tool in Norway for the eradication of *Gyrodactylus salaris* and that a workshop established by the Commission, which met in February 2004, had recommended the use of rotenone for the treatment of the parasite. He advised the North-East Atlantic Commission that Norway would be seeking to clarify with the European Commission how rotenone and other control measures can continue to be used after 2006. The representative of the European Union agreed to bring the Norwegian concerns to the attention of the authorities in Brussels and suggested that any Party affected by the proposed Directive should also record its concerns in writing to the Health and Consumer Protection Directorate (Directorate General SANCO) in Brussels.

2. The Norwegian Pollution Control Authority wrote to the Directorate General Environment in Brussels on 18 January this year, and this letter was circulated to the Heads of Delegations of the North-East Atlantic Commission. Norway has now received a response from the Directorate General Environment and I have been asked to make this letter available to the Commission. Both letters are attached (Annexes 1 and 2).

3. With regard to the Working Group on *Gyrodactylus salaris* which the Commission had agreed to establish, I have now been advised by Norway that the Chairman will be Stian Johnsen of the Norwegian Food Safety Authority. I have sent a draft agenda to Mr Johnsen for his consideration and the intention would be to hold the first meeting in October/November this year or in March/April 2006. The matter of the implications of the Biocides Directive for treatment of infected salmon rivers has been included on the draft agenda for the first meeting of the Working Group.

Secretary
Edinburgh
27 May, 2005

Annex 1 of NEA(05)5

[Re-typed for clarity]

Directorate General Environment
UNIT B.4
BU 5 2/151
1049 Brussels
Belgium

Norwegian Pollution Control Authority
P.O.Box 8100 Dep. N-0032
Oslo, Norway
Visiting address:
Strømsveien 96

Att: Klaus Berend

Telephone: +47 22 57 34 00

Date: 18.01.2005
Our ref.: 2005/71 –
Your ref.:
Contact person:

Dear Klaus

Questions about biocide regulation and Rotenone

In Norway, rotenone has for a long time been used as a piscicide to fight the salmon parasite *Gyrodactylus salaris* in salmon rivers. Rotenone is identified as an existing active substance in the Annex I of the Commission Regulation 2032/2203/EC, but not included the review programme and listed in Annex II. According to the biocide regulation active substances not listed in Annex II have to be removed from the market by 1 September 2006. In the attachment we have described the problem of removing Rotenone from market from the Norwegian point of view. We would like to have your response to the questions we are putting forward in the attachment. Thank you in advance for your reply.

Yours sincerely

Eli Vike
Head of Section

Christian Dons
Project Co-ordinator

Enclosure: 1 attachment

Copy to: *Ministry of Environment, P.O.Box 8013, Dep., N-0030 Oslo*
Norwegian directorate for Nature Management, N-7485 Trondheim

Questions regarding the possibility of continued use of Rotenone in Norwegian rivers to eradicate the salmon parasite *Gyrodactylus salaris*

Background:

The substance Rotenone, is identified as an existing active substance in the Annex I of the Commission Regulation 2032/2203/EC, but is not included the review programme and listed in Annex II. Rotenone has been used as a piscicide in Norway to fight the salmon parasite *Gyrodactylus salaris*.

In Norway, the salmon parasite *Gyrodactylus salaris* has proved to be a deadly threat to Atlantic salmon (*Salmo salar*) since its introduction in 1975. In the 45 watercourses in Norway where parasite has been found, the stocks of salmon have been dramatically reduced or wiped out. Norwegian authorities have actively fought the parasite for a number of years. The strategy has included eradication of the parasite where possible in addition to active measures to reduce further spreading. In 2002 a new 10-year action plan was adopted. This plan is based on the existing strategy, but a number of additional measures have been included to improve the chances of success. Priority is also given to development of alternative methods for eradication of the parasite. However, even with alternative methods, small amounts of rotenone are probably required to treat small ponds and seepages connected to the rivers.

Our experience, from past treatments with rotenone, show that it kills all fish and affects aquatic insects in the treated part of the river. All species are, however, re-established in a relatively short time after a rotenone treatment.

On the European level, the threat posed by *G. salaris* has been recognized for a number of years by the North Atlantic Salmon Conservation Organization (NASCO). In the meeting of the North-East Atlantic Commission of NASCO 7 - 11 June 2004, a number of measures to reduce the threat from the parasite were agreed. As part of this it was noted that all European countries with stocks of wild Atlantic salmon should develop contingency plans for handling possible outbreaks of infections. It was further noted that use of rotenone is a key tool for the eradication of the parasite. A ban on the use of rotenone might therefore be of concern to relevant authorities in these countries.

As long as Rotenone is considered to fall under the scope of the biocide directive the Norwegian pollution control Authority is aware that marketing and use of Rotenone as a biocide has to be excluded by 1 September 2006. As far as we can see the two options for further use of Rotenone under the biocide directive are either to notify Rotenone as a new active substance, or apply for use under the "Essential use Application" (art. 15.1. in the biocide directive). In the last case we know that an exemption will have to be limited in time. The option to notify Rotenone will have economic and resource consequences for Norwegian authorities. Application for use under art. 15.1 will give a problem due to the time limitations, since only 1-2 rivers can be treated per year and no complete cessation in the need for Rotenone treatment can be foreseen within 2010.

However, the question is whether there are other options to be able to continue to use Rotenone to fight *Gyrodactylus salaris* in Norwegian salmon rivers. Norway's particular responsibility to protect the Atlantic salmon raises the question if this use of Rotenone will require authorization under the biocide directive. Can this case be looked upon as an emergency situation to protect an endangered species and accordingly the biodiversity even if the "emergency" situation will have to last for several years, because all rivers cannot be treated at the same time for technical and economical reasons? Furthermore it is important to clarify whether use of Rotenone for treatments of *Gyrodactylus salaris* carried out by the authorities will need authorisation under the directive. The condition is of course that Rotenone will be imported only for this use by the authorities and that no marketing of Rotenone will take place.

Question:

1 Will this use of Rotenone require authorisation of the product under the biocide directive?
2. If it does, what are the options for future use (Art. 15. 1/emergency use/essential use) by the Norwegian directorate for Nature Management and the Norwegian veterinary authorities as long as the national use in Norway does not involve commercial marketing and sales?
3. Are there any other legal possibilities for authorities to continue to use Rotenone for fighting *Gyrodactylus salaris*?

Annex 2 of NEA(05)5

[Re-typed for clarity]

European Commission
Directorate-General
Environment
Directorate B – Protecting the Natural Environment
ENV.B.4 – Biotechnology & Pesticides

Brussels, 25 FEV. 2005
EM/eh D(2005)4003

Ms Eli Vike
Mr Christian Dons
Norwegian Pollution Control Authority
P O Box 8100 Dep
N-0032 OSLO

Subject: Questions about biocide regulation and Rotenone

Dear Ms Vike and Mr Dons,

With regard to your letter of 31 January 2005, in which you ask a number of questions about the withdrawal of the active substance Rotenone from the market by 1 September 2006, please note the following.

As you correctly point out in your letter, Rotenone has only been identified in the framework of the review programme for existing active substances used in biocidal products, which has been established by Article 16(2) of Directive 98/8/EC (the so-called 'Biocides Directive'). As such, it cannot be placed on the market for use as a piscicide beyond 1 September 2006. The only derogation to this rule would be a temporary authorisation of the product for 120 days according to Article 15(1) of the Directive, provided of course that the use of Rotenone would be controlled and limited and that it is used to combat an "*unforeseen danger which cannot be controlled by other means"*.

According to the same provision, the Member State has to inform immediately the Commission and the other Member States of such a measure and provide reasons to justify it. Following a vote in the Standing Committee on Biocidal Products, the Commission can then extend the above-mentioned period or decide that the measure may be repeated[1].

As the period of 120 days can be extended or repeated, this might also solve your concern that within that period "only 1-2 rivers can be treated per year". In addition, you write that you are giving priority to the development of alternative methods (to Rotenone use) of eradicating *Gyrodactylus salaris*, which would reduce the need for rotenone to 'only small amounts' to treat small ponds and seepages. It is, therefore somewhat difficult to understand, why the temporary authorisation solution of Article 15(1) does not meet your needs, once the alternatives are available.

Until such time, there could be another solution; as you know, the Commission has been made aware that in certain cases there is a need to extend the phase-out period for non-notified active substances contained in biocidal products that have an essential use and no technically or financially viable alternatives. We have therefore suggested to introduce a provision in the forthcoming 3rd Review Regulation that would allow Member States who need an extension of the phase-out period beyond 1 September 2006 (and up to 14.5.2010 at the latest) to submit an application using the specific form developed for this purpose. In

[1] Of course, if the justification provided by the Member State is not adequate, the Commission may also decide for the measure to be revoked.

their application, the Member State must explain why they consider the use of the biocidal product as essential; also, they must give information on efforts undertaken to find alternative solutions and/or submit a complete dossier for the evaluation of the active substance in order to be included in the positive list of the Directive. On the basis of this information a decision may be taken following a vote in the Standing Committee on Biocidal Products. It might also be possible to introduce a more permanent solution for such cases into the Directive, when it will be reviewed in the light of the report[2] from the Commission in accordance with Article 18(5).

Such an extension of the phase-out period for reasons of essential use of the substance is distinct from Article 15.1 of the Directive, which only provides for temporary authorisation of a biocidal product. There would be no time constrains to the approval and subsequent use of the Rotenone in bodies of water but this would only be allowed until the end of the transitional period (14.5.2010). Thereafter, the use of Article 15(1) provides for a 120 days authorisation limit but may be granted whenever the conditions are met. It is for you to estimate the needs for Rotenone treatment after 1 September 2006 and apply for the most appropriate derogatory measures.

Coming to your other questions: the Directive makes no distinction between authorisation for placing on the market of a biocidal product for use by public authorities and authorisation for placing it on the market for use by private (physical or legal) persons. The fact that it is a public authority using the substance in question does not dispense Rotenone from having to undergo an evaluation of the risk it may represent for human and animal health and the environment according to the provisions of the Biocides Directive[3].

Finally, Article 2(1)(h) of the Directive provides that "importation of a biocidal product into the customs territory of the Community shall be deemed to constitute placing on the market for the purposes of this Directive" *mutatis mutandis*, the importation for use of Rotenone by the Norwegian directorate for Nature Management and the Norwegian veterinary authorities constitutes placing of the biocidal product on the EEA market and as such it will have to be authorised according to the provisions of the Biocides Directive.

To resume, we foresee only two possible solutions to your problem: either a complete dossier for the evaluation and inclusion of Rotenone in the positive list of the Directive is prepared and submitted by the Norwegian authorities to a Rapporteur Member State of their choice (preferably before 1 March 2006, so placing on the market can continue until the evaluation is completed); or, if as you say the needs are limited, Norway could apply for one or both of the above-described derogatory measures (temporary authorisation or extension of the phase-out period based on essential use of the substance), while actively pursuing the search for alternative means to combat infestations by *G. salaris.*

Yours sincerely,

Klaus Berend
Deputy Head of Unit

[2] This report will be submitted by the Commission to the Council in 2007.
[3] Rotenone, when used as a piscicide, is definitely a biocidal product and as such it falls within the scope of Directive 98/8/EC.

ANNEX 4

North-East Atlantic Commission

NEA(05)6

Risk of Transmission of Gyrodactylus salaris in the North-East Atlantic Commission Area

(Tabled by the European Union)

NEA(05)6

Risk of Transmission of Gyrodactylus salaris in the North-East Atlantic Commission Area

(Tabled by the European Union)

EC Directive 91/67/EEC includes the parasite *Gyrodactylus salaris* (Gs) in List III of Annex I to the Directive. Commission Decision 2004/453/EC granted Ireland and the UK additional guarantees (control of imports) in view of the island status of these Member States and the fact that Gs is not present.

As a List III notifiable disease, Member States are required to draw up plans to deal with an outbreak, and submit these to the EC for approval. Measures have been introduced or are being introduced throughout Member States to ensure compliance with this requirement. Monitoring of fish farms and wild stocks is routinely undertaken to test for Gs as well as other diseases and parasites.

For example, in Finland, revised decrees and new legislation relating to the movement of fish, including the use of live fish as bait, gutting of fish and treatment of fishing equipment, have been introduced to assist in preventing the spread of the parasite. In addition, the Ministry of Agriculture has funded research into preventing the spread of the parasite to northern Finland. Publicity material has been widely disseminated, including mailshots to houses in potentially vulnerable areas.

In Ireland and the UK, emphasis is placed on prevention of the introduction of Gs, with the production of publicity material, and the use of workshops hosted by Government and fisheries management organisations to scope the problem and investigate potential approaches to deal with it. Contingency plans to identify new regulatory powers to deal with any outbreak, and to develop the appropriate logistical requirements, have been or are being developed in Ireland and the UK. In UK (Scotland), it is intended that when the plans have been approved, they will be "tested" to assess their effectiveness.

In Sweden, all west coast salmon rivers now have two barriers to salmon migration in place. Stocking with salmonids in rivers free from Gs is only permitted upstream of the second barrier, and the fish must have been obtained from a farm declared free of Gs. An information pamphlet regarding Gs was produced in 2004 and widely distributed in appropriate areas.

NASCO has a very important role to play in the drive to prevent the spread of Gs in the North-East Atlantic Commission area. NASCO is in an excellent position to assist with raising public awareness of the potential effects of any further spread of the organism, and can play a central role in facilitating the exchange of information, especially on preventative measures, between Contracting Parties.

ANNEX 5

NEA(05)10

Decision regarding the salmon fishery in Faroese waters 2006

The North-East Atlantic Commission:

RECOGNIZING the right of the Faroe Islands to fish for salmon in their area of fisheries jurisdiction;

ACKNOWLEDGING the restraint demonstrated by the Faroe Islands by not having commercial salmon fisheries for a number of years and at the same time noting the continuing downward trend in many stocks, and the need for appropriate measures in homewater fisheries;

RECOGNIZING the need for scientific information on salmon from the Faroese area in the on-going development of scientifically sound and sustainably managed salmon fisheries;

WORKING expeditiously with ICES to improve the estimation of a combined conservation limit and thus enable catch advice for the Faroe Islands salmon fishery to be given on an effort or a quantitative basis;

AGREEING to continue to work together to establish an agreed mechanism to allocate any exploitable surplus between the Faroe Islands and homewater fisheries on a fair and equitable basis;

NOTING that the Faroe Islands will manage any salmon fishery on the basis of the advice from ICES regarding the stocks contributing to the Faroese salmon fishery in a precautionary manner and with a view to sustainability, taking into account relevant factors, such as socio-economic needs and other fisheries on mixed stocks;

ACKNOWLEDGING that Faroese management decisions will be made with due consideration to the advice of ICES concerning the biological situation and the status of the stocks contributing to the fishery, and that if such fishing will be decided upon, it will be limited in scope compared to the management measures agreed by NASCO in previous years, and that the fisheries shall be subject to close national surveillance and control;

FURTHER ACKNOWLEDGING that any fisheries will be organized in close cooperation between the fishermen and the authorities, taking due regard of the desires of the Parties, in conformity with ICES recommendations, to provide further scientific knowledge of the salmon resource;

NOTING that Denmark (in respect of the Faroe Islands and Greenland) will, in case of any decision to open the fishery, promptly inform NASCO Secretariat and all members of the Commission of that decision and the attached conditions. In that event, other members of the Commission could call for a Commission meeting in accordance with Article 10 (7) of the Convention. In such a case, it is agreed to derogate from the provisions of Rule 16 of the Rules of Procedure;

Decides not to set a quota for the Faroe Islands fishery for 2006.

ANNEX 6

CNL(05)12

Request for Scientific Advice from ICES

1. With respect to Atlantic salmon in the North Atlantic area:

1.1 provide an overview of salmon catches and landings, including unreported catches by country and catch and release, and worldwide production of farmed and ranched Atlantic salmon in 2005;

1.2 report on significant developments which might assist NASCO with the management of salmon stocks including new or emerging threats to, or opportunities for, salmon conservation and management;

1.3 report on developments in methods to identify origin of Atlantic salmon at a finer resolution than continent of origin (river stocks, country or stock complexes);

1.4 describe sampling programmes for escaped farmed salmon, the precision of the identification methods employed and the reliability of the estimates obtained;

1.5 assess the genetic effects of introgression of farmed Atlantic salmon on wild salmon populations;

1.6 provide an assessment of the minimum information needed which would signal a significant change in the previously provided advice for each Commission area;

1.7 provide a compilation of tag releases by country in 2005;

1.8 identify relevant data deficiencies, monitoring needs and research requirements [1].

2. With respect to Atlantic salmon in the North-East Atlantic Commission area:

2.1 describe the key events of the 2005 fisheries and the status of the stocks; [2]

2.2 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;

2.3 further develop the age-specific stock conservation limits where possible based upon individual river stocks;

2.4 provide annual catch options or alternative management advice for 2006-2008, if possible based on forecasts of PFA for northern and southern stocks, with an assessment of risks relative to the objective of exceeding stock conservation limits and advise on the implications of these options for stock rebuilding; [3]

2.5 update and further refine estimates of by-catch of salmon in pelagic fisheries (including non-catch fishing mortality) with an assessment of impacts on returns to homewaters.

3. With respect to Atlantic salmon in the North American Commission area:

3.1 describe the key events of the 2005 fisheries (including the fishery at St Pierre and Miquelon) and the status of the stocks; [2]

3.2 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;

3.3 update age-specific stock conservation limits based on new information as available;

3.4 provide annual catch options or alternative management advice for 2006-2008 with an assessment of risks relative to the objective of exceeding stock conservation limits and advise on the implications of these options for stock rebuilding. [3]

4. With respect to Atlantic salmon in the West Greenland Commission area:

4.1 describe the events of the 2005 fisheries and the status of the stocks; [2, 4]

4.2 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;

4.3 provide annual catch options or alternative management advice for 2006-2008 with an assessment of risk relative to the objective of exceeding stock conservation limits and advise on the implications of these options for stock rebuilding. [3]

Notes:

1. NASCO's International Atlantic Salmon Research Board's inventory of on-going research relating to salmon mortality in the sea will be provided to ICES to assist it in this task.

2. In the responses to questions 2.1, 3.1 and 4.1 ICES is asked to provide details of catch, gear, effort, composition and origin of the catch and rates of exploitation. For homewater fisheries, the information provided should indicate the location of the catch in the following categories: in-river; estuarine; and coastal. Any new information on non-catch fishing mortality, of the salmon gear used, and on the by-catch of other species in salmon gear, and on the by-catch of salmon in any existing and new fisheries for other species is also requested.

3. In response to questions 2.4, 3.4 and 4.3 provide a detailed explanation and critical examination of any changes to the models used to provide catch advice.

4. In response to question 4.1, ICES is requested to provide a brief summary of the status of North American and North-East Atlantic salmon stocks. The detailed information on the status of these stocks should be provided in response to questions 2.1 and 3.1.

ANNEX 7

List of North-East Atlantic Commission Papers

Paper No.	**Title**
NEA(05)1	Provisional Agenda
NEA(05)2	Draft Agenda
NEA(05)3	Correspondence with NEAFC on potential by-catch of salmon in pelagic fisheries
NEA(05)4	Draft Report
NEA(05)5	*Gyrodactylus salaris* and the Implications of the EU Biocides Directive
NEA(05)6	Risk of transmission of G*yrodactylus salaris* in the North-East Atlantic Commission Area (Tabled by the European Union)
NEA(05)7	Proposal made by Denmark (in respect of the Faroe Islands and Greenland) Regarding the salmon fishery in Faroese Waters in 2006
NEA(05)8	Agenda
NEA(05)9	Report of the Twenty-Second Annual Meeting of the North-East Atlantic Commission
NEA(05)10	Decision regarding the salmon fishery in Faroese waters 2006

Note: This is a listing of all the Commission papers. Some, but not all, of these papers are included in this report as annexes.

REPORT OF THE

TWENTY-SECOND ANNUAL MEETING

OF THE

WEST GREENLAND COMMISSION

6-10 JUNE 2005
VICHY, FRANCE

Chairman: Ms Patricia Kurkul (USA)

Vice-Chairman: Ms Julia Barrow (Canada)

Rapporteur: Dr Malcolm Beveridge (European Union)

Secretary: Dr Malcolm Windsor

WGC(05)8

CONTENTS

WGC(05)8

Report of the Twenty-Second Annual Meeting of the West Greenland Commission of the North Atlantic Salmon Conservation Organization Palais des Congrès, Vichy, France 6-10 June, 2005

1. Opening of the Meeting

1.1 The Chair, Ms Patricia Kurkul (USA), opened the meeting and welcomed delegates to Vichy.

1.2 There were no initial statements from the Parties. An opening statement was made on behalf of the NGOs by their Chair, Mr Chris Poupard (Annex 1). The NGOs urged the adoption of regulatory measures consistent with the ICES scientific advice to the Commission that no fishery should take place at West Greenland. The NGOs also urged continuing support and assistance from the Parties for the ongoing conservation agreement negotiated by the North Atlantic Salmon Fund and others in the private sector with the Organization of Fishermen and Hunters in Greenland (KNAPK).

1.3 A list of participants at the Twenty-Second Annual Meeting of the Council and Commissions of NASCO is included on page 173 of this document.

2. Adoption of the Agenda

2.1 The Commission adopted its agenda, WGC(05)9 (Annex 2).

3. Nomination of a Rapporteur

3.1 The Commission appointed Dr Malcolm Beveridge (European Union) as its Rapporteur for the meeting.

4. Review of the 2004 Fishery and ACFM Report from ICES on Salmon Stocks in the Commission Area

4.1 The representative of the ICES Working Group on North Atlantic Salmon, Dr Walter Crozier, presented the scientific advice from ICES relevant to the West Greenland Commission, prepared in response to a request from the Commission at its Twenty-First Annual Meeting. The ACFM report from ICES, which contains the scientific advice relevant to all Commissions, is included on page 123 of this document. Dr Crozier's overhead presentation to the Commission is contained in document CNL(05)44.

4.2 The Chair thanked the representative of ICES for the clear and comprehensive presentation of the ICES advice, noting that this would be Dr Crozier's last presentation as his term as Chair of the ICES North Atlantic Salmon Working Group has ended.

4.3 The representative of the European Union noted that 151 licences for salmon fishing were issued, that there were 66 reported landings and that 24 of those were by professional fishermen and licence holders. The representative of the European Union asked the representative of ICES whether it was possible to allocate salmon landings between licensed and unlicensed fishermen, but was advised that present data didn't permit this. The representative of ICES expressed a commitment to further examine this issue, proposing that working with local fishermen may help improve the data.

4.4 The representative of Denmark (in respect of the Faroe Islands and Greenland) stated that many professional fishermen and hunters applied for licences to maintain their rights to exploit salmon. The Chair agreed that this may be one of the reasons for the high number of licences. The representative of the European Union asked whether there were more fishermen now than in the recent past and stated that the lack of sound data increased the uncertainties associated with the salmon landings. The representative of ICES stressed that it was not assumed that there was a large unreported catch, but that the unreported catch figure needs to be improved. Data are required on both licensed and unlicensed fishermen and on those who report and don't report catches. The representative of Denmark (in respect of the Faroe Islands and Greenland) stated that the Greenland authorities are committed to improving the catch reporting.

4.5 A paper on the 2004 fishery at West Greenland was tabled by Denmark (in respect of the Faroe Islands and Greenland, WGC(05)5 (Annex 3).

5. Regulatory Measures

5.1 No Parties made initial statements or proposals.

5.2 Following consultations, the Chair submitted a draft Regulatory Measure for the Fishing of Salmon at West Greenland, WGC(05)4. The draft Regulatory Measure was consistent with present ICES scientific advice and with earlier measures and proposed that catches be restricted to amounts for internal consumption in Greenland, which had previously been estimated at 20 tonnes. In the spirit of the 'Next Steps' process it was proposed that the regulatory measure would be automatically extended yearly to cover successive fishing seasons, unless a member of the West Greenland Commission gives written notice to other members by 25 April yearly of its intent to terminate the regulatory measure agreement.

5.3 Canada asked whether in agreeing to the regulatory measure this would commit the country to participate in the sampling programme. The Chair stated that the actual arrangements for the sampling programme were the subject of separate negotiations among Parties. Canada asked for clarification of the April 25 deadline for members giving notice to terminate their agreement to the regulatory measure. The Chair responded that the date coincided with the conservation agreement and that while the ACFM had not completed its work, the Working Group would have completed its work by April 20, thereby providing members with information on the status of stocks. The United States gave its support to the multi-year commitment, stating that it was consistent with the 'Next Steps' process, and that setting catches at an amount for internal consumption in Greenland was also consistent with the scientific advice, which has consistently highlighted the very poor state of the salmon stocks being exploited.

5.4 After further consultation among the Parties, a revised proposal for a 2005 regulatory measure was tabled.

5.5 The representative of Denmark (in respect of the Faroe Islands and Greenland) made a formal statement in which he requested that before the Commission proceeded to decide upon the proposal, he wished to reiterate that Greenland can accept the measure for 2005 in the light of the prevailing biological circumstances and in the light of fisheries limitations undertaken by other Parties. However, it wished to use the opportunity to reiterate that the measure is without prejudice to the basic rights of Greenland to harvest a reasonable portion of this shared resource, which feeds in its waters. It was hoped that the strict measures taken in 2005 in West Greenland and taken or contemplated elsewhere will contribute to improve the stock situation, so Greenland again will be able to reopen its salmon fishery, with due regard to socio-economic needs, and based upon the best available scientific advice. With these words, Denmark (in respect of the Faroe Islands and Greenland) accepted the proposal.

5.6 The Chair noted that an important change in the 2005 measure from 2004 was a commitment to explore the possibilities to adopt regulatory measures on a multi-annual basis, subject to unforeseeable developments, as suggested within the 'Next Steps' process, during the Annual Meeting in 2006. Denmark (in respect of Faroe Islands and Greenland) will inform the other Parties on the outcome of the 2005 fishery. The Parties adopted the Regulatory Measure, WGC(05)7 (Annex 4).

6. Sampling in the West Greenland Fishery

6.1 The United States presented a report on the North American, European Union and Greenland sampling programme at West Greenland in 2004. In view of the findings, the representative of the European Union reiterated that the salmon catch data may be an underestimate and should be treated with caution. The Chair agreed. The representative of ICES stated that the salmon catch data were amended in the light of the sampling work for modelling purposes. The representative of Denmark (in respect of the Faroe Islands and Greenland) also thanked the samplers for their work, stating that he believed the temporal and spatial coverage of the fishery was now excellent. The results highlighted the fact that greater efforts needed to be made to improve catch reporting in Nuuk, where the majority of fish appearing in local markets are sold. Adding its thanks to the samplers, the representative of the European Union asked whether Canada intended to contribute to sampling efforts in 2005. Canada replied that although it had sent no samplers in 2004, it had done so for many years and continued to contribute to the scale analysis work.

6.2 The West Greenland Sampling Agreement, WGC(05)6 (Annex 5), was tabled for discussion. All Parties external to Greenland with interests in the mixed stock fishery at West Greenland (Canada, the European Union and the United States) agreed to contribute to the cooperative sampling programme for the 2005 season. In addition, there was a commitment by the Greenland Home Rule Government to support the sampling programme.

7. Announcement of the Tag Return Incentive Scheme Prize

7.1 Two tags were returned from Greenland in 2004. The prize winner was a fisherman, Mr Vittus Jerimiassen, Nuuk, who caught the salmon on 17 October 2004. The fish had

been tagged with an anchor tag on the Miramichi River, Canada. No biological data were recorded.

8. Recommendations to the Council on the Request to ICES for Scientific Advice

8.1 The Chair of the Standing Scientific Committee, Dr Peter Hutchinson, indicated that Mr Per Kanneworff had retired and was no longer able to continue as a Commission representative on that Committee. The Commission agreed to appoint a replacement for Mr Kanneworff prior to next year's meeting. He also indicated that one of the Next Steps for NASCO Working Group's recommendations had been that in the event that biennial or multi-annual regulatory measures could be agreed, then the request to ICES might only be needed on a biennial or multi-annual basis. He asked for the Commission's advice as to what information it would require in the event that there is no request for advice from ICES.

8.2 The Commission members reviewed the relevant section of document SSC(05)2. The main change from the advice request of previous years was the move to seek multi-annual catch advice (2006-2008). This change was initiated in response to the recommendation from the Next Steps for NASCO Working Group to consider the feasibility of adopting multi-annual regulatory measures. It was recognized, however, that if there was interest in adopting such measures, the overall nature and scope of the request for scientific advice to ICES may be affected, but that the decision would need to be taken by the Council at the 2006 Annual Meeting.

8.3 The Chair invited comments from Parties and as there were none, the Commission agreed to recommend the draft Request for Scientific Advice from ICES to the Council. The request, as agreed by the Council, is contained in document CNL(05)12 (Annex 6).

9. Other Business

9.1 There was no other business.

10. Date and Place of Next Meeting

10.1 The next meeting of the West Greenland Commission will be held during the Twenty-Third Annual Meeting of the Council from 5-9 June 2006.

11. Report of the Meeting

11.1 The Commission agreed a report of its meeting, WGC(05)8.

Note: The annexes mentioned above begin on page 107, following the French translation of the report of the meeting. A list of North American Commission papers is included in Annex 7 on page 121 of this document.

WGC(05)8

Compte rendu de la Vingt-deuxième réunion annuelle de la Commission du Groenland Occidental de l'Organisation pour la Conservation du Saumon de l'Atlantique Nord Palais des Congrès, Vichy, France 6-10 juin, 2005

1. Séance d'ouverture

1.1 La Présidente, Ms Patricia Kurkul (Etats-Unis), a ouvert la réunion et a souhaité aux délégués la bienvenue à Vichy.

1.2 Les Parties n'ont prononcé aucune déclaration initiale. Une déclaration d'ouverture a été prononcée au nom des ONG par leur Président, Mr Chris Poupard (annexe 1). Les ONG recommandaient vivement l'adoption de mesures de réglementation cohérentes avec les recommandations scientifiques faites à la Commission par le CIEM, à savoir qu'aucune pêcherie ne devrait avoir lieu au Groenland Occidental. Les ONG ont également incité les Parties à continuer d'offrir leur soutien et assistance en ce qui concernait l'accord de conservation en vigueur négocié entre, d'une part, le *North Atlantic Salmon Fund* et autres parties appartenant au secteur privé et, d'autre part, l'Organisation des Pêcheurs et Chasseurs du Groenland (KNAPK).

1.3 Une liste des participants à la Vingt-deuxième réunion annuelle du Conseil et des Commissions se trouve à la page 173 de ce document.

2. Adoption de l'ordre du jour

2.1 La Commission a adopté son ordre du jour, WGC(05)9 (annexe 2).

3. Nomination of a Rapporteur

3.1 La Commission a nommé Dr Malcolm Beveridge (Union européenne) Rapporteur de la réunion.

4. Examen de la pêcherie de 2004 et du rapport du CCGP du CIEM sur les stocks de saumons dans la zone de la Commission

4.1 Le représentant du CIEM, Dr Walter Crozier, a présenté les recommandations scientifiques du CIEM intéressant la Commission du Groenland Occidental, formulées à la suite d'une demande émanant de la Commission lors de sa Vingt-et-unième réunion annuelle. Le rapport du CCGP du CIEM contenant les recommandations scientifiques pour l'ensemble des Commissions figure à la page 123 de ce document. Le document CNL(05)44 regroupe les diapositives projetées au cours de la présentation du Dr Crozier.

4.2 La Présidente a remercié le représentant du CIEM pour la clarté et le détail de sa présentation des recommandations du CIEM, notant par ailleurs qu'il s'agissait là de la dernière présentation du Dr Crozier puisque son mandat de Président du groupe de travail sur le saumon de l'Atlantique nord avait touché à sa fin.

4.3 Le représentant de l'Union européenne a fait remarquer que l'on avait octroyé 151 permis de pêche au saumon. Sur les 66 débarquements qui avaient été déclarés, 24 avaient été effectués par des pêcheurs professionnels et individus titulaires d'un permis. Le représentant de l'Union européenne a demandé au représentant du CIEM s'il était possible de distinguer les débarquements effectués par les pêcheurs titulaires d'un permis de ceux effectués par les pêcheurs sans permis. La réponse toutefois était que les données actuelles ne le permettaient pas. Le représentant du CIEM a indiqué qu'il s'engageait à étudier cette question plus profondément. Il a en outre suggéré qu'un travail en coopération avec les pêcheurs de la région sur cette question pourrait améliorer les données.

4.4 Le représentant du Danemark (pour les îles Féroé et le Groenland) a indiqué que nombreux étaient les pêcheurs et chasseurs professionnels qui avaient fait une demande de permis pour conserver leurs droits d'exploitation du saumon. La Présidente a convenu que ceci pourrait en effet expliquer en partie le nombre élevé de permis. Le représentant de l'Union européenne a demandé si le nombre de pêcheurs était désormais plus élevé qu'au cours des récentes années et a déclaré que le manque de données sures rendaient le volume des débarquements de saumons encore plus incertain. Le représentant du CIEM a souligné que l'on ne supposait pas nécessairement un nombre important de captures non déclarées, mais que le nombre de captures non déclarées nécessitait d'être évalué plus exactement. Il était nécessaire d'obtenir des renseignements sur les pêcheurs officiels et non officiels ainsi que sur ceux qui déclaraient et ne déclaraient pas leurs captures. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a signalé que les autorités du Groenland s'étaient engagées à améliorer les comptes-rendus de pêche.

4.5 Le Danemark (pour les Iles Féroé et le Groenland) a présenté un document sur la pêche de 2004 au Groenland Occidental, WGC(05)5 (annexe 3).

5. Mesures de réglementation

5.1 Les Parties n'ont prononcé aucune déclaration ou proposition initiale

5.2 A la suite de débats, la Présidente a soumis un avant projet de mesure de réglementation concernant la pêche au saumon au Groenland Occidental, WGC(05)4. Cet avant-projet s'alignait sur les recommandations scientifiques courantes du CIEM ainsi que sur les mesures prises précédemment. Il proposait ainsi de restreindre les captures aux quantités nécessaires à la consommation interne du Groenland (ce qui avait antérieurement été estimé à 20 tonnes). Pour respecter l'esprit du processus des Mesures à prendre à l'avenir, il a été proposé chaque année de reconduire automatiquement la mesure de réglementation de façon à ce que plusieurs saisons de pêche soient couvertes. Au cas où un des membres de la Commission du Groenland Occidental désirerait annuler sa participation à l'accord de mesure de réglementation, il peut toutefois toujours le faire en donnant son préavis par correspondance, tous les ans avant le 25 avril.

5.3 Le Canada a demandé si le fait d'accepter la mesure de réglementation impliquait que le pays aurait à participer au programme d'échantillonnage. La Présidente a déclaré que les dispositifs concernant le programme d'échantillonnage faisaient l'objet de négociations séparées entre les Parties. Le Canada a demandé des clarifications supplémentaires sur la date du 25 avril, fixée comme date limite pour l'enregistrement de préavis de la part des membres demandant à ce que leur accord à la mesure de réglementation soit terminé. La Présidente a répondu que la date coïncidait avec l'accord de conservation et que, bien que le CCGP n'ait pas terminé sa tâche, le Groupe de travail aurait terminé son travail d'ici le 20 avril, fournissant ainsi aux membres les renseignements nécessaires sur l'état des stocks. Les Etats-Unis ont approuvé l'engagement sur plusieurs années, déclarant que ceci était cohérent avec le processus des Mesures à prendre à l'avenir. Ils étaient également d'avis que la fixation d'un niveau de captures destinées à la consommation interne du Groenland était également en accord avec les recommandations scientifiques, recommandations qui avaient régulièrement souligné l'état extrêmement déplorable des stocks de saumons exploités.

5.4 À la suite de délibérations supplémentaires entre les Parties, une proposition révisée de mesure de réglementation pour 2005 a été présentée.

5.5 Le représentant du Danemark (pour les Iles Féroé et le Groenland) a fait une déclaration officielle, au cours de laquelle il indiquait qu'il désirait réitérer, avant que la Commission ne se prononce sur la proposition, que le Groenland était en mesure d'accepter la mesure de 2005 étant donné les circonstances biologiques prédominantes et vu que les autres Parties limitaient leurs pêcheries. Cependant, le pays désirait profiter de cette occasion pour réitérer que la mesure ne doit porter pas préjudice aux droits fondamentaux du Groenland à la récolte d'une proportion raisonnable de cette ressource commune qui s'alimentait dans ses eaux. Il était à espérer que les mesures strictes prises en 2005 au Groenland Occidental et prises ou envisagées ailleurs contribueraient à améliorer la situation des stocks. Le Groenland pourrait ainsi ouvrir à nouveau sa pêcherie de saumons, tout en tenant compte des besoins socio-économiques et conformément aux meilleures recommandations scientifiques disponibles. Sur ces mots, le Danemark (pour les Iles Féroé et le Groenland) a accepté la proposition.

5.6 La Présidente a fait remarquer qu'un changement important à noter dans la mesure de 2005 par rapport à 2004 était l'engagement à explorer les possibilités d'adopter des mesures de réglementation sur une base pluriannuelle, au cours de la réunion annuelle de 2006, sous réserve de développements imprévisibles, tels qu'il était suggéré dans le processus des Mesures à prendre à l'avenir. Le Danemark (pour les Iles Féroé et le Groenland) informera les autres Parties du résultat de la pêcherie de 2005. Les Parties ont adopté la mesure de régulation, WGC(05)7 (annexe 4).

6. Echantillonnage de la Pêche du Groenland Occidental

6.1 Le représentant des Etats-Unis a présenté un rapport sur le programme d'échantillonnage effectué par l'Amérique du Nord, l'Union européenne et le Groenland au Groenland Occidental en 2004. Etant donné les résultats, le représentant de l'Union européenne a réitéré que les données de captures de saumons pouvaient être sous-estimées et qu'elles devaient par conséquent être traitées avec prudence. La Présidente a appuyé cette opinion. Le représentant du CIEM a déclaré que les données de captures de saumons avaient été amendées, à la lumière du travail

d'échantillonnage, en vue de la modélisation. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a également remercié les échantillonneurs pour leur travail, signalant qu'à son avis, la couverture dans le temps et dans l'espace de la pêcherie était désormais excellente. Les résultats soulignaient le fait que de plus grands efforts devaient être réalisés pour améliorer les comptes-rendus au Nuuk, où l'on vendait la majorité des poissons trouvés sur les marchés locaux. Après avoir également offert ses remerciements aux échantillonneurs, le représentant de l'Union européenne a demandé si le Canada avait l'intention de contribuer aux efforts d'échantillonnage en 2005. Le représentant du Canada a répondu que bien que le Canada n'ait pas envoyé d'échantillonneurs en 2004, il l'avait fait pendant plusieurs années et continuait à contribuer au travail d'analyse des écailles.

6.2 L'accord d'échantillonnage au Groenland Occidental, WGC(05)6 (annexe 5), a été soumis au débat. Les Parties qui n'appartenaient pas au Groenland mais qui avaient un enjeu dans la pêcherie à stock mixte du Groenland Occidental (le Canada, l'Union européen et les Etats-Unis) ont, toutes, convenu de contribuer au programme d'échantillonnage de la saison de 2005, mené en coopération. En outre, les autorités du Groenland ont démontré leur engagement à soutenir le programme d'échantillonnage.

7. Annonce du Prix du Programme d'encouragement au renvoi des marques

7.1 Deux marques ont été reçues du Groenland en 2004. Mr Vittus Jerimiassen, originaire de Nuuk pêcheur originaire de Nuuk, a remporté le prix de la Commission. Il avait attrapé le saumon le 17 octobre 2004. Le poisson portait une marque du type *anchor tag*. Il avait été marqué dans la rivière Miramichi au Canada. On n'avait aucune donnée biologique sur cet animal.

8. Recommandations au Conseil s'inscrivant dans le cadre de la demande au CIEM de recommandations scientifiques

8.1 Le Président du Comité scientifique permanent, Dr Peter Hutchinson, a indiqué que M. Per Kanneworff avait pris sa retraite et n'était plus en mesure de continuer son mandat au sein de ce Comité, en tant que représentant de la Commission. La Commission a convenu de nommer un remplaçant avant la réunion de l'année prochaine. Dr. Peter Hutchinson a également indiqué que, dans l'éventualité d'un accord de mesures de réglementation biannuel ou pluriannuel, l'une des prochaines étapes dans les recommandations du Groupe de travail de l'OCSAN serait que la demande au CIEM de recommandations ne se fasse également que tous les deux ans ou sur plusieurs années. Il a demandé à la Commission de préciser ce dont elle aurait besoin en tant qu'information au cas où il n'y aurait aucune demande de recommandations faite auprès du CIEM.

8.2 Les membres de la Commission ont passé en revue la section pertinente du document SSC(05)2. Ce qui différait de la demande de recommandations des années précédentes était principalement la décision de chercher à obtenir des recommandations de captures pluriannuelles (2006-2008). Cette modification avait été initiée pour répondre à la recommandation proposée par le Groupe de travail chargé des Mesures à prendre à l'avenir, à savoir d'envisager la possibilité d'adopter des mesures de réglementation valables sur plusieurs années. Il a toutefois été

reconnu que, si ces mesures s'avéraient d'intérêt, ceci pourrait affecter le caractère de la demande de recommandations scientifiques ainsi que sa portée. C'est au Conseil toutefois qu'il incombera de prendre la décision lors de la réunion annuelle de 2006.

8.3 Le Président a invité les Parties à offrir leurs commentaires, mais en l'absence de tout commentaire, la Commission a convenu de recommander au Conseil l'avant projet de demande de recommandations scientifiques adressée au CIEM. La demande de recommandations scientifiques, approuvée par le Conseil, figure dans le document CNL(05)12 (annexe 6).

9. Divers

9.1 Aucune autre question n'a été traitée.

10. Date et lieu de la prochaine réunion

10.1 La Commission a convenu de tenir sa prochaine réunion en même temps (soit du 5 au 9 juin 2006) que la Vingt-troisième réunion annuelle du Conseil.

11. Compte rendu de la réunion

11.1 La Commission a accepté le compte rendu WGC(05)8 de la réunion.

Note: Une liste des documents de la Commission Nord-Américaine figure à l'annexe 7, à la page 121 de ce document.

ANNEX 1

Joint Statement by the NGOs to the West Greenland Commission

Madam Chairman,

1. We urge the Parties to adopt management measures consistent with the ICES advice: ".. that none of the management objectives in either the North American Commission or the North-East Atlantic Commission would allow a fishery at Greenland to take place".

2. The NGOs would like to express our support for the Conservation Agreement signed between the Greenland Hunters and Fishers Association (KNAPK), the North Atlantic Salmon Fund (NASF) and the Atlantic Salmon Federation (ASF) that suspends all commercial salmon fishing in Greenland's waters. We acknowledge and deeply appreciate the sacrifice the Greenlanders have made in the name of conservation and thank NASF and ASF for their private-sector leadership. We encourage governments and NASCO to also extend their support to this important conservation achievement, and urge other NASCO Parties to exhibit similar restraint and leadership in managing their homewater fisheries.

3. I will be returning to this subject in our joint statement to the North-East Atlantic Commission.

ANNEX 2

WGC(05)9

Twenty-Second Annual Meeting of the West Greenland Commission Palais des Congrès, Vichy, France 6-10 June, 2005

Agenda

1. Opening of the Meeting
2. Adoption of the Agenda
3. Nomination of a Rapporteur
4. Review of the 2004 Fishery and ACFM Report from ICES on Salmon Stocks in the Commission Area
5. Regulatory Measures
6. Sampling in the West Greenland Fishery
7. Announcement of the Tag Return Incentive Scheme Prize
8. Recommendations to the Council on the Request to ICES for Scientific Advice
9. Other Business
10. Date and Place of Next Meeting
11. Report of the Meeting

ANNEX 3

West Greenland Commission

WGC(05)5

The 2004 Fishery at West Greenland
(Tabled by Denmark (in respect of the Faroe Islands and Greenland))

WGC(05)5

The 2004 Fishery at West Greenland
(Tabled by Denmark (in respect of the Faroe Islands and Greenland))

At the Annual Meeting of NASCO in June 2004, the West Greenland Commission agreed to restrict the catch of Atlantic salmon at West Greenland to that amount used for internal subsistence consumption in Greenland. Furthermore, no commercial export of salmon was allowed.

In accordance with the Regulatory Measure adopted by the West Greenland Commission, the Greenland Home Rule Government decided to set the national quota for commercial landings of Atlantic salmon to fishing plants to zero tonnes, and prohibited any export of salmon from Greenland in 2004. Only a subsistence fishery was allowed, i.e. fishery for private consumption, and fishery with the aim of supplying local open air markets, hotels, hospitals and restaurants. The latter was only allowed for professional fishermen with licences.

In 2004, the fishery was opened at the beginning of August and closed at the end of October. During this period a total catch of 15.9 tonnes of salmon was reported to the Greenland Fishery Licence Control (GFLK). Of this, 11.4 tonnes were reported by licensed fishermen as sold at open air markets, etc., and 4.6 tonnes were reported as used for private consumption.

The fishery is regulated in the Greenland Home Rule Executive Order No. 21 of August 10 2002 on Salmon Fishery. The executive order distinguishes between 1) commercial fishery for Atlantic salmon to be landed at fish plants, 2) subsistence fishery by residents of Greenland, and 3) rod fishery by tourists/non-residents.

All fishermen who wish to sell Atlantic salmon must hold a licence issued by GFLK. In 2004, 151 licences were issued, but only 24 of these were utilized for selling according to the reports to GFLK.

All catches of Atlantic salmon must be reported to GFLK. The catches were either sold at local open air markets or to local institutions, hotels, etc., or kept for private consumption.

The wildlife and fisheries officers of GFLK make random checks at local markets in towns and settlements along the west coast of Greenland, and in hotels, restaurants, shops, etc. in order to compare purchase of salmon with reported catches. In 2004, the wildlife and fisheries officers once again have put a lot of effort into handing out reporting forms to all fishermen whom they have observed fishing for salmon, and informing them that all catches must be reported to GFLK.

ANNEX 4

WGC(05)7

Regulatory Measure for the Fishing for Salmon at West Greenland for 2005

RECALLING that the Parties to the West Greenland Commission have previously agreed regulatory measures for the West Greenland fishery based on the scientific advice from the International Council for the Exploration of the Sea (ICES);

The Parties:

(1) Acknowledge the good work undertaken by Greenland to improve the estimates of the annual catches of salmon taken for private sales and local consumption in Greenland and encourage Greenland to continue this work; and
(2) Commit to cooperate in the design and implementation of a sampling program that will be closely coordinated with the fishery.

CONSIDERING that ICES considers the stock complex at West Greenland to be outside precautionary limits;

RECOGNIZING that cooperation for the conservation of wild salmon is in their mutual interest, the Parties agree that in 2005 the catch at West Greenland will be restricted to that amount used for internal consumption in Greenland, which in the past has been estimated at 20 tons. There will be no commercial export of salmon;

COMMITTED during the annual session in 2006 to explore the possibility to adopt regulatory measures on a multi-annual basis, subject to unforeseeable developments, as suggested within the 'Next Steps' process.

Denmark (in respect of the Faroe Islands and Greenland) will inform NASCO of the outcome of the 2005 fishery.

ANNEX 5

West Greenland Commission

WGC(05)6

West Greenland Fishery Sampling Agreement, 2005

WGC(05)6

West Greenland Fishery Sampling Agreement, 2005

The West Greenland Commission recognizes the important contribution of sound biological data to science-based management decisions for fisheries prosecuted in the West Greenland Commission area. The Parties in the West Greenland Commission have worked cooperatively over the past three decades to collect biological data on Atlantic salmon harvested at West Greenland. These data provide critical inputs to the stock assessment completed by the ICES North Atlantic Salmon Working Group annually.

The objectives of the sampling programme in 2005 are to:

- Continue the time series of data (1969-2004) on continent of origin and biological characteristics of the salmon in the West Greenland Fishery

- Provide data on mean weight, length and continent of origin for input into the North American and European run-reconstruction models

- Collect information on the recovery of internal and external tags

- Collect information on fish diseases or other special samples as requested

To this end, the sampling programme in 2005 will collect:

- Meristic data including lengths and weights of landed fish
- Information on tags, fin clips, and other marks
- Scale samples to be used for age and growth analyses
- Tissue samples to be used for genetic analyses
- Tissue samples to be used for disease sampling for the detection of ISAv and other disease and parasite organisms as requested
- Other biological data requested by the ICES scientists and NASCO cooperators

External Staffing Inputs:

Parties external to Greenland with interests in the mixed stock fishery at West Greenland, including Canada, the European Union, and the United States, have historically provided personnel and analytical inputs into the cooperative sampling programmes. The NASCO Parties agree to provide the following inputs to the cooperative sampling programme at West Greenland during the 2005 fishing season:

- The European Union[1] agrees to provide a minimum of 6 person weeks[2] to sample Atlantic salmon at West Greenland during the 2005 fishing season
- The United States agrees to provide a minimum of 4 person weeks to sample Atlantic salmon at West Greenland during the 2005 fishing season
- The United States agrees to co-ordinate the sampling programme for 2005

In addition, NASCO Parties agree to provide the following technical analysis inputs to analyze samples and data collected at West Greenland:

- The United States of America agrees to provide microsatellite DNA analysis of tissue samples collected from Atlantic salmon harvested at West Greenland

- Canada agrees to provide ageing and other analyses of scale samples collected from Atlantic salmon harvested at West Greenland

- Canada agrees to maintain the historical West Greenland sampling database

- The United States agrees to provide disease analysis of tissue samples collected from Atlantic salmon harvested by West Greenland

- The European Union (UK, England & Wales) agrees to act as a clearing house for coded wire tags recovered from the fishery

Greenland Home Rule Government Coordination Efforts:

The Home Rule Government of Greenland agrees to provide 15 person weeks[3] annually to facilitate sampling of Atlantic salmon by samplers from other NASCO Parties. In addition, the Home Rule Government of Greenland agrees to identify a mechanism to provide sampling access to landed Atlantic salmon before grading/culling and before fish are subject to health regulations that would restrict or prohibit activities associated with sampling.

The Home Rule Government of Greenland agrees to inform persons designated by cooperating NASCO Parties of important developments in the management of the West Greenland fishery including planned openings and closures of the Atlantic salmon fishery at West Greenland.

The Home Rule Government of Greenland agrees to provide necessary waivers to the regulation that Atlantic salmon must be landed in a gutted condition to allow for the collection of biological samples (up to 120 salmon) required to complete disease sampling. To facilitate land-based collection of tissue samples required for disease sampling, the Home Rule Government of Greenland agrees to provide samplers with written permits that allow for landing of a total of 120 salmon.

[1] The Republic of Ireland and the United Kingdom.
[2] For the purposes of this agreement, a person week of sampling is defined as a trained individual who works on site in West Greenland to collect samples of Atlantic salmon for a period of 7 days.
[3] For the purposes of this agreement, a person week of sampling is defined as an individual who is capable of communicating with external samplers in English, and fishers and others in either Danish, Greenlandic, or preferably both, for a period of 7 days.

The allocation of available scientific sampling personnel will be determined annually by ICES scientists to provide spatial and temporal coverage to characterize both the fishery and the Atlantic salmon populations along the West Greenland coast. Data and analyses of collected biological samples will be reported through the ICES North Atlantic Salmon Working Group in the year following data collection. Parties participating in the cooperative sampling programme will share access to resulting data and work cooperatively in the publication of information.

ANNEX 6

CNL(05)12

Request for Scientific Advice from ICES

1. With respect to Atlantic salmon in the North Atlantic area:

1.1 provide an overview of salmon catches and landings, including unreported catches by country and catch and release, and worldwide production of farmed and ranched Atlantic salmon in 2005;

1.2 report on significant developments which might assist NASCO with the management of salmon stocks including new or emerging threats to, or opportunities for, salmon conservation and management;

1.3 report on developments in methods to identify origin of Atlantic salmon at a finer resolution than continent of origin (river stocks, country or stock complexes);

1.4 describe sampling programmes for escaped farmed salmon, the precision of the identification methods employed and the reliability of the estimates obtained;

1.5 assess the genetic effects of introgression of farmed Atlantic salmon on wild salmon populations;

1.6 provide an assessment of the minimum information needed which would signal a significant change in the previously provided advice for each Commission area;

1.7 provide a compilation of tag releases by country in 2005;

1.8 identify relevant data deficiencies, monitoring needs and research requirements [1].

2. With respect to Atlantic salmon in the North-East Atlantic Commission area:

2.1 describe the key events of the 2005 fisheries and the status of the stocks; [2]

2.2 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;

2.3 further develop the age-specific stock conservation limits where possible based upon individual river stocks;

2.4 provide annual catch options or alternative management advice for 2006-2008, if possible based on forecasts of PFA for northern and southern stocks, with an assessment of risks relative to the objective of exceeding stock conservation limits and advise on the implications of these options for stock rebuilding; [3]

2.5 update and further refine estimates of by-catch of salmon in pelagic fisheries (including non-catch fishing mortality) with an assessment of impacts on returns to homewaters.

3. With respect to Atlantic salmon in the North American Commission area:

3.1 describe the key events of the 2005 fisheries (including the fishery at St Pierre and Miquelon) and the status of the stocks; [2]

3.2 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;

3.3 update age-specific stock conservation limits based on new information as available;

3.4 provide annual catch options or alternative management advice for 2006-2008 with an assessment of risks relative to the objective of exceeding stock conservation limits and advise on the implications of these options for stock rebuilding. [3]

4. With respect to Atlantic salmon in the West Greenland Commission area:

4.1 describe the events of the 2005 fisheries and the status of the stocks; [2, 4]

4.2 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;

4.3 provide annual catch options or alternative management advice for 2006-2008 with an assessment of risk relative to the objective of exceeding stock conservation limits and advise on the implications of these options for stock rebuilding. [3]

Notes:

1. NASCO's International Atlantic Salmon Research Board's inventory of on-going research relating to salmon mortality in the sea will be provided to ICES to assist it in this task.

2. In the responses to questions 2.1, 3.1 and 4.1 ICES is asked to provide details of catch, gear, effort, composition and origin of the catch and rates of exploitation. For homewater fisheries, the information provided should indicate the location of the catch in the following categories: in-river; estuarine; and coastal. Any new information on non-catch fishing mortality, of the salmon gear used, and on the by-catch of other species in salmon gear, and on the by-catch of salmon in any existing and new fisheries for other species is also requested.

3. In response to questions 2.4, 3.4 and 4.3 provide a detailed explanation and critical examination of any changes to the models used to provide catch advice.

4. In response to question 4.1, ICES is requested to provide a brief summary of the status of North American and North-East Atlantic salmon stocks. The detailed information on the status of these stocks should be provided in response to questions 2.1 and 3.1.

ANNEX 7

List of West Greenland Commission Papers

Paper No.	**Title**
WGC(05)1	Provisional Agenda
WGC(05)2	Draft Agenda
WGC(05)3	Draft Report
WGC(05)4	Draft Regulatory Measure for the Fishing for Salmon at West Greenland – Proposal from the Chair
WGC(05)5	The 2004 Fishery at West Greenland (Tabled by Denmark (in respect of the Faroe Islands and Greenland))
WGC(05)6	West Greenland Fishery Sampling Agreement, 2005
WGC(05)7	Regulatory Measure for the Fishing for Salmon at West Greenland for 2005
WGC(05)8	Report of the Twenty-Second Annual Meeting of the West Greenland Commission
WGC(05)9	Agenda

Note: This is a listing of all the Commission papers. Some, but not all, of these papers are included in this report as annexes.

Report of the ICES Advisory Committee on Fishery Management (Sections 3 to 5 only)

3. NORTH-EAST ATLANTIC COMMISSION

Conservation limits (CLs) for North Atlantic salmon stock complexes have been defined by ICES as the level of stock (number of spawners) that will achieve long-term average maximum sustainable yield (MSY), as derived from the adult-to-adult stock and recruitment relationship (Ricker, 1975; ICES, 1993). NASCO has adopted this definition of CLs (NASCO, 1998). In this regard, the CL is a limit reference point (S_{lim}) which should be avoided with high probability. Management advice for Atlantic salmon is referenced to the S_{lim} conservation limit, therefore stocks assessed here are reported as being outside precautionary limits when the confidence limits of the most recent stock estimate includes S_{lim}.

For the assessment of the status of stocks and advice on management of national components and geographical groupings of the stock complexes in the NEAC area, where there are no specific management objectives:

- ICES requires that the lower bound of the 95% confidence interval of the current estimate of spawners is above the CL for the stock to be considered at full reproductive capacity.
- When the lower bound of the confidence limit is below the CL, but the mid-point is above, then ICES considers the stock to be at risk of suffering reduced reproductive capacity.
- Finally, when the mid-point is below the CL, ICES considers the stock to be suffering reduced reproductive capacity.

It should be noted that this approach is consistent with ICES precautionary target reference points (S_{pa}) used in the provision of catch advice for other fish stocks in the ICES area, i.e. stocks are regarded by ICES as being at full reproductive capacity only if they are above the precautionary reference point (S_{pa}).

For stock assessment purposes, ICES groups NEAC stocks into two stock groupings; northern and southern NEAC stocks. The composition of these groups is shown below:

Southern European countries:	**Northern European countries:**
Ireland	Finland
France	Norway
UK(England & Wales)	Russia
UK(Northern Ireland)	Sweden
UK(Scotland)	Iceland (north/east regions)
Iceland (south/west regions) (from 2005)	Iceland (south/west regions) (until 2004)

3.1 Status of stocks/exploitation

The status of stocks is shown in Figure 3.1.1.

ICES classifies the stock complexes with respect to conservation requirements as follows:

All 4 stock complexes (Northern European 1SW, Northern European MSW, Southern European 1SW and Southern European MSW) were estimated to be **outside precautionary limits.**

In the evaluation of the status of stocks in Figure 3.1.1, Estimated recruitment (PFA) values should be assessed against the Spawning Escapement Reserve while the Estimated spawning escapement values should be compared with the conservation limit.

Northern European 1SW stocks: Recruitment of maturing 1SW salmon (potential grilse) showed a steady decline from the mid-1980s to the mid-1990s (Figure 3.1.1). Following an upturn in the late 1990s, there has been a steep downturn in recent years. The number of 1SW spawners has been outside the precautionary limits for most of the time-series. Although it was within these limits for 5 of the last 6 years, the 2004 spawner value is again outside precautionary limits. This is consistent with a decline in PFA over the recent period.

Northern European MSW stocks: Numbers of non-maturing 1SW recruits (potential MSW returns) (Figure 3.1.1) are also estimated to have fallen throughout the period from the early 1980s to the late 1990s. The number of MSW spawners was outside the precautionary limits for most of the time-series. Although it has been within

these limits since 2000, the 2004 spawner value has again fallen outside precautionary limits. These trends in recruitment for the Northern European stocks are broadly consistent with the data available on the marine survival of monitored stocks in the Northern area.

Southern European 1SW stocks: The estimated numbers of maturing 1SW recruits have fallen substantially since the 1970s (Figure 3.1.1). With the exception of the early 1970s and two years in the late 1980s, the number of 1SW spawners has been outside the precautionary limits for most of the time-series and remained so in 2004. This pattern is consistent with the data obtained from a number of monitored stocks which showed that survival of wild smolts to return as 1SW fish fell to very low levels in the Southern European area.

Southern European MSW stocks: The PFA estimates suggest that the number of non-maturing 1SW recruits has followed a fairly steady and substantial decline over the past 30 years (Figure 3.1.1). The number of MSW spawners was generally within the precautionary limits for most of the time-series until 1995. Thereafter, spawners have been outside precautionary limits. This is broadly consistent with the general pattern of decline in marine survival of 2SW returns in most monitored stocks in the area.

In assessing stock status for the major geographic stock complexes in the NEAC area, it was considered appropriate to aggregate the National CLs. On a national level, they can be used to provide a general indicator of overall stock status based on the same criteria adopted for the stock complexes (i.e. relative location of the mean and lower 95% confidence limit). However, they may not be appropriate for the provisional catch advice at this level. Stock status, expressed as outside or within precautionary limits, and the method by which conservation limit was determined is summarised by country below.

Country	1SW Spawners	MSW Spawners	Determination of Conservation Limit
Northern NEAC			
Finland	outside	outside	National CL model
Iceland	outside	outside	National CL mode
Norway	outside	outside	National CL model
Russia	outside	outside	National CL model
Sweden	within	within	National CL model
Southern NEAC			
France	outside	outside	River Specific
Ireland	outside	outside	River Specific
UK(England & Wales)	outside	outside	River Specific
UK (Northern Ireland)	within	within	National CL model
UK (Scotland)	outside	outside	National CL model

For individual rivers the status with respect to conservation requirements may vary considerably from this picture.

An overview of the estimates of marine survival for wild and hatchery-reared smolts returning to homewaters (i.e. before homewater exploitation) for the 2003 and 2002 smolt year classes (returning 1SW and 2SW salmon, respectively) is presented in Figure 3.1.2. The survival values presented are standardized (Z-score) indices relative to the averages of the time-series. An overall trend in both the Northern and Southern NEAC areas, both wild and hatchery smolts, show a constant decline in marine survival over the past 10–20 years. The steepest decline appears for the wild smolts in the Southern NEAC area. Results from these analyses are consistent with the information on estimated returns and spawners (Section 3.1), and suggest that returns are strongly influenced by factors in the marine environment.

3.2 Management objectives

This commission area is subject to the general NASCO management objectives as outlined in Section 1.3.

3.3 Reference points

Section 1.4 describes the derivation of reference points for these stocks and stock complexes.

3.3.1 Progress with setting river-specific conservation limits

Specific progress in individual countries is summarised below:

A new compliance assessment scheme designed to assess the performance of salmon stocks in UK (England Wales), and provide an early warning that a river has fallen below its CL, was introduced in 2004. The approach retains the same underlying statistical assumptions and operating characteristics as before, and provides a way of summarising the performance of a river's salmon stock over the last 10 years, including the current year, in relation to its CL. The new scheme also allows extrapolation beyond the current year in order to predict the likely future performance of the stock relative to its CL, and so assess the likely effect of recent management intervention and the need for additional measures.

Changes to management using river-specific CLs were applied for Irish salmon rivers in 2005. These changes increased the probability of meeting the required female:male ratio and the probability that the CL will be achieved simultaneously in every river in each of the 17 salmon fishing districts. This resulted in an increase in the CL for each river individually and a resultant increase in the National CL from 212 910 to 251 378. It is planned to use automatic fish counters in approximately 15 rivers to assess the status of individual stocks relative to the attainment of river-specific CLs and as an independent index of district compliance with CLs in future assessments.

3.3.2 National Conservation Limits

The national model has been run for all countries for which no river-specific conservation limits have been developed, i.e. all countries except France, Ireland, and UK (England & Wales). For Iceland, Russia, Norway, UK (Northern Ireland), and UK (Scotland) the input data for the PFA analysis (1971–2004) have been provided separately for more than one region; the lagged spawner analysis has therefore been conducted for each region separately and the estimated conservation limits combined for the country. ICES has previously noted that outputs from the national model are only designed to provide a provisional guide to the status of stocks in the NEAC area.

For catch advice to NASCO, conservation limits are required for stock complexes. These have been derived either by summing of individual river CLs to national level, or by taking overall national CLs, as provided by the national CL model. For the NEAC area, the conservation limits have been calculated by ICES as 269 194 1SW spawners and 144 263 MSW spawners for the northern NEAC grouping, and 610 520 1SW spawners and 277 985 MSW spawners for the southern NEAC grouping.

3.4 Advice on management

ICES has been asked to provide catch options or alternative management advice, if possible based on a forecast of PFA, with an assessment of risks relative to the objective of exceeding stock conservation limits in the NEAC area.

ICES emphasised that the national stock conservation limits discussed above are not appropriate for the management of homewater fisheries, particularly where these exploit separate river stocks. This is because of the relative imprecision of the national conservation limits and because they will not take account of differences in the status of different river stocks or sub-river populations. Nevertheless, ICES agreed that the combined conservation limits for the main stock groups (national stocks) exploited by the distant water fisheries could be used to provide general management advice to the distant water fisheries.

Given the status of the stocks ICES provides the following advice on management:

- **Northern European 1SW stocks:** ICES recommends that the overall exploitation of the stock complex should decrease so that the conservation limit can be consistently met. In addition it should be noted that the inclusion of farmed fish in the Norwegian data results in the stock status being overestimated. Since very few of these salmon have been caught outside homewater fisheries in

Europe, even when fisheries were operating in the Norwegian Sea, management of maturing 1SW salmon should be based upon local assessments of the status of river or sub-river stocks. **Thus, the only fisheries on maturing 1SW salmon should be on river stocks shown to be within precautionary limits.**

- **Northern European MSW stocks:** ICES considers that the overall exploitation, particularly in mixed stock fisheries, should immediately decrease, so that the conservation limit can be consistently met. In addition it should be noted that the inclusion of farmed fish in the Norwegian data results in the stock status being overestimated. **Thus, the only fisheries on non-maturing 1SW salmon should be on river stocks shown to be within precautionary limits.**

- **Southern European 1SW stocks:** ICES considers that, as this stock complex remains outside precautionary limits, reductions in exploitation are required for as many stocks as possible, to increase the probability of the complex meeting conservation limits. Furthermore, due to the different status of individual stocks within the stock complex, mixed stock fisheries present particular threats to stocks below reproductive capacity. **Thus, the only fisheries on maturing 1SW salmon should be on river stocks that are shown to be within precautionary limits.**

- **Southern European MSW stocks:** This stock complex is currently outside precautionary limits and the quantitative forecast of PFA for 2005 (486 000) indicates that stock levels will remain close to current levels at least in the next year. ICES considers that reductions in exploitation are required for as many stocks as possible, to increase the probability of the stock complex meeting conservation limits. Furthermore, due to the different status of individual stocks within the stock complex, mixed stock fisheries present particular threats to stocks below reproductive capacity. **Thus, the only fisheries on non-maturing 1SW salmon should be on river stocks that are shown to be within precautionary limits.** *(quantitative catch advice for this stock complex at West Greenland is provided in the context of a risk framework in Section 5).*

3.5 Relevant factors to be considered in management

For all fisheries, ICES considers that management should be based upon assessments of the status of individual stocks. Fisheries on mixed stocks, either in coastal waters or on the high seas, pose particular difficulties for management, as they cannot target only those stocks that are within precautionary limits. Conservation would be best achieved if fisheries can be targeted at stocks that have been shown to be within precautionary limits. Fisheries in estuaries and rivers are more likely to fulfil this requirement.

National outputs of the NEAC PFA model are combined into northern and southern groups to provide NASCO with catch advice or alternative management advice for the distant water fisheries at West Greenland and Faroes.

The groups were considered appropriate as they fulfilled an agreed set of criteria for defining stock groups for the provision of management advice, criteria that were considered in detail by ICES (2002). In 2005, ICES re-evaluated tag recapture information previously provided by Iceland (ICES, 2002) and decided that the south/west region of Iceland would be included in the southern grouping while the north/east regions would remain in the northern grouping.

Consideration of the level of exploitation of national stocks at both the distant water fisheries resulted in the proposal that advice for the Faroes fishery (both 1SW and MSW) should be based upon all NEAC area stocks, but that advice for the West Greenland fishery should be based upon Southern European MSW salmon stocks only (comprising UK, Ireland, France, and Iceland (south/west regions)).

3.6 Catch forecast for 2005

In order to develop quantitative catch options for NEAC stock complexes, forecasts of PFA are required for each stock complex and for each sea age component. These are currently only available for the MSW component of the southern European stock complex. The forecast of PFA for 2005 has been used in the catch advice for West Greenland for 2005 (Section 5). ICES has adopted a model to forecast the pre-fishery abundance (PFA) of non-maturing (potential MSW) salmon from the Southern European stock group (ICES, 2002, 2003). Model options were re-evaluated in 2004 when ICES explored the relative contribution of several variables to predictions of PFA (ICES, 2004a). In 2004, ICES decided to apply a model that used only the *Year*

and *Spawners* terms to predict the PFA of non-maturing salmon. This model was again used in 2005 where it was fitted to data from 1978–2003 and used to update the PFA in 2004 and to forecast the PFA in 2005 (Figure 3.6.1).

Forecasts and 95% confidence limits of PFA non-maturing 1SW salmon (all values in thousands) for Southern NEAC are given below:

Year	Forecast	Lower limit	Upper limit
2004	524	338	813
2005	486	313	755

3.7 Medium- to long-term projections

The quantitative forecast for the southern NEAC MSW stock component gives a projected PFA (at 1st January 2005) of 486 000 fish for catch advice in 2005. No projections are available beyond that, or for other stock components or complexes in the NEAC area.

3.8 Comparison with previous assessment

PFA forecast model

The revised forecast of the southern NEAC non-maturing 1SW PFA for 2004 provides a PFA mid-point of 524 000. This is close to the value forecast last year at this time of 489 000. However, in comparing these two forecasts it must be noted that the estimate derived this year now includes Iceland (south/west) in the Southern European stock complex. The Iceland (south/west) non-maturing 1SW component represents about 10 700 fish added to the PFA of this stock complex.

Developments to the National PFA model and national or other conservation limit models

Five countries made changes to the input data to these models.

Unreported catch rates for France in 2002 and 2003 were increased to take account of (a) recent information on illegal net catches in the coastal zone and (b) the absence of estimated catches for the drift net fishery of the Adour estuary.

- The proportion of 1SW salmon in the UK (Northern Ireland) catch has been decreased from 95% to 93% throughout the time-series following analysis of scale sample data. Rod catch data for 2002 onwards have also become available, following introduction of a carcass tagging scheme, and are included in the analysis.

- Size and sea age composition of the returns in 2003 for Russia (Pechora River) region was based on limited sample data and has been revised using data from other years.

- In Ireland, the CL was increased from 212 910 to 251 378 for 1 and 2SW salmon combined (see Section 2.3.2 for details of the methods and justification) and catches have been corrected to account for some of the hatchery-reared returns which are not considered to contribute significantly to spawning or to returns in subsequent generations. New exploitation rate indices for wild stocks (1 and 2SW) are being developed which may replace exploitation rates used in the current model in the future.

- Corrections to the estimations of river-specific conservation limits have led to revised figures for UK (England & Wales), which have resulted in a 58% increase in the national total.

ICES also noted that some countries are developing PFA models for national management. For example, in Norway, the development of national PFA estimates has been initiated, and some provisional modification to the NEAC model is proposed. The NEAC model uses total exploitation rate. In Norway it is more appropriate to use freshwater exploitation rate, as there are more data available and they are easier to estimate. In contrast to the NEAC model the Norwegian catch in the River Tana is included. The output from the Norwegian model was similar to the results for Norway from the NEAC model.

ICES encourages further development of assessment models reflecting stock characteristics in areas or countries to replace the National Conservation Limits approach.

3.9 NASCO has requested ICES to describe the key events of the 2004 fisheries and the status of the stocks

3.9.1 Fishing in the Faroese area 2003/2004 commercial fishery

No fishery for salmon was carried out in 2003/2004 or, to date, in 2004/2005. Consequently, no sample data are available from the Faroese area for this season. No buyout arrangement has been made since 1999.

Homewater fisheries in the NEAC area:

3.9.2 Significant events in NEAC homewater fisheries in 2004

In several countries, national measures aimed at reducing exploitation were implemented or strengthened in 2004. These include: a reduction of net fisheries in UK (England & Wales) with the aim of reducing mixed stock fisheries and the use of a TAC to limit catches and the continuation of a carcass tagging scheme to monitor catches in Ireland.

3.9.3 Gear and effort

No significant changes in the types of gear used for salmon fishing were reported in the NEAC area and the number of licensed gear units has, in most cases, continued to fall. There are no such consistent trends for the rod fishing effort in NEAC countries over this period.

3.9.4 Catches

In the NEAC area there has been a general reduction in catches since the 1980s (Table 2.1.1.1). This reflects the decline in fishing effort as a consequence of management measures as well as a reduction in the size of stocks. The provisional declared catch in the NEAC area in 2004 was 1922 tonnes, 17% down on 2003 (2302 t) and also below the previous 5-year mean. The catch in the Southern area declined from about 4500 t in 1972–1975 to less than 1000 t in the last two years. The catch trend features two sharp declines, one in 1976 and the other in 1989–1991. The catch in the Northern area also shows an overall decline over the time-series, but this is less steep than for the Southern area. The catch in the Northern area varied between 1850 t and 2700 t from 1971 to 1986, falling to a low of 962 t in 1997, before increasing to over 1500 t in 2001. The catch has declined again since this time to 1058 t. Thus, the catch in the Southern area, which comprised around two-thirds of the NEAC total in the early 1970s, is now lower than that in the Northern area.

3.9.5 Catch per unit effort (CPUE)

An overview of the CPUE data for the NEAC area was undertaken. In the Southern NEAC area, CPUE shows a general decrease in UK (Scotland) net and coble fisheries, whereas no trend was observed in UK (Scotland) fixed-engine fisheries, UK (England & Wales) net fisheries, and in France rod fisheries. In UK (Northern Ireland), the river Bush rod fishery CPUE showed a general increase until the late 1990s, followed by a decrease, but has slightly increased after 2002, which was the lowest level in recent years. In most of the Northern NEAC area, there has been a generally increasing trend in the CPUE figures for various fisheries in recent years, but the figures since 2002 have generally been lower than before.

CPUE can be influenced by various factors, and it is assumed that the CPUE of net fisheries is a more stable indicator of the general status of salmon stocks than rod CPUE since the latter may be more affected by varying local factors.

3.9.6 Age composition of catches

One Sea Winter salmon comprised 58% of the total catch in the Northern area in 2004 which was below the 5- and 10-year means (63% and 64% resp.). In general, there has been greater variability in the proportion of 1SW fish between countries in recent years (since 1994) than prior to this time. For the Southern European countries, the overall percentage of 1SW fish in the catch (59%) was close to the 5- and 10-year mean (60%).

3.9.7 Farmed and ranched salmon in catches

The contribution of farmed and ranched salmon to national catches in the NEAC area in 2004 was again generally low (<2% in most countries) and is similar to the values that have been reported in previous reports (e.g. ICES, 2004a). Thus, the occurrence of such fish is usually ignored in assessments of the status of national stocks. However, in Norway farmed salmon continue to form a large proportion of the catch in coastal, fjord, and rod fisheries. An assessment of the likely effect of these fish on the output data from the PFA model was included in ICES (2001).

3.9.8 National origin of catches

Only one specific analysis outlining the national origin of catches in fisheries in the NEAC area was made available.

ICES reviewed information resulting from analysis of coded wire tagging (CWT) programmes in UK (England & Wales) and tag recovery programmes in Ireland to estimate the effects of Irish fisheries on salmon stocks returning to UK (England & Wales). The favoured approach for estimating exploitation rates in distant water fisheries is working backwards from estimates of the numbers of each sea-age class of salmon returning to spawn (Potter and Dunkley, 1993; Rago *et al.*, 1993; Potter *et al.*, 2004). River-specific models based on this run reconstruction approach were presented for a number of English and Welsh stocks and ICES notes the inclusion of confidence limits on the estimates of exploitation, which were a further advance on earlier models.

The tagging studies demonstrated that salmon from all parts of England and Wales are exploited in the Irish coastal fishery. However, levels of exploitation have varied between stocks from different regions and from year to year, and have also declined following the introduction of management measures in the Irish fishery in 1997. Based on aggregated data for all available years, the extant exploitation rates for the modelled stocks (1SW fish only) were estimated for the periods before and after the management changes in the Irish fishery.

Prior to the introduction of the management measures, exploitation rates in the Irish fishery were estimated at about 1% for stocks from the north east of England, higher (15 to 22%) for the two rivers in Wales, but highest (28%) for the River Test in southern England. Since the introduction of the regulatory changes, exploitation rates have fallen to 0.5% for the Tyne (data for one year only), 2–10% for Welsh rivers, and 12% for the River Test. While it was not possible to use the modelling approach to estimate exploitation rates for other stocks, the overall pattern of tag recapture rates was consistent with this regional pattern of exploitation.

Noting that exploitation rates in the Irish fishery were higher on hatchery stocks than on wild stocks (e.g. Burrishoole and Bush) ICES advised applying a correction factor where tags from hatchery-reared and wild salmon had been combined to provide adequate tag returns for the analyses.

It therefore appears that exploitation on salmon from northeast England in the Irish fishery is negligible, that exploitation on stocks from northwest England and north Wales is currently low, but that levels increase for rivers further south in Wales and for rivers in southern and possibly southwest England. ICES also recognised that exploitation rates varied considerably from year to year and that exploitation rates on particular stocks may still be relatively high in some years and negligible in others. For stocks below their conservation limit, ICES noted that even low levels of exploitation may represent an impediment to stock recovery.

In 2004, a number of tags originating from fish released from other countries (34 from UK (Northern Ireland), 8 from UK (England & Wales), 2 from UK (Scotland), 2 from Spain, and 2 from Denmark) were recovered in Irish fisheries.

3.10 NASCO has requested ICES to provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved

The effect of specific management measures on stocks and fisheries has been evaluated in a number of NEAC countries. In summary:

NEAC northern area

Russia – commercial catches have continued to decline as a result of various management changes, including the prohibition of some important in-river fisheries, aimed at reducing the fishing effort and enhancing the development of recreational and catch-and-release fisheries. The mean commercial catch in the last five years (2000–2004) is 26% below that of the previous five years (1995–1999).

NEAC southern area

Ireland – legislation has been introduced recently with the objectives of reducing exploitation and increasing escapement. This has resulted in a general decline in exploitation rate on wild salmon from 65% (pre-1997) to 48% (post-1997) for wild salmon, and a reduction from 82% to 67% for hatchery returns for the same periods. Exploitation on salmon from UK (England & Wales) in the Irish fishery has also been reduced by about half following the introduction of the management measures in the fishery in 1997 (Section 3.9.8). In the context of increasing escapement, information from index rivers suggests a marginal increase in freshwater survival from 5.1%, on average, (pre-1997) to 5.6% (post-1997). An increase in returns to freshwater for hatchery stocks is also noted (0.8% to 1.4%) for the same periods.

With the recent provision of catch advice for Irish salmon fisheries on a district basis, the emphasis is beginning to shift towards the objective of meeting or exceeding conservation limits in all districts. Although the process is only recent (2002 starting year), and TACs have been set which result in significant reductions in commercial catches, this objective is not as yet being met.

UK (Northern Ireland) – Significant management measures came into effect in 2002, aimed at reducing exploitation on salmon stocks in the Fisheries Conservancy Board (FCB) area. A voluntary buyout agreement with commercial licensed net operators has resulted in a reduction in nets licensed from 27 in 2000 to 6 for the 2004 season. Accompanying measures to regulate angling, first introduced on a voluntary basis in 2001, operated again in 2004. While the impact of these measures on stock status will require some years to fully evaluate, it is noted that the voluntary net buyout scheme probably contributed to the reduction in net catch in the FCB area from 23.4 t in 2001 to 5.8 t in 2004.

UK (England & Wales) – a review in 2004 demonstrated that, whilst many conservation measures had been implemented, the majority of stocks remained below the CL and a significant number were in decline. An action plan has been drawn up to take forward the recommendations from the review. A range of local and national measures have been implemented over recent years to address concerns about stock status. In particular, measures have been implemented to safeguard MSW 'spring' fish and phase out coastal mixed stock fisheries.

Reductions in spring salmon exploitation were estimated, in 2004, to have increased escapement from net fisheries by around 1200 salmon and by around 2200 from rod fisheries. It is estimated that spawning escapement of spring salmon may have increased by up to one-third on some rivers as a result of these measures.

In 2003, compensation arrangements helped accelerate the phasing out of the mixed stock fishery on the northeast coast. Nine other small coastal mixed stock fisheries have also been subject to reductions in recent years, eight of which are no longer operating. The overall effect of these measures has been to reduce the catches in these coastal fisheries from an average of about 41 000 fish for the period 1988–92 to a little under 32 000 for the period 1998–2002 and around 11 000 fish in 2003 and 2004.

UK (Scotland) – concerns about the status of early-running MSW salmon led to a voluntary agreement to delay fishing until the beginning of April. Members of the Salmon Net Fishing Association, to which the majority of active net operators are affiliated, have observed this agreement since 2000. This has resulted in about an 80% reduction in the catch of MSW salmon by nets and fixed engines in the months of February and March compared with the previous five years.

France – various measures have been introduced with the objective of reducing exploitation, on MSW fish in particular, and increasing spawning escapement and compliance with river-specific CLs:

- Sport and commercial fisheries in the Loire-Allier basin have been closed since 1994 to aid recovery of the population. However, this did not seem to enhance salmon numbers. Physical obstructions and

other environmental factors are now considered the more likely impediments to recovery of this population.

- In Brittany and Lower Normandy, TACs introduced in 1996 have been successful in reducing catches, although the only monitored river, the Scorff, has failed to meet its CL consistently since 1994. Early season restrictions failed to protect spring salmon. MSW TACs have led to temporary closures on some rivers and have reduced MSW catches in Brittany since 2000 and Lower Normandy since 2003.

- In the Adour-Gaves basin, management measures introduced between 1999 and 2003 resulted in some reduction in rod catch, although not in the proportion of MSW caught. Rod catches increased in 2004 once the measures lapsed and there has also been a steady increase in fishing effort and catches in the estuary drift net fishery over the last 5 years. The current regulations have therefore been unable to reduce overall exploitation on MSW salmon.

In conclusion, most management measures introduced in recent years in relation to national and local objectives have aimed to reduce levels of exploitation on NEAC stocks. However, despite these, it is noted that all four NEAC stock complexes are currently outside precautionary limits (Section 3.1).

3.11 NASCO has requested ICES to provide an estimate of bycatch of salmon in pelagic fisheries

3.11.1 Estimate of bycatch of salmon in pelagic fisheries

Reports over a number of years have indicated the possibility of post-smolts and salmon being intercepted in various pelagic fisheries and in trawl fisheries in particular. However, preliminary estimates derived from observed ratios of salmon and mackerel taken in research and commercial fisheries scaled with the total mackerel catch in the Norwegian Sea have been highly variable (ICES, 2002, 2003, 2004a).

In 2005, ICES reviewed new data made available on disaggregated catches and fishing operations in pelagic fisheries and provided the following guidelines applicable to developing estimates of bycatch of salmon:

a) only disaggregated pelagic trawl catch data provided on a weekly basis for 2000–2003 would be used, as data prior to then were incomplete.

b) as some individual years of the Institute of Marine Research (Norway) pelagic surveys had produced very few salmon recaptures resulting in insufficient temporal or spatial coverage, the salmon recapture data series would be pooled (1990–2003).

The weekly distribution of post-smolts and the overlap with pelagic catches was compared for each of the weeks for which post-smolt distributions were available (weeks 21 to 31). Some overlap was noted throughout the period, more significant overlap was identified in weeks 26–28. The entire period and the more restricted period were both used when estimating the potential post-smolt bycatch.

The detailed description of the various pelagic fisheries was given in ICES (2004b). Based on the area covered and fishing depth, the fishery with the greatest potential to intercept post-smolts was identified to be the near-surface mackerel trawl fishery in the Norwegian Sea.

A number of differences were noted between survey trawls and commercial trawls and it was concluded that only the Russian pelagic survey trawl had design properties similar to the commercial gears in use in the fishery.

Since the end of the 1990s scientific observers have been working onboard Russian vessels fishing herring, mackerel, and blue whiting in the Norwegian Sea. The vessels are subject to inspection by Russian, Norwegian, Faroese, and NEAFC authorities. In addition, all the Russian commercial catches of mackerel, herring, and blue whiting are essentially handled more or less individually and the probability of detecting salmon (either post-smolts or adults) should therefore be very high.

For the purposes of estimating bycatch, it was therefore decided that only the catch data from the Russian research survey and the commercial trawl catch scanning should be used for extrapolation purposes (ICES, 2004). The catch rate data from Norwegian research surveys targeted at salmon were not used in developing bycatch estimates, as these employ gear which differs substantially in design and use from that used in the commercial fisheries.

Estimates of the bycatch of post-smolt salmon

Two estimates of post-smolt catch rate (*i.e.* post-smolts/tonne mackerel) were available based on :

a) Russian research trawl catches;

b) Russian observer-based screening of commercial mackerel catches.

Bycatch estimates were developed by applying these catch rates to disaggregated trawl catches of mackerel:

- Estimates were calculated for the whole area IIA, IVa, and Vb, using disaggregated catches of mackerel in 2001 and 2002;
- Two standard time periods were selected *i.e.*, the total period from which post-smolt records exist (weeks 21–31), and the peak period (weeks 26–28);
- Only mackerel catches in rectangles with simultaneous salmon catches were included.

The results indicate a wide variation in potential post-smolt bycatch depending mainly on the catch rates used (Table 3.11.1.1).

ICES notes that the resultant estimates based on the **research trawl** (40,188 - 154,482 post-smolts, depending on the range of weeks considered), may overestimate the ratio of post-smolts taken compared to mackerel, as the research trawl operates at lower speed and may thus be less effective in catching mackerel.

In contrast, the estimates based on ratios derived from the **observer-based screening** and individual handling on board factory ships (14–52 post-smolts, depending on the range of weeks considered), may be underestimates, due to difficulties in observing smolts amongst a large catch of mackerel on board a commercial vessel.

ICES notes that despite using the best available information, including appropriate disaggregation of catches, there is a very wide variation in the results. Therefore, although the estimates are thought to encompass the likely range of bycatch, these values cannot be regarded as formal estimates of bycatch for any particular year or fishery. Further developments and data would be required before bycatch estimates could be used as part of the overall assessment of salmon stocks in the NEAC area or for specific management advice.

Due to the absence of documented ratios of post-smolts or salmon to catches of other species of pelagic fish it is not possible to make any estimates of bycatches from fisheries other than mackerel fisheries at present. ICES recommends that future estimates should be refined, if possible with annual estimates, based on observer-based screening of catches. As yet, no other relevant pelagic fisheries have provided salmon catch rate data, but in the light of information presented to ICES, the possible interception of salmon by e.g. herring or blue whiting fisheries should be further investigated.

Despite this, ICES notes that the upper estimate of potential salmon post-smolt bycatch in the mackerel fishery (154 482) represents approximately 5% of the estimated combined PFA for the NEAC stock complexes (10-year average 3.4 million). As PFA is estimated at 1st January of the first sea winter and the post-smolt surveys are carried out in June/July of the first year at sea, further mortality will take

place between the survey and the estimate of PFA; therefore, the percentage of PFA accounted for as bycatch will be lower.

Estimates of the bycatch of adult salmon

As adult salmon were reported also from the Russian scientific surveys and the observer-based screenings, ICES expanded the analysis carried out on post-smolt bycatch to provide an estimate of adult salmon bycatch.

An example was developed using mackerel catches in weeks 21–32 in 2001, using the whole area approach similar to the post-smolt estimates. The observed ratios of adult salmon to total catch of mackerel from the Russian scientific and commercial fishery have been scaled with the tonnage of mackerel taken in the overlapping rectangle for a specific period, in this case ±2 weeks from the time when the post-smolt capture was registered. Only catches from those rectangles where salmon have been recorded were used for scaling up. Extrapolation from the research catch shows that the number of adult salmon potentially taken was zero in 2002 and 4460 in 2003. The observer-based estimates were 15 salmon in 2002 and 32 salmon in 2003. The reasons for the differences between adult bycatch estimates are expected to parallel those discussed for the post-smolt estimates.

These estimates only apply to adult salmon in the mackerel fisheries. Similar information was not available for other pelagic fisheries, therefore ICES was not in a position to make estimates for pelagic fisheries other than mackerel.

While it is recognised that direct onboard observation is the most reliable method of bycatch estimation, ICES draws attention to the possibility of using indirect estimation methods (surveys, polls) of commercial fishers to estimate the occurrence and frequency of salmon bycatch in different areas, fisheries, and time of year. These methods may also provide an approximation of the potential number of salmon taken. ICES underlines the importance of having recognised and proven survey professionals operating in such fields as social science research and socio-economic evaluation.

3.11.2 Sampling of post-smolts and pre-adults in Norway and the Norwegian Sea

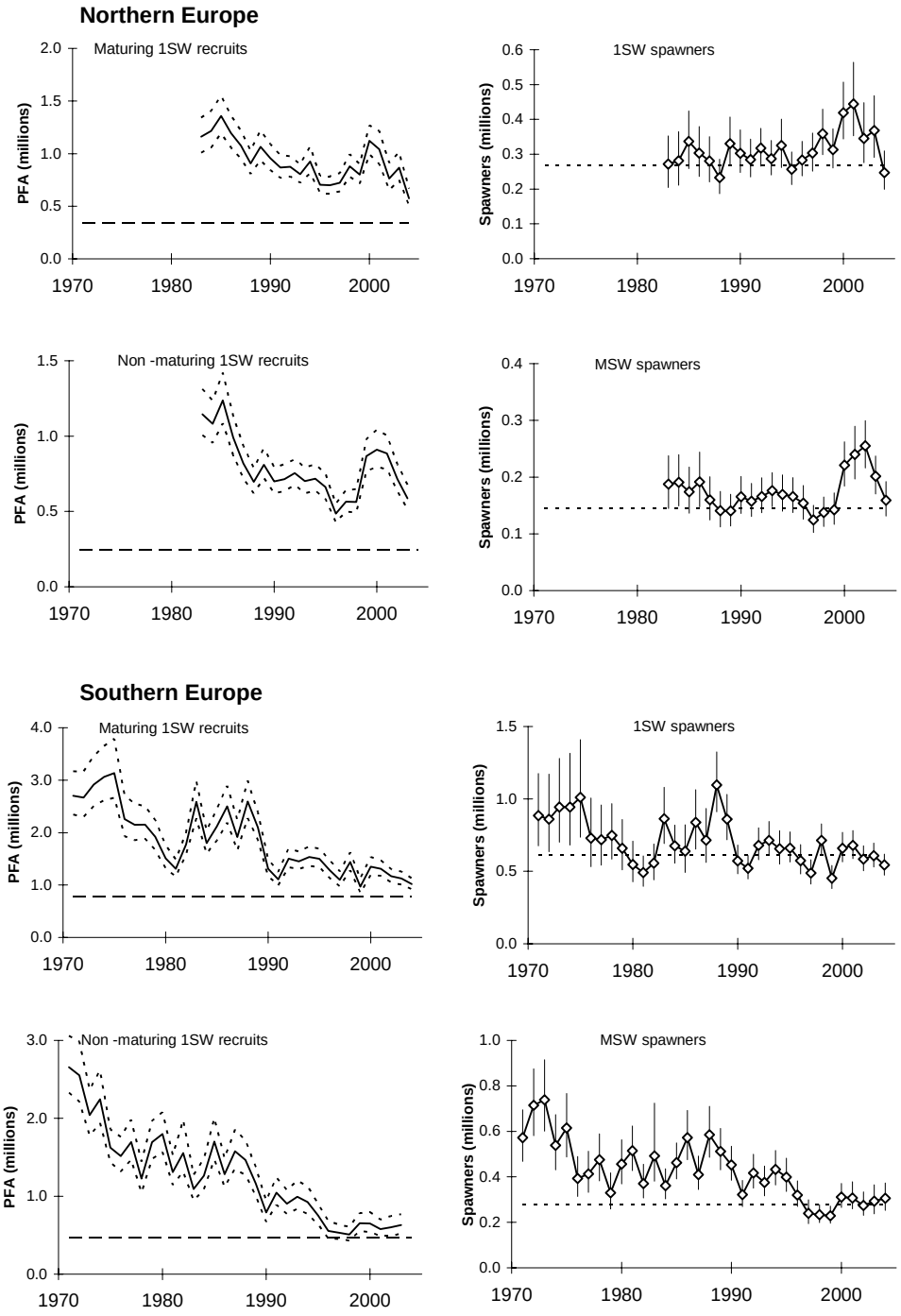
There was only one Norwegian research cruise targeting salmon at sea in 2004. Relevant data was also collected during two surveys aimed at investigating sea lice infections in selected southwestern Norwegian fjords. The targeted cruise for salmon took place in the last part of April between 66–68ºN and was designed to tag and release adult salmon with DST tags (Section 2.3). There were no cruises dedicated to post-smolt investigations at sea, but the salmon trawl was used during a mackerel egg survey in the area north of Ireland up to the Shetland- Faroes Channel. During this cruise 124 post-smolts were caught at 8 of 14 stations sampled. The last time this area was surveyed was in 1995–97, so these captures extend the database on the temporal and spatial distribution of post-smolts. Relative to other years, the CPUE for post-smolts in the southern area was considered high at 16.2. CPUE for adult salmon captures was calculated for the first time.

2001	SMOLT CATCH RATE/ T MACKEREL	PERIOD WEEKS	CATCH (T)	BYCATCH (N)
Russian research survey	5.93	21-31	26051	154482
Russian observer programme	0.002	21-31	26051	52
Russian research survey	5.93	26-28	6777	40188
Russian observer programme	0.002	26-28	6777	14
2002	SMOLT CATCH RATE/ T MACKEREL	Period WEEKS	CATCH (T)	BYCATCH (N)
Russian research survey	5.93	21-31	21265	126101
Russian observer programme	0.002	21-31	21265	43
Russian research survey	5.93	26-28	7594	45032
Russian observer programme	0.002	26-28	7594	15

Table 3.11.1.1. Estimates of bycatch of salmon post-smolts potentially taken in the Norwegian Sea for two periods in 2001 and 2002.

Figure 3.1.1 Estimated recruitment (PFA), with 95% confidence limits, and Spawning Escapement Reserve for maturing and non-maturing salmon in Northern & Southern Europe.

Estimated spawning escapement with 95% confidence limits, and conservation limits for 1SW and MSW salmon in Northern & Southern Europe.



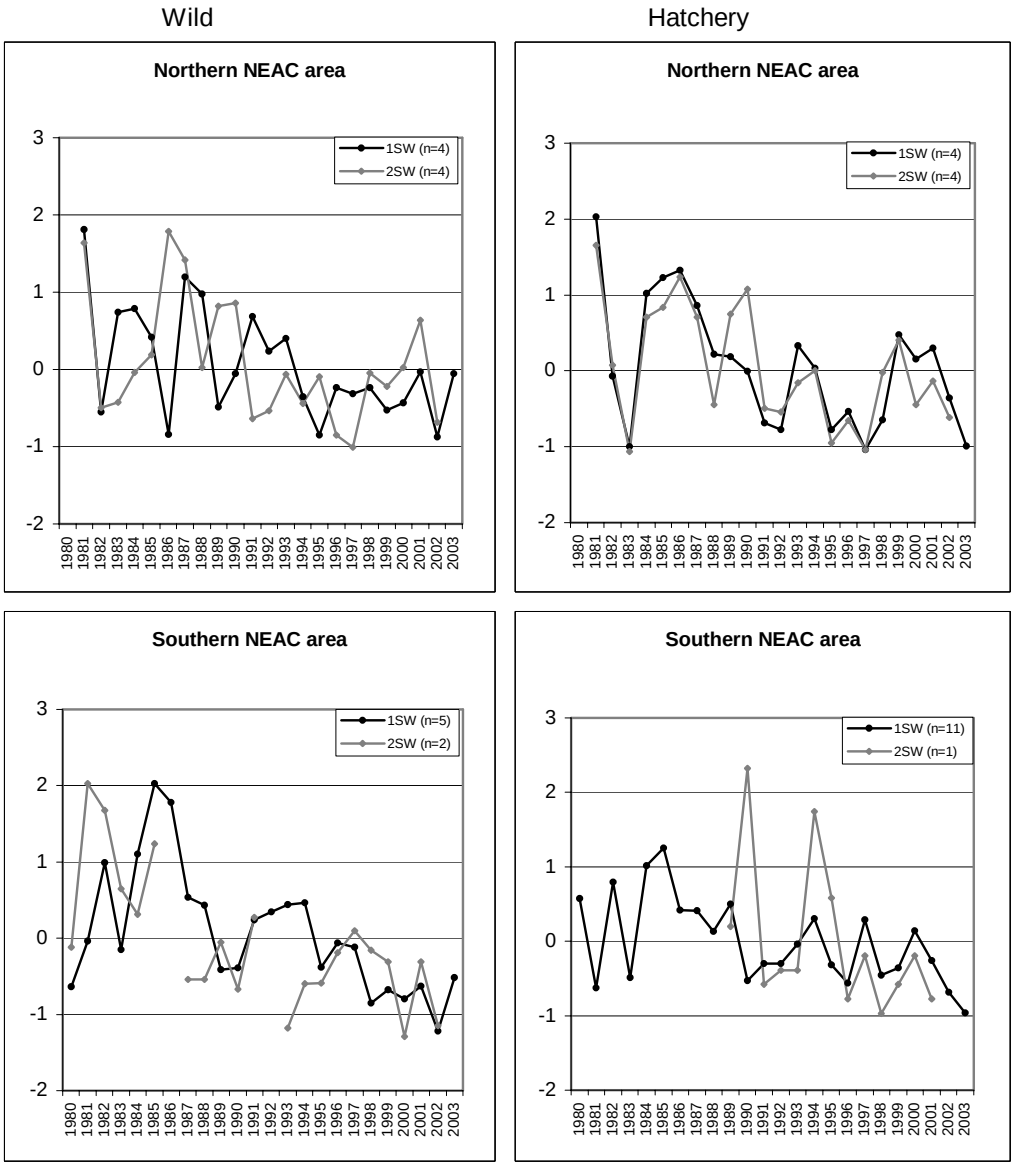
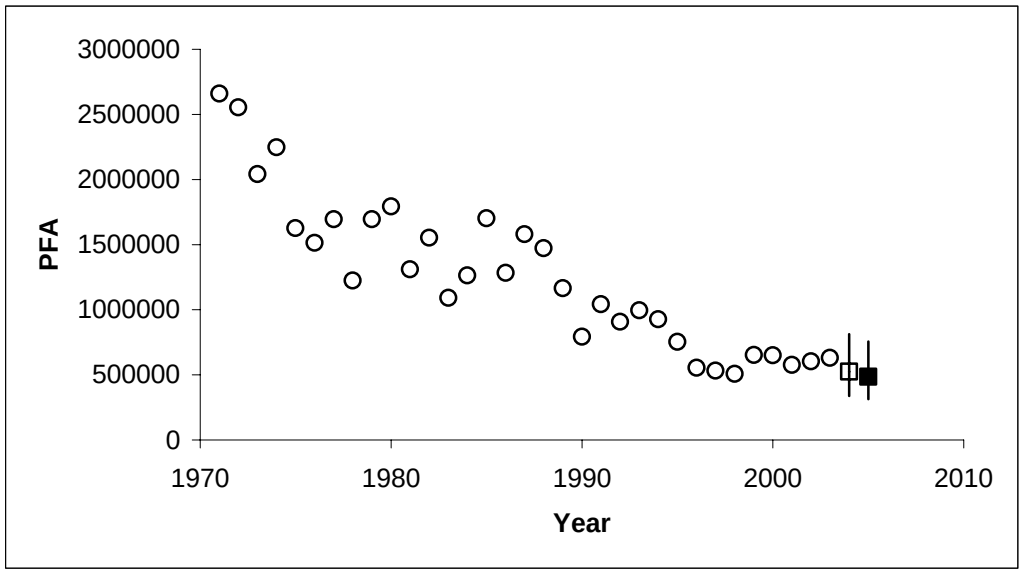


Figure 3.1.2. An overview of the estimated survival indices of wild and hatchery smolts to adult returns to homewaters (prior to coastal fisheries) in Northern and Southern NEAC area. Index values represent averages of standardized (Z-score) survival estimates for monitored rivers and experimental facilities, and are relative to the average of the time-series (0). The number of rivers included are indicated in each panel legend.

Figure 3.6.1 PFA trends and predictions (+/- 95% confidence intervals) for non-maturing 1SW European stock

Note: open square is 2004 update and blocked square is 2005 forecast



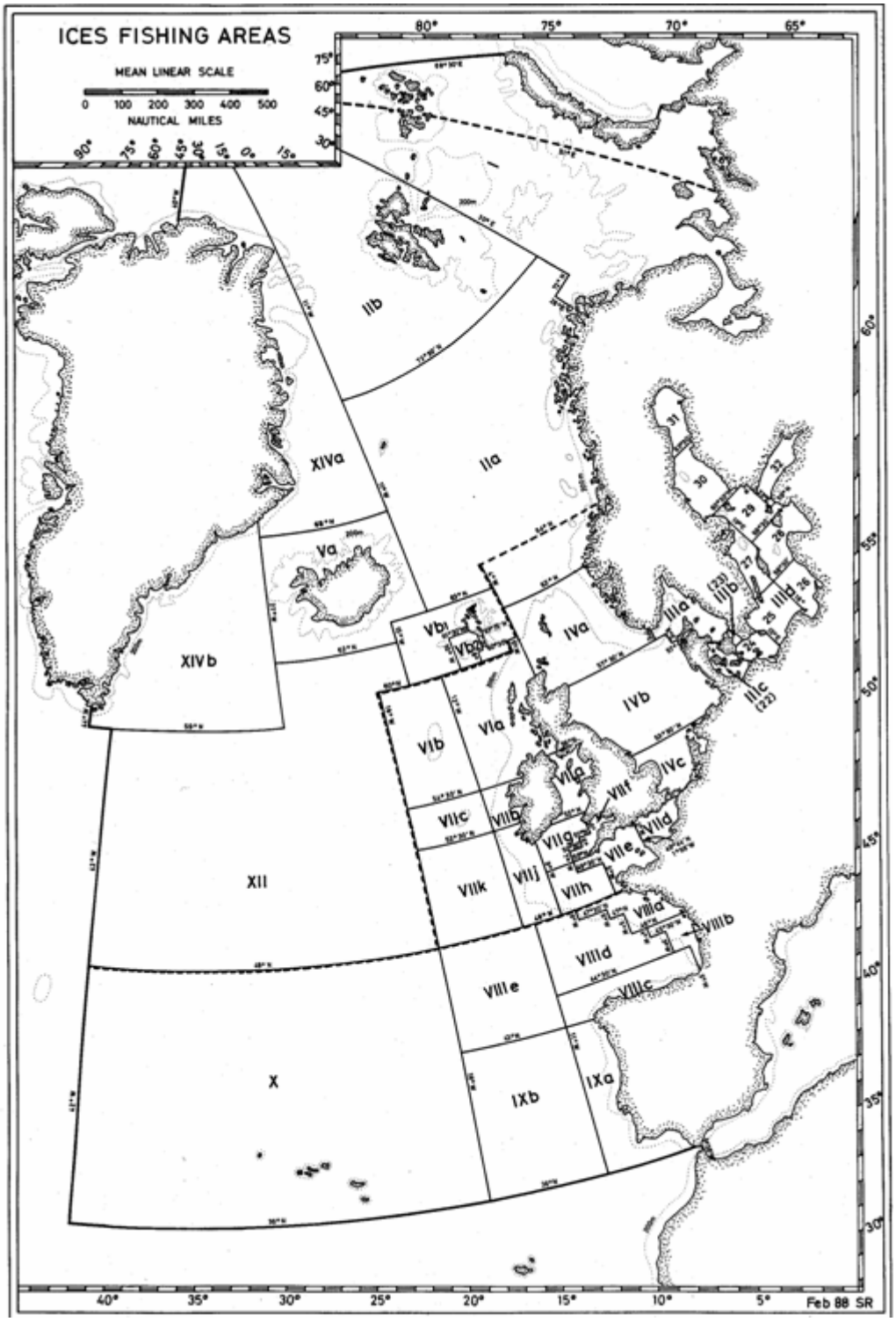


Figure 3.11.1.1. ICES fishing Areas.

4. NORTH AMERICAN COMMISSION

Conservation limits (CLs) for North Atlantic salmon stock complexes have been defined by ICES as the level of stock (number of spawners) that will achieve long-term average maximum sustainable yield (MSY), as derived from the adult-to-adult stock and recruitment relationship (Ricker, 1975; ICES, 1993). NASCO has adopted this definition of CLs. Therefore, the CL is a limit reference point (S_{lim}) which should be avoided with high probability. Management advice for Atlantic salmon is referenced to the S_{lim} conservation limit, therefore stocks assessed here are reported as being outside precautionary limits when the confidence limits of the most recent stock estimate includes S_{lim}.

Management targets have not yet been defined for North Atlantic salmon stocks. When these have been defined they will play an important role in ICES advice.

For catch advice on fish exploited at West Greenland (non-maturing 1SW fish from North America and non-maturing 1SW fish from Southern NEAC), ICES has adopted a risk level of 75% (ICES, 2003) as part of an agreed management plan. ICES applies the same level of risk aversion for catch advice for homewater fisheries on the North American stock complex.

4.1 Status of stocks/exploitation

In 2004, the overall conservation limit (S_{lim}) for 2SW salmon was only met in the Newfoundland area, therefore the stock complexes in the other regions are considered to be outside precautionary limits.

Estimates of pre-fishery abundance suggest a continuing decline of North American adult salmon over the last 10 years. The total population of 1SW and 2SW Atlantic salmon in the northwest Atlantic has oscillated around a generally declining trend since the 1970s (Figure 4.9.5.2). During 1993 to 2004, the total population of 1SW and 2SW Atlantic salmon was about 600 000 fish, about half of the average abundance during 1972 to 1990. A 21% increase however has occurred between 2001 and 2003, the most recent year for which it is possible to estimate the total population. The decline from earlier higher levels of abundance has been more severe for the 2SW salmon component than for the small salmon (maturing as 1SW salmon) age group.

The returns in 2004 of 2SW fish increased slightly from 2003 in Labrador, Newfoundland, the Gulf of St. Lawrence, and the USA (Figure 4.1.1). In Quebec and Scotia-Fundy, 2SW returns decreased from the previous year. In Newfoundland, the 2SW salmon are a minor age group component of the stocks in this area and even here, decreases of about 30% have occurred from peak levels of a few years ago. Returns of 1SW salmon increased from 2003 in all areas (Figure 4.1.2).

When compared to conservation limits, 2SW spawners in 2004 only exceeded the limit in one area (Newfoundland 113%); the other areas were less than (Gulf 85%, Quebec 70%), or substantially less than (Labrador 32%, Scotia-Fundy 9%, USA 4%) the limits.

In 2004, estimated return rates for 1SW fish improved somewhat in 2 of 3 hatchery stocks, and 10 out of 11 wild stocks compared to 2003. By contrast, 2SW fish estimated return rates in 2004 decreased in 4 of 6 wild stocks and improved in 2 of 3 hatchery stocks compared to 2003. Measures of marine survival rates over time indicate that survival of North America stocks to home waters has not increased as expected as a result of fisheries changes. There have been no significant increasing trends in survival indices of any of the stock components following the commercial closures in 1992.

Based on the generally improved 1SW returns in 2004, an increase is expected for large salmon in 2005 although return rates of 2SW salmon in monitored stocks remain low. An additional concern is the low abundance level of many salmon stocks in rivers in eastern Canada, particularly in the Bay of Fundy and the Atlantic coast of Nova Scotia. USA salmon stocks exhibit these same downward trends. Most salmon rivers in the USA are hatchery-dependent and remain at low levels compared to conservation requirements. Despite major changes in fisheries management, returns have continued to decline in these southern areas and many populations are “listed” and/or currently threatened with extirpation.

The rank of the estimated returns in the 1971–2004 time-series and the proportion of the 2SW conservation limit achieved in 2004 for six regions in North America is shown below:

Region	Rank of 2004 returns in 1971-2004 (1=highest)		Rank of 2004 returns in 1994-2004 (1=highest)		Mid-point estimate of 2SW spawners as proportion of conservation limit (S_{lim})
	1SW	2SW	1SW	2SW	(%)
Labrador	10	22	7	10	32
Newfoundland	4	19	3	8	113
Québec	11	31	2	8	70
Gulf	17	24	2	4	85
Scotia-Fundy	32	33	9	10	9
USA	19	28	7	6	4

Egg depositions by all sea-ages combined in 2004 exceeded or equaled the river specific conservation limits in 43 of the 87 assessed rivers (49%) and were less than 50% of conservation limits in 27 other rivers (31%) (Figure 4.1.3).

4.2 Management objectives

This commission area is subject to the general NASCO management objectives as outlined in Section 1.3.

4.3 Reference points

In Atlantic Canada, CLs have been set on the basis of stock and recruitment studies which provided for MSY on a limited number of river stocks where data was available, and these derived egg deposition rates were used on the remainder of rivers where only habitat area and spawner demographics were available, as documented in O'Connell *et al.* (1997). The added production from lacustrine areas in SFA 14B of Labrador and throughout Newfoundland was also accommodated. In USA, conservation limits were set following a similar approach. Recently, for stocks in Quebec, stock-recruitment analysis for six local rivers was used to define the CL, defined as the S_{MSY} level at 75% probability level, calculated by Bayesian analysis. For the purposes of management, egg deposition requirements are converted into 2SW fish equivalents.

There are no changes recommended in the 2SW salmon conservation limits (S_{lim}) from those identified previously. Conservation limits for 2SW salmon for Canada now total 123 349 and for the USA, 29 199, for a combined total of 152 548.

4.4 Advice on management

As the biological objective is to have all rivers reaching their conservation requirements, river-by-river management is necessary. On individual rivers where spawning requirements are being achieved, there may be surplus available for harvest. Advice regarding management of this stock complex in the fishery at West Greenland is provided in Section 5.4.

4.5 Relevant factors to be considered in management

For all fisheries, ICES considers that management should be based upon assessments of the status of individual stocks. Fisheries on mixed stocks, either in coastal waters or on the high seas, pose particular difficulties for management as they cannot target only those stocks that are within precautionary limits. Conservation would be best achieved if fisheries can be targeted at stocks that have been shown to be within precautionary limits. Fisheries in estuaries and rivers are more likely to fulfil this requirement.

4.6 Catch forecast for 2005

Catch options are only provided for the non-maturing 1SW and maturing 2SW components as the maturing 1SW component is not fished outside of home waters, and in the absence of significant marine interceptory fisheries, is managed in homewaters by the producing nations.

It is possible to provide catch advice for the North American Commission area for two years. The revised forecast for 2005 for 2SW maturing fish is based on an updated forecast of the 2004 pre-fishery abundance and accounting for fish which were already removed from the cohort by fisheries in Greenland and Labrador in 2004

as 1SW non-maturing fish. The second is an estimate for 2006 (see Section 4.7) based on the pre-fishery abundance forecast for 2005 from Section 5.6.

The updated forecast of the pre-fishery abundance for 2004 provides a PFA mid-point of 118 600.

In order to compare the PFA to conservation limits, the pre-fishery abundance of 118 600 can be expressed as 2SW equivalents by considering natural mortality of 3% per month for 11 months (a factor of 0.72), resulting in 85 392 2SW salmon equivalents. There have already been harvests of this cohort as 1SW non-maturing salmon in 2004 for both the Labrador (459) and Greenland (2775) fisheries for a total of 3234 2SW salmon equivalents. Adjusted for natural mortality, this equates to 82 158 2SW salmon potentially returning to North America in 2005.

As the predicted number of 2SW salmon returning to North America (82 158) in 2005 is substantially lower than the 2SW conservation limit (S_{lim}) of 152 548, there are no harvest possibilities at forecasted levels (at probability levels of 75%). Harvest possibilities refer to the composite North American fisheries. As the biological objective is to have all rivers reaching their conservation requirements, river-by-river management is necessary. On individual rivers where spawning requirements are being achieved, there may be surplus available for harvest.

4.7 Medium- to long-term projections

Catch advice for 2006 fisheries on 2SW maturing salmon

Most catches (85%) in North America now take place in rivers or in estuaries. The commercial fisheries are now closed and the remaining coastal food fisheries in Labrador by aboriginal peoples are mainly located close to river mouths and likely harvest few salmon from other than local rivers. Fisheries are principally managed on a river-by-river basis and, in areas where retention of large salmon is allowed, it is closely controlled.

Catch options which could be derived from the pre-fishery abundance forecast for 2005 (median 120 460) would apply principally to North American fisheries in 2006, and hence the level of fisheries in 2005 needs to be accounted for before providing them.

Accounting for mortality and the conservation limit and considering an allocation of 60% of the surplus to North America, the only risk averse catch option for 2SW salmon in 2006 is “zero” catch. This “zero” catch option refers to the composite North American fisheries.

4.8 Comparison with previous assessment and advice

The revised forecast of the pre-fishery abundance for 2004 provides a PFA mid-point of 118 600. This is about 18% higher than the 100 400 value forecast last year. This is mainly due to slight changes in the input values to the model used to forecast PFA for these stocks, as detailed in Section 5.10.

4.9 NASCO has asked ICES to describe the key events of the 2004 fisheries and the status of the stocks

4.9.1 Gear and effort

Canada

There were no commercial fisheries in Canada in 2004.

Salmon fisheries in the Maritime provinces of Canada are managed by the Department of Fisheries and Oceans in 23 Salmon Fishing Areas (SFAs); and in Québec by the Société de la Faune et des Parcs du Québec, in fishing areas Q1 through Q11 (Figure 4.9.1.1). Three user groups exploited salmon in Canada in 2004: Aboriginal peoples, residents fishing for food in Labrador, and recreational fishers. For the first time in 2004, the Labrador Metis Nation was included in arrangements for a food fishery. The Metis fishery was controlled by a negotiated quota of 10 t. On an individual fisher basis, the catch was limited by the issuance of 6 tags, which had to be applied to the fish. No fish could be landed without a tag.

There were no other changes in gear and effort in Canada.

USA

There was no fishery for sea-run Atlantic salmon in the USA in 2004 as a result of angling closures in 1999. Therefore, effort measured by license sales, was zero.

France (Islands of St. Pierre and Miquelon)

In 2004, there were 13 professional and 42 recreational gillnet licenses issued for the fishery that operates between May 1 and July 31. Due to a sharp decline in other fish resources exploited by the professional fishermen (lumpfish, snow crab, and cod), more of them have expressed interest in having salmon licenses. An increase in the number of professional licences could be compensated by a reduction in the number of recreational licences.

Year	Number of Professional Licenses	Number of Recreational Licenses
1995	12	42
1996	12	42
1997	6	36
1998	9	42
1999	7	40
2000	8	35
2001	10	42
2002	12	42
2003	12	42
2004	13	42

4.9.2 Catches in 2004

Catch histories of salmon, expressed as 2SW salmon equivalents, which could have been available to the Greenland fishery, 1972–2004, are provided in Tables 4.9.2.1 and 4.9.2.2. The Newfoundland-Labrador commercial fisheries were historically, mixed stock fisheries and harvested both maturing and non-maturing 1SW salmon as well as 2SW maturing salmon. Mortalities within North America peaked at about 365 000 in 1976 and are now about 13 200 2SW salmon equivalents. In the most recent five years estimated (that is those since the closure of the Labrador commercial fishery), those taken as non-maturing fish in Labrador comprise 3%, or less, of the total in North America.

Of the North American fisheries on the cohort destined to be 2SW salmon, 74% of the catch comes from terminal fisheries in the most recent year. This value has ranged from as low as 20% in 1973, 1976 and 1987 to values of 74–91% in 1996–2004 fisheries (Table 4.9.2.1). The percentage increased significantly since 1992 with the reduction and closures of the Newfoundland and Labrador commercial mixed stock fisheries however this value decreased in 2004 to 74% from 83% in 2003. The number of 2SW salmon equivalents taken in the food fisheries in Labrador (3412) in 2004 was the highest since the commercial fishery closed in 1997.

The percentage of the total 2SW equivalents that have been harvested in North American waters has ranged from 48–100%, with the most recent year estimated at 87% (Table 4.9.2.2.)”

Canada

The provisional harvest of salmon in 2004 by all users was 159 t, about 13% higher than the 2003 harvest (Figure 4.9.2.1). The 2004 harvest was 52 726 small salmon and 12 941 large salmon, 13% more small salmon and 15% more large salmon, compared to 2003.

Aboriginal food fishers accounted for harvests in 2004 of 60.4 t, about 18 400 fish (56% small by number) and were up 35% from both the 2003 and the previous 5-year average harvest, while for

residents fishing for food in Labrador the estimated catch in 2004 was 2.2 t, about 880 fish (75% small salmon by number).

Harvest in recreational fisheries in 2004 totalled 46 377 small and large salmon, 2% below the previous 5-year average, 8% above the 2003 harvest level, and the second lowest total harvest reported (Figure 4.9.2.2). The small salmon harvest of 41 802 fish was 3% below the previous 5-year mean. The large salmon harvest of 4575 fish was about 2% greater than the previous five-year mean. Small and large salmon harvests were up 9% and down 3% from 2003, respectively. In 2004, about 57 000 salmon were caught and released, representing about 55% of the total number caught. This was a 6% increase from the number released in 2003.

Unreported catches in Canada were estimated at about 118 t.

USA

All fisheries (commercial and recreational) for sea-run Atlantic salmon within the USA remained closed, including rivers previously open to catch-and-release fishing. Thus, there was no legal harvest of sea-run Atlantic salmon in the USA in 2004.

Unreported catches in the USA were estimated to be 0 t.

France (Islands of St. Pierre and Miquelon)

The total harvest in 2004 was reported to be 2.8 t from professional and recreational fishers, about the same as in 2003 and among the largest recorded since 1983. There was no estimate of unreported catch.

4.9.3 Origin and composition of catches

The Aboriginal peoples' and resident food fisheries that exist in Labrador may intercept some salmon from other areas of North America although there are no reports of tagged fish being captured there. The fisheries of Saint-Pierre and Miquelon catch salmon of North American origin. Sampling was carried out on this fishery in 2003 and 2004 (Section 4.11).

The returns in 2004 to the majority of the rivers in Newfoundland and to most rivers of the Gulf of St. Lawrence and Québec were comprised exclusively of wild salmon. Hatchery-origin salmon made up varying proportions of the total returns and were most abundant in the rivers of the Bay of Fundy, the Atlantic coast of Nova Scotia, and the USA.

Aquaculture escapees were noted in the returns to the Magaguadavic and St. Croix rivers of the Bay of Fundy. In the Magaguadavic River, which is located in close proximity to the centre of both the Canadian and USA east coast salmon farming areas, the proportion of the adult run composed of fish farm escapees has been high (greater than 50%) since 1994 and 89% in 2004. However, while fish farm escapees have dominated the run in terms of percentages, in absolute terms, their numbers have been trending downwards. Fish farm escapees were also monitored in the international St. Croix River (Canada/USA border), and Maine's Dennys, Narraguagus, and Union rivers. Percentages of returns that were fish farm escapees in the returns to the St. Croix in 2004 were 29%, whereas no escapees were noted in the USA rivers.

4.9.4 Exploitation rates

Canada

There is no exploitation by commercial fisheries and exploitation rates for the remaining fisheries have not been reported.

USA

There was no exploitation of USA salmon in home waters.

4.9.5 Pre-Fishery Abundance

ICES used the North American run-reconstruction model to estimate pre-fishery abundance, which serves as the basis of abundance forecasts used in the provision of catch advice. The catch statistics used to derive returns and spawner estimates are routinely updated from those used in the previous year (ICES 2004/ACFM:20). In addition, in 2005, ICES revised the basis for updating estimates of returns and spawners for Labrador, as follows:

The basis for estimates of 2SW and 1SW salmon returns and spawners for Labrador (SFAs 1, 2 & 14B) prior to 1998 are catch data from angling and commercial fisheries. In 1998, the commercial fishery in Labrador was closed and so the model developed to determine returns and spawners from commercial catch data could not be used. In 2002–2004, salmon counting facilities were installed on four out of about 100 Labrador rivers with salmon (one in SFA 1B, northern Labrador and three in SFA 2).

Based on three years of data, small and large salmon returns per accessible drainage area in these four rivers were extrapolated to accessible drainage areas of unmonitored rivers in Labrador. The accessible drainage areas in Labrador were 9267 km^2 for Lake Melville (SFA 1A), 25 485 km^2 for northern Labrador (SFA 1B), 28 160 km^2 for southern Labrador (SFA 2), and 2651 km^2 for the Straits Area (SFA 14B). Accessible drainage area in the monitored rivers was 1878 km^2, resulting in an expansion factor of 35 to one.

Not all rivers in Lake Melville were included due to a lack of information on the presence of salmon. ICES recognized that this was a crude method for deriving returns and spawners for Labrador and encouraged the installation of additional counting facilities and collection of additional information on drainage areas and salmon occurrence, particularly for Lake Melville.

Comparison of PFA values including the new data for deriving returns and spawners for Labrador, 2002–2004, indicated only minor differences in results between old and new PFA values. Thus, ICES adopted these PFA values for predictive purposes and the provision of catch advice.

As the pre-fishery abundance estimates for potential 2SW salmon requires estimates of returns to rivers, the most recent year for which an estimate of PFA is available is 2003. This is because pre-fishery abundance estimates for 2004 require 2SW returns to rivers in North America in the year 2005. The 2003 abundance estimates ranged between 78 572 and 146 249 salmon. The mid-point of this range (112 410) is almost identical to the 2002 value (112 282) and is the 5th lowest in the 32-year time-series (Figure 4.9.5.1). Even though the 2003 value has increased by 33% from the 84 561 value in 2001, which was the lowest in the time-series, the general trend towards lower values in recent years is still evident and current year values are still much lower than the 917 282 in 1975.

For the 1SW cohort, the mid-point values of the pre-fishery abundance are shown in Figure 4.9.5.1. The mid-point of the range of pre-fishery abundance estimates for 2004 (456 002) is 15% higher than in 2003 (395 831) and 48% higher than the low 1994 value of 309 034, which was the lowest estimated in the time-series 1971–2004. The reduced values observed in 1978 and 1983–84 and 1994 were followed by large increases in pre-fishery abundance.

Although the declining trend appears common to both maturing and non-maturing (Figure 4.9.5.2) portions of the cohort, non-maturing 1SW salmon have declined further.

4.10 NASCO has requested ICES to evaluate the extent to which the objectives of any significant management measures introduced in recent years have been achieved

New management measures introduced in Labrador in 2004 resulted in changes within allocations among Aboriginal peoples' food fisheries. It is not possible yet to evaluate the effects of these management measures.

4.11 NASCO has asked ICES to provide an analysis of any new biological and/or tag return data to identify the origin and biological characteristics of Atlantic salmon caught at St. Pierre and Miquelon

Sampling of the fishery took place in both 2003 and 2004 and was reported to ICES in 2005. The sampling programme was designed to provide a representative sample of the fishery. Approximately 30% of the reported catch was sampled in each year:

	2003	**2004**
No. periods	12	11
Sampling Time Period	June 4 – July 6	June 5 – June 29
Gutted weight sampled (kg)	872	837
Number of fish sampled	340	355
Fish sampled for scales	0	166
Fish sampled for genetics	0	25

The size distribution of fish sampled was similar in both years. Two distinct size modes were noted, with the smaller fish averaging approximately 56 cm and the larger fish averaging approximately 76 cm. The smaller sized fish represented about 80% of those sampled.

Scale analysis provided information on the age of salmon captured in the fishery in 2004. There were three sea-ages noted in the 143 usable scale samples: 1SW (81.1%), 2SW (18.2%), and a repeat spawner (0.7%). River-age distributions (based on 141 fish) were: river-age 1 (0.7%); 2 (29.8%); 3 (49.7%); 4 (17.7%), and 5 (2.1%).

Results were not yet available on the genetic origin of the 25 sampled fish. The river-age distribution is generally characteristic of eastern Canadian wild stocks, except for the single river-age 1 fish, which likely originated from a hatchery in Canada or from a hatchery or river in the USA. No tag returns were obtained from this fishery in 2004.

4.12 Data deficiencies and research needs

Data deficiencies and research needs are presented in Section 6.

Table 4.9.2.1 Catches expressed as 2SW salmon equivalents in North American salmon fisheries, 1972-2005.
Only mid-points of the estimated values have been used.

	CANADA												
	MIXED STOCK				TERMINAL FISHERIES IN YEAR i						USA	Total	
Year i	NF-LAB Comm 1SW (Year i-1) (b)	Year i % 1SW of total 2SW equivalents	Year i NF-LAB Comm 2SW (b)	Year i NF-Lab comm total	Labrador rivers (a)	Nfld rivers (a)	Quebec Region	Gulf Region	Scotia - Fundy Region	Canadian total			Terminal Fisheries as a % of Total
1972	20,857	9	153,775	174,632	314	633	27,417	22,389	6,801	232,186	346	232,532	25
1973	17,971	6	219,175	237,146	719	895	32,751	17,914	6,680	296,105	327	296,433	20
1974	24,564	7	235,910	260,475	593	542	47,631	21,430	12,734	343,405	247	343,652	24
1975	24,181	7	237,598	261,779	241	528	41,097	15,677	12,375	331,696	389	332,085	21
1976	35,801	10	256,586	292,388	618	412	42,139	18,090	11,111	364,758	191	364,949	20
1977	27,519	8	241,217	268,736	954	946	42,301	33,433	15,562	361,932	1,355	363,287	26
1978	27,836	11	157,299	185,135	580	559	37,421	23,806	10,781	258,281	894	259,175	29
1979	14,086	10	92,058	106,144	469	144	25,234	6,300	4,506	142,798	433	143,231	26
1980	20,894	6	217,209	238,103	646	699	53,567	29,832	18,411	341,257	1,533	342,789	31
1981	34,486	11	201,336	235,822	384	485	44,375	16,329	13,988	311,383	1,267	312,650	25
1982	34,341	14	134,417	168,757	473	433	35,204	25,709	12,353	242,929	1,413	244,342	31
1983	25,701	12	111,562	137,263	313	445	34,472	27,097	13,515	213,105	386	213,491	36
1984	19,432	14	82,807	102,238	379	215	24,408	5,997	3,971	137,210	675	137,884	26
1985	14,650	11	78,760	93,410	219	15	27,483	2,708	4,930	128,765	645	129,410	28
1986	19,832	12	104,890	124,723	340	39	33,846	4,542	2,824	166,313	606	166,919	25
1987	25,163	13	132,208	157,371	457	20	33,807	3,757	1,370	196,781	300	197,082	20
1988	32,081	21	81,130	113,211	514	29	34,262	3,832	1,373	153,220	248	153,468	26
1989	22,197	16	81,355	103,551	337	9	28,901	3,426	265	136,488	397	136,886	24
1990	19,577	18	57,359	76,937	261	24	27,986	2,700	593	108,501	696	109,197	30
1991	12,048	14	40,433	52,481	66	16	29,277	1,777	1,331	84,949	231	85,180	38
1992	9,979	14	25,108	35,087	581	67	30,016	2,673	1,114	69,539	167	69,706	50
1993	3,229	8	13,273	16,502	273	63	23,153	1,211	1,110	42,312	166	42,478	61
1994	2,139	5	11,938	14,077	355	165	24,052	2,206	756	41,612	1	41,613	66
1995	1,242	3	8,677	9,918	331	155	23,331	2,007	330	36,073	0	36,073	73
1996	1,075	3	5,646	6,721	273	183	22,413	2,389	766	32,746	0	32,746	79
1997	969	4	5,390	6,360	155	157	18,574	1,849	581	27,675	0	27,675	77
1998	1,155	7	1,872	3,027	276	112	11,256	2,238	322	17,231	0	17,231	82
1999	179	1	894	1,073	311	72	9,032	1,127	450	12,064	0	12,064	91
2000	152	1	1,115	1,267	404	218	9,425	1,714	193	13,221	0	13,221	90
2001	286	2	1,380	1,666	336	102	10,104	616	255	13,079	0	13,079	87
2002	263	3	1,185	1,448	221	152	7,297	309	179	9,606	0	9,606	85
2003	312	3	1,794	2,106	221	68	8,870	590	189	12,045	0	12,045	83
2004	355	3	3,057	3,412	221	59	8,827	635	105	13,260	0	13,260	74
2005	459			459						459		459	

NF-Lab comm as 1SW = NC1(mid-pt) * 0.677057 (M of 0.03 per month for 13 months to July for Canadian terminal fisheries)
NF-Lab comm as 2SW = NC2 (mid-pt) * 0.970446 (M of 0.03 per month for 1 month to July of Canadian terminal fisheries)
Terminal fisheries = 2SW returns (mid-pt) - 2SW spawners (mid-pt)
a - starting in 1993, includes estimated mortality of 10% on hook and released fish
b - starting in 1998, there was no commercial fishery in Labrador; numbers reflect size of aboriginal fish harvest in 1998-2004and resident food fishery harvest in 2000-2004

Table 4.9.2.2. Catches of North American salmon expressed as 2SW salmon equivalents, 1972 2005, in North America and Greenland

Year	Canadian Total	USA Total	North America Total	% USA of Total North American	Greenland Total	NW Atlantic Total	Harvest in homewaters as % of total NW Atlantic
1972	232,186	346	232,532	0.15	206,814	439,346	53
1973	296,105	327	296,433	0.11	144,348	440,781	67
1974	343,405	247	343,652	0.07	173,615	517,267	66
1975	331,696	389	332,085	0.12	158,583	490,668	68
1976	364,758	191	364,949	0.05	200,464	565,413	65
1977	361,932	1,355	363,287	0.37	112,077	475,364	76
1978	258,281	894	259,175	0.34	136,386	395,561	66
1979	142,798	433	143,231	0.30	85,446	228,677	63
1980	341,257	1,533	342,789	0.45	143,829	486,618	70
1981	311,383	1,267	312,650	0.41	135,157	447,807	70
1982	242,929	1,413	244,342	0.58	163,718	408,060	60
1983	213,105	386	213,491	0.18	139,985	353,476	60
1984	137,210	675	137,884	0.49	23,897	161,781	85
1985	128,765	645	129,410	0.50	27,978	157,388	82
1986	166,313	606	166,919	0.36	100,098	267,017	63
1987	196,781	300	197,082	0.15	123,472	320,553	61
1988	153,220	248	153,468	0.16	124,868	278,336	55
1989	136,488	397	136,886	0.29	83,947	220,832	62
1990	108,501	696	109,197	0.64	43,634	152,831	71
1991	84,949	231	85,180	0.27	52,560	137,740	62
1992	69,539	167	69,706	0.24	79,571	149,277	47
1993	42,312	166	42,478	0.39	30,091	72,569	59
1994	41,612	1	41,613	0.00	0	41,613	100
1995	36,073	0	36,073	0.00	0	36,073	100
1996	32,746	0	32,746	0.00	15,343	48,089	68
1997	27,675	0	27,675	0.00	15,776	43,451	64
1998	17,231	0	17,231	0.00	12,088	29,319	59
1999	12,064	0	12,064	0.00	2,175	14,240	85
2000	13,221	0	13,221	0.00	3,863	17,084	77
2001	13,079	0	13,079	0.00	4,005	17,084	77
2002	9,606	0	9,606	0.00	6,989	16,596	58
2003	12,045	0	12,045	0.00	1,627	13,672	88
2004	13,260	0	13,260	0.00	1,958	15,218	87
2005	459	-	459	-	2,755	-	-

Greenland harvest of 2SW equivalents = NG1 * 0.718924 (M of 0.03 per month for 11 months to July of Canadian terminal fisheries)

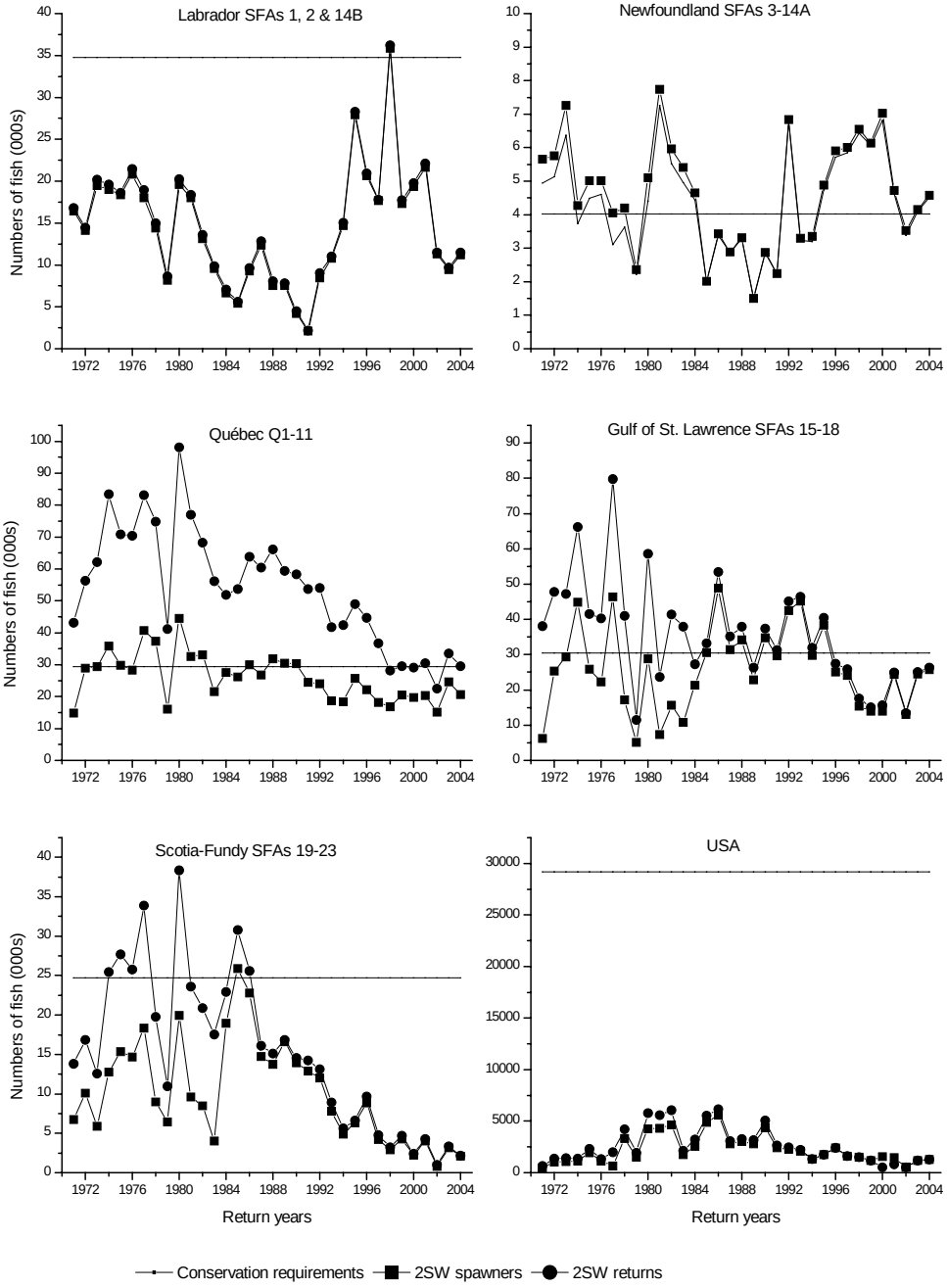


Figure 4.1.1 Comparison of estimated mid-points of 2SW returns, 2SW spawners, and 2SW conservation requirements for six geographic areas in North America. Returns and spawners for Scotia-Fundy do not include those from SFA 22 and a portion of SFA 23.

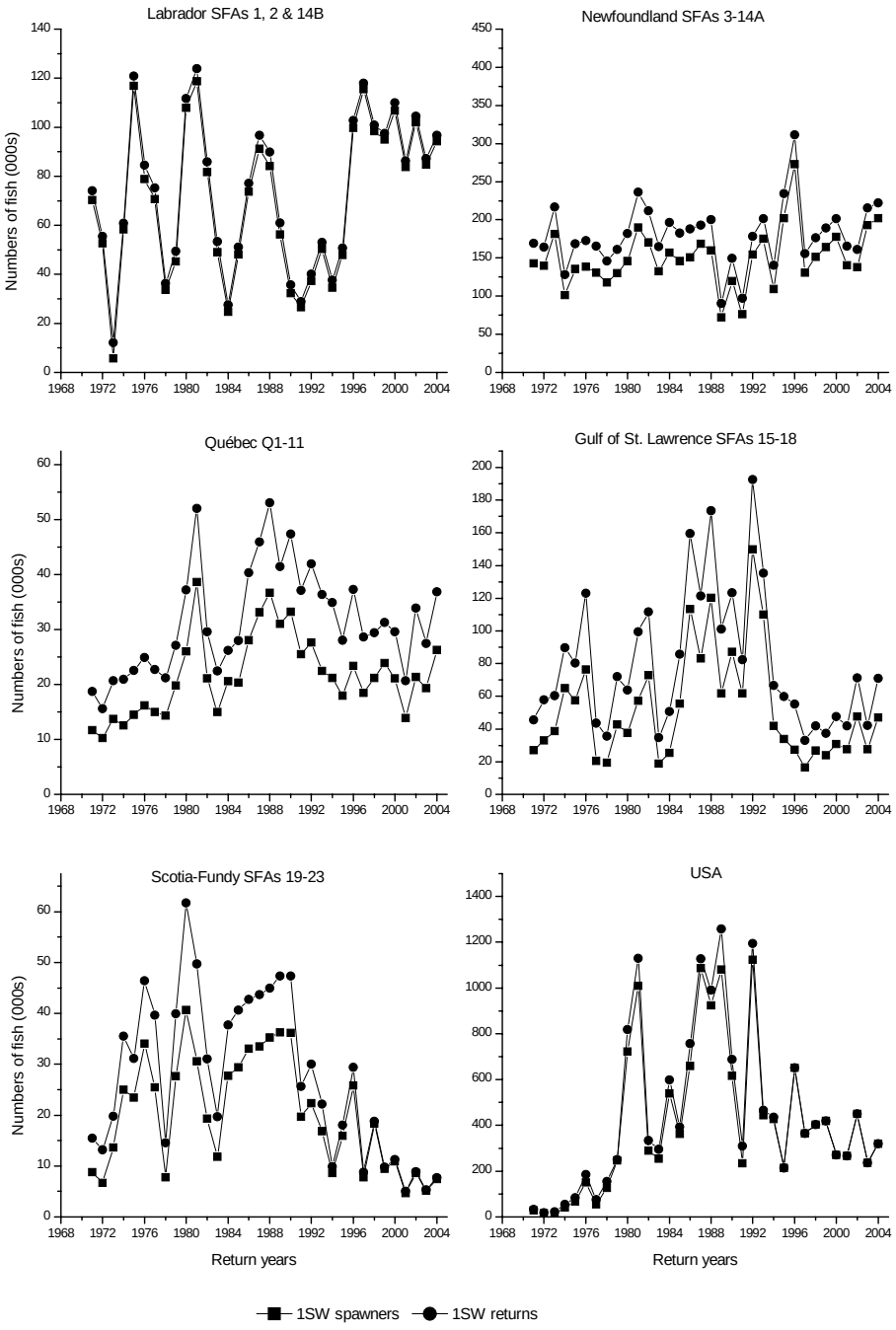


Figure 4.1.2 Comparison of estimated mid-points of 1SW returns to and 1SW spawners in rivers of six geographic areas in North America. Returns and spawners for Scotia-Fundy do not include those from SFA 22 and a portion of SFA 23.

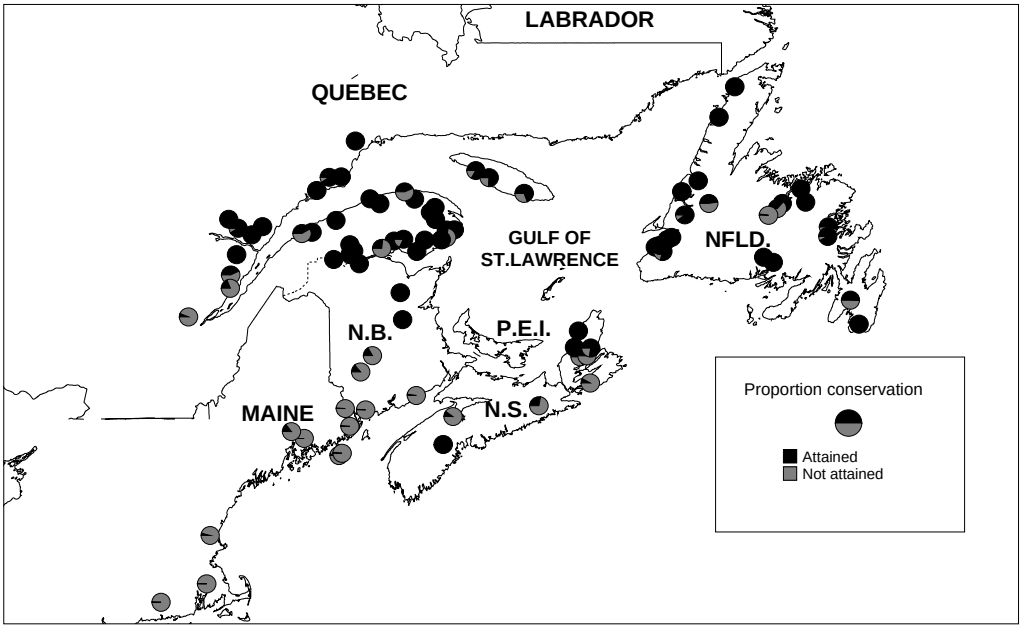


Figure 4.1.3 Proportion of the conservation requirement attained in assessed rivers of the North American Commission Area in 2004.

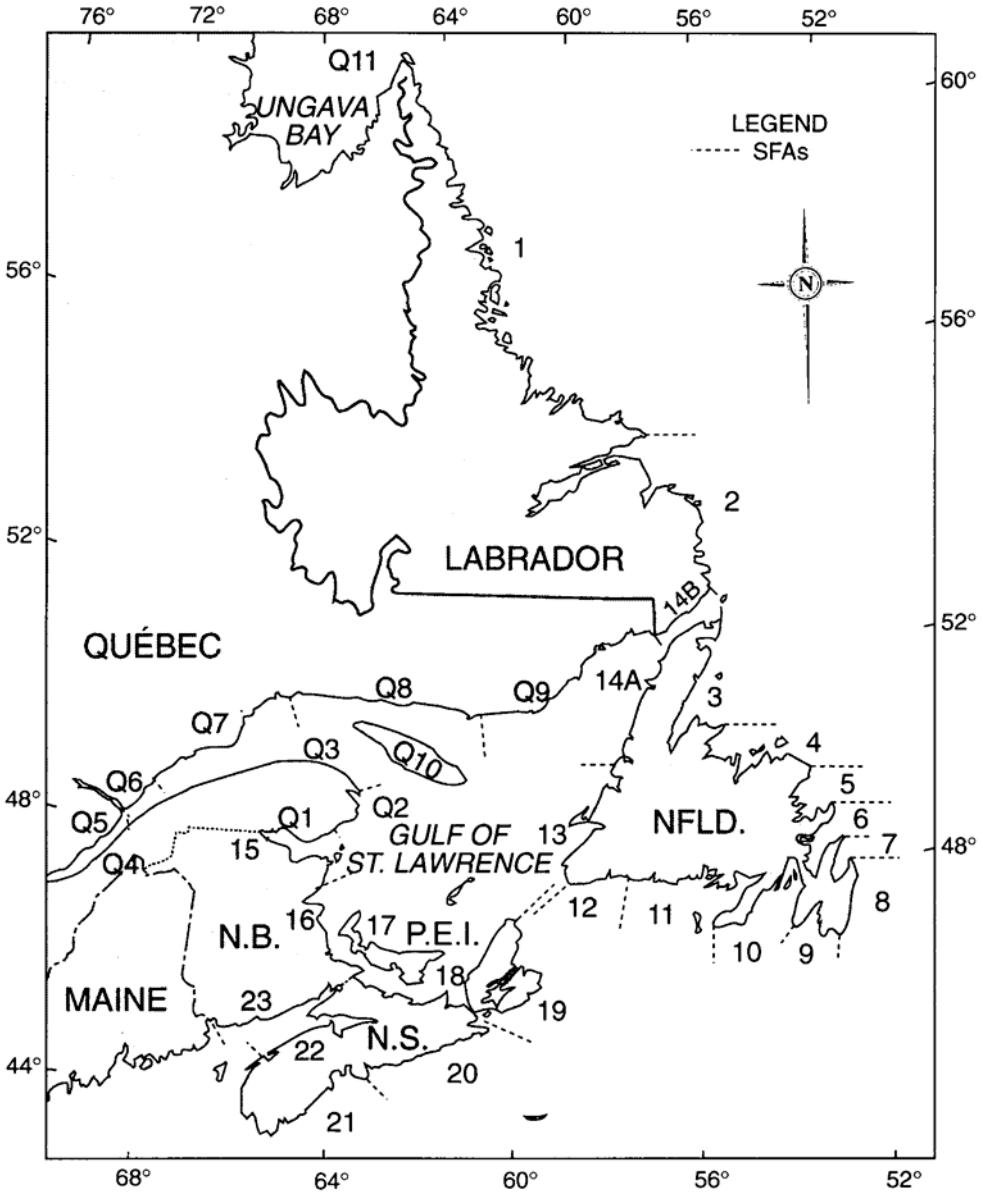


Figure 4.9.1.1. Map of Salmon Fishing Areas (SFAs) and Quebec Management Zones (Qs) in Canada.

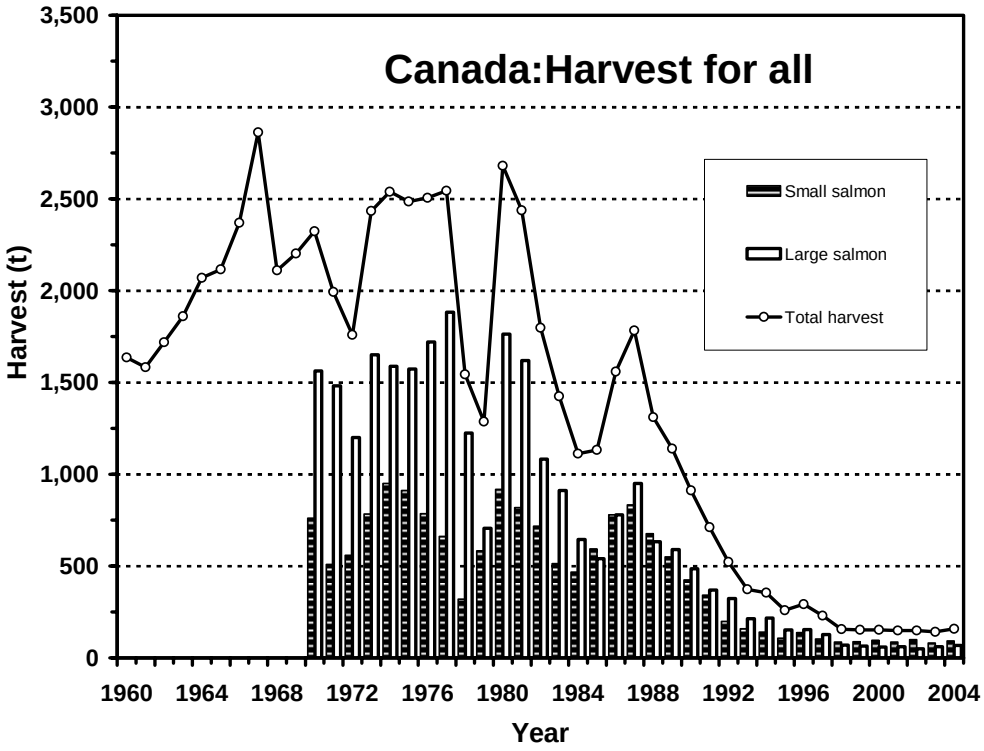


Figure 4.9.2.1. Harvest (t) of small salmon, large salmon, and combined for Canada, 1960–2004 by all users.

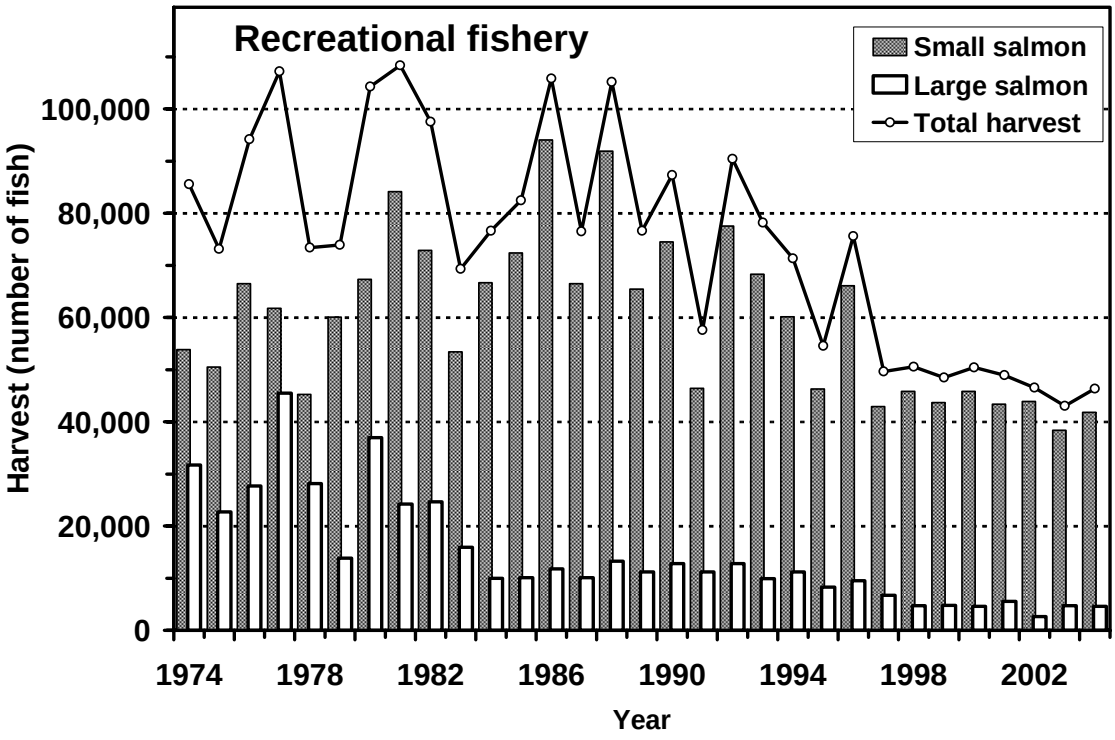


Figure 4.9.2.2. Harvest (number) of small and large salmon and both sizes combined in the recreational fisheries of Canada, 1974 to 2004.

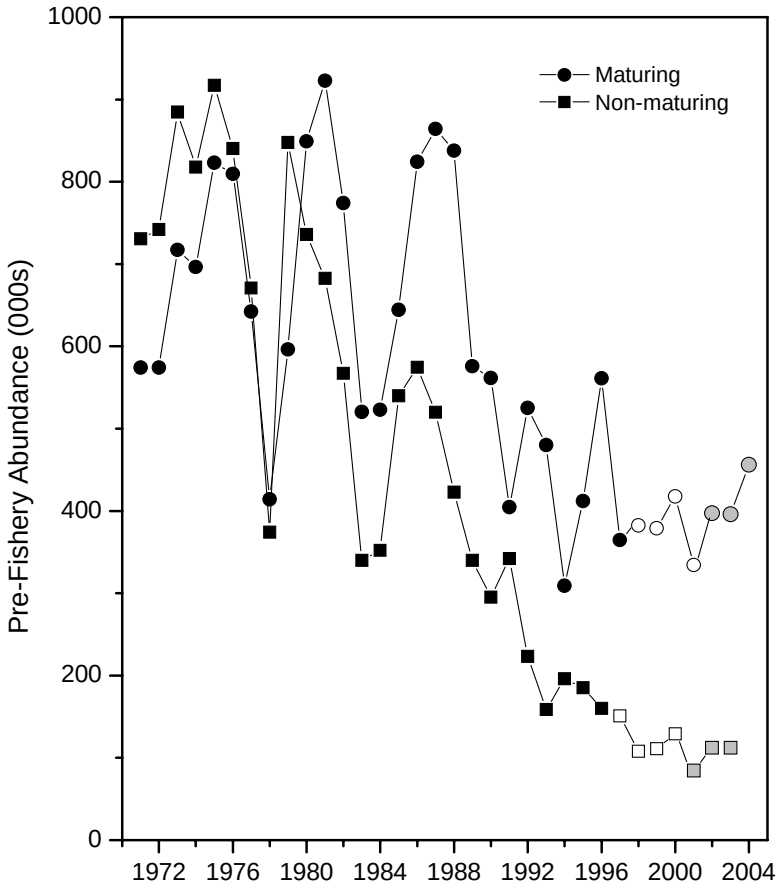


Figure. 4.9.5.1. Pre-fishery abundance estimate of maturing and non-maturing salmon in North America. Open symbols are for the years that returns to Labrador were assumed as a proportion of returns to other areas in North America and grey symbols are returns estimated from returns per unit of drainage area.

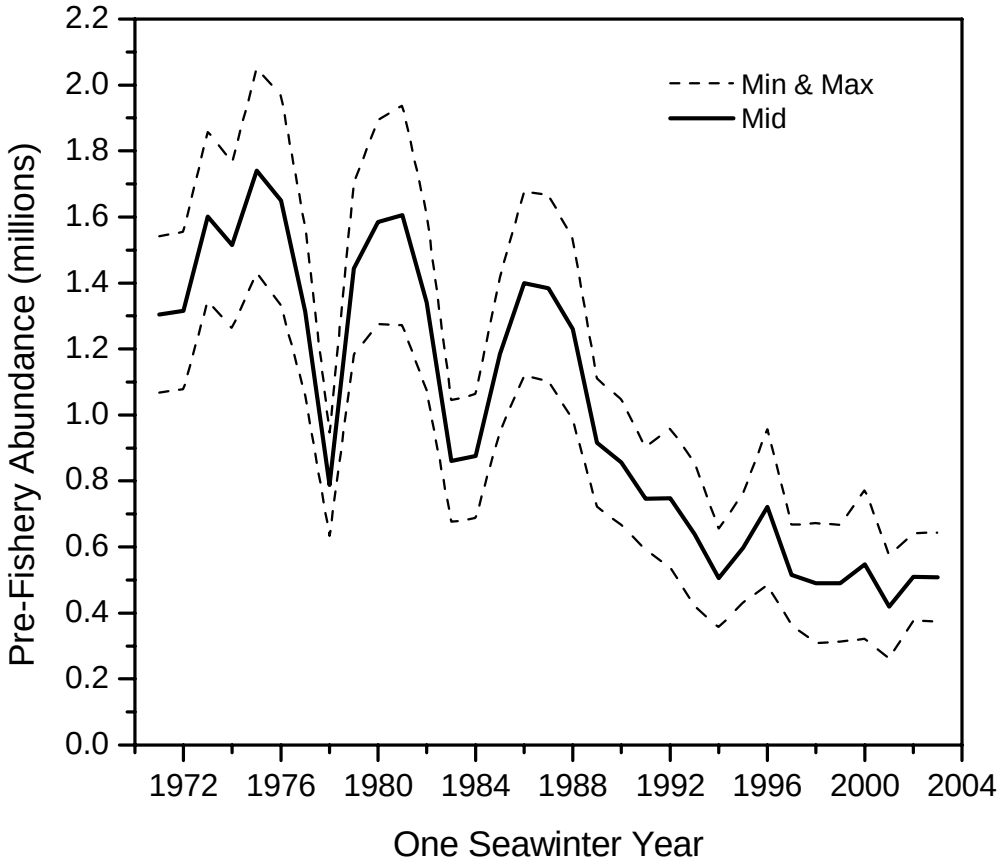


Fig. 4.9.5.2. Total 1SW recruits (non-maturing and maturing) originating in North America.

5. ATLANTIC SALMON IN THE WEST GREENLAND COMMISSION

5.1 Status of stocks/exploitation

ICES considers the stock complex at West Greenland to be **outside precautionary limits**.

The salmon caught in the West Greenland fishery are mostly (>90%) non-maturing 1SW salmon, most of which would be destined to return to homewaters in Europe or North America as MSW fish if they survived. There are also 2SW salmon and repeat spawners. The most abundant European stocks in West Greenland are thought to originate from the UK and Ireland, although low numbers may originate from northern European rivers. Most MSW stocks in North America are thought to contribute to the fishery at West Greenland.

North American stocks

ICES notes that the North American stock complex of non-maturing salmon has declined to record low levels and is in tenuous condition. The forecast PFA for this stock complex for 2005 is 120 400. Despite the closure of Newfoundland (1992), Labrador (1998), and Québec (2000) commercial fisheries, sea survival of adults returning to rivers has not improved and in some areas has declined further. The abundance of maturing 1SW salmon has also declined in many areas of eastern North America. Smolt production in 2003 and 2004 in monitored rivers of eastern Canada was similar to the average of the last five years. Unless sea survival improves, the abundance of non-maturing 1SW salmon in the Northwest Atlantic is not expected to increase above the levels of the last five years and is more likely to decline.

A summary of the stock status by region is provided below:

Newfoundland:	2SW spawners are within precautionary limits.
Labrador:	2SW spawners are outside precautionary limits (32% of 2SW S_{lim}).
Québec:	2SW spawners are outside precautionary limits (70% of 2SW S_{lim}).
Gulf of St. Lawrence:	2SW spawners are outside precautionary limits (85% of 2SW S_{lim}).
Scotia-Fundy:	2SW spawners are outside precautionary limits (9% of 2SW S_{lim}).
United States:	2SW spawners are outside precautionary limits (4% of 2SW S_{lim}). Stocks in 8 rivers are listed as Endangered under the Endangered Species Act

ICES noted that tentative exploitation rates for non-maturing 1SW fish at West Greenland can be calculated by dividing the recorded harvest of 1SW salmon of North American origin at West Greenland by the PFA estimate for the corresponding year. This indicates that exploitation rates in the last five years have averaged around 5% compared to values prior to 1993 averaging 26%, and suggests that recent management measures in this fishery have reduced exploitation in this stock complex.

European stocks

ICES also noted that the non-maturing 1SW salmon from southern Europe have been declining steadily since the 1970s (Figure 3.6.1), and the preliminary quantitative prediction of pre-fishery abundance for this stock complex is low for 2005 (486 000 fish).

The main contributor to the abundance of the European component of the West Greenland stock complex is non-maturing 1SW salmon from southern Europe. The percentage of European fish in catches at West Greenland was around 30% in the early 1990s and the 2000s, but was below 20% from 1996 to 1999. The contributions of countries within NEAC, based on historic tagging data are: France, 2.7%; Ireland, 14.7%; UK (England &Wales), 14.9%; UK (Northern Ireland), <0.01%; UK (Scotland), 64.5%; and northern NEAC countries, 3.2%. Southern European MSW salmon stocks in the NEAC area consistently declined over the past 10–15 years, and the stock complex has been outside precautionary limits in recent years.

A summary of the status of multi-sea winter (MSW) stocks known to contribute to the West Greenland fishery and which originate from the southern NEAC countries is presented below:

France:	MSW spawners are outside precautionary limits
Ireland:	MSW spawners are outside precautionary limits
UK (England & Wales):	MSW spawners are outside precautionary limits
UK (Northern Ireland):	MSW spawners are within precautionary limits
UK (Scotland):	MSW spawners are outside precautionary limits

The status of stocks in the NEAC and NAC areas are presented in the relevant commission sections of this report.

ICES notes that the relative proportions of the historical and forecast PFA values for the NAC and southern NEAC stock complexes are not consistent with the relative proportions of the NAC and Southern NEAC salmon in the fishery at West Greenland, as determined from the sampling programme (Section 5.9). The reasons for this apparent discrepancy are not immediately obvious but warrant further investigation.

5.2 Management objectives

Conservation limits (CLs) for North Atlantic salmon stock complexes have been defined by ICES as the level of stock (number of spawners) that will achieve long-term average maximum sustainable yield (MSY), as derived from the adult-to-adult stock and recruitment relationship (Ricker, 1975; ICES, 1993). NASCO has adopted this definition of CLs (NASCO, 1998). Therefore, the CL is a limit reference point (S_{lim}) which should be avoided with high probability. Management advice for Atlantic salmon is referenced to the S_{lim} conservation limit.

For management advice for the West Greenland fishery, NASCO has adopted a precautionary management plan:

- NASCO considers quotas at West Greenland with the management objectives of meeting the conservation limits (S_{lim}) simultaneously in the four northern regions of North America: Labrador, Newfoundland, Quebec, and Gulf.

- Further, for the two southern regions, Scotia-Fundy and USA, where there is a zero chance of meeting conservation limits, the alternate objective has been to achieve increases in returns relative to previous years with the hope that this may lead to the rebuilding of stocks.

- In 2004, ICES established 1992 to 1996 as the range of years to define the baseline for the Scotia-Fundy and USA regions to assess PFA_{NA} abundance and fishery options. Improvements of greater than 10% and greater than 25% relative to returns during this base period are evaluated.

The management plan in place for this stock complex at West Greenland does not require that this total conservation requirement is achieved, this provides NASCO with consistent criteria to assess performance of the fisheries management being considered. Although not a formal management objective, ICES also calculates the probability of returns to North America being equal or less than the previous five-year average when considering the current low marine survival and the recent status of the stock complex.

5.3 Reference points

Sampling of the fishery at West Greenland since 1985 has shown that European and North American stocks harvested are primarily (greater than 90%) 1SW non-maturing salmon destined to mature as either 2 or 3SW salmon. Usually less than 3% of the harvest is composed of salmon that have previously spawned and a few percent are 2SW salmon that would mature as 3SW or older salmon. Therefore, conservation limits defined for North American stocks have been limited to the 2SW salmon. These numbers have been documented previously by ICES and are in Section 4.3. The 2SW spawner limits of salmon stocks from North America total 152 548 fish.

Conservation limits for the NEAC area have been split into 1SW and MSW components on the basis of the average age composition of catches in the past ten years. The stocks have also been partitioned into northern and southern stock complexes, as tagging information and biological sampling indicates that the majority of the

European salmon caught at West Greenland originate from the southern stock complex. The current conservation limit estimate for southern European MSW stocks is approximately 278 000 fish (Section 3.3). There is still considerable uncertainty in the conservation limits for European stocks and estimates may change from year to year as the input of new data affects the estimate of CL from the pseudo-stock-recruitment relationship.

5.4 Advice on management

ICES provides management advice for the West Greenland fishery, based on the NAC stocks, and for the combined NAC and NEAC stock complexes.

ICES advises that there should be no catch on these stock complexes in 2005 at West Greenland.

Analyses carried out in Section 4 illustrate that attainment of CLs for the NAC stock complex is highly sensitive to the magnitude of catch at West Greenland. Therefore, where catches are allowed, it is imperative that fishing is closely monitored and full details are provided to ICES (Section 5.9.1).

5.5 Relevant factors to be considered in management

For all fisheries, ICES considers that management should be based upon assessments of the status of individual stocks. Fisheries on mixed stocks, either in coastal waters or on the high seas, pose particular difficulties for management as they cannot target only those stocks that are within precautionary limits. Conservation would be best achieved if fisheries can be targeted at stocks that have been shown to be within precautionary limits. Fisheries in estuaries and rivers are more likely to fulfil this requirement.

5.6 Catch forecast for 2005

Catch forecast for the NAC area

For 2005, the PFA_{NA} forecast remains among the lowest of the time-series with a median value of 120 400 fish and a 75% probability that the abundance will be less than 153 200 fish (i.e. highly unlikely to meet the 2SW spawner reserve of 212 189 salmon to North America) (Figure 5.6.1). In the absence of any marine-induced fishing mortality, there is a very low probability (9% probability) that the returns of 2SW salmon to North America in 2006 will be sufficient to meet the conservation requirements of the four northern regions (Labrador, Newfoundland, Quebec, and Gulf) (Table 5.6.1). There is essentially no chance (<1%) that the returns in the southern regions (Scotia-Fundy and USA) will be greater than the returns observed in the 1992 to 1996 base period.

None of the stated management objectives would allow a fishery to take place.

Furthermore, ICES notes that even in the absence of a fishery there is a 64% probability that returns of 2SW fish in these regions in 2006 will be less than the average of the period 1999 to 2003.

Catch forecast for the NAC/NEAC combined

ICES followed the process developed last year for providing catch advice for West Greenland, using the PFA and CLs of the NAC and NEAC areas. The PFA for NAC and NEAC are applied in parallel to the Greenland fishery and then combined at the end of the process into a single catch advice table. In the absence of any fishery at West Greenland, there is a less than 75% probability that the MSW conservation limit for southern Europe will be met (Table 5.6.1).

None of the stated management objectives in NAC or NEAC would allow a fishery to take place.

5.7 Medium- to long-term projections

Projections of PFA are not made beyond one year for either the NAC or the NEAC. Based on available lagged spawners the provision of catch advice for the West Greenland fishery would be possible up to 2007. However, to extend the forecast, a number of assumptions in addition to those within the current models would need to be made. In order to progress with this objective, ICES carried out further exploratory analyses (Section 2.3.5) to extend PFA redicttions over medium- and long-term (5 and 20 years) time scales.

5.8 Comparison with previous assessment and advice

The current modelling approach was applied to the PFA_{NA} series that now includes the 2003 PFA to update the 2004 forecast. The median value of the updated analysis has increased to 114 600 fish from 100 000 based on the previous year's model and data. The upper bound on the distribution remained unchanged.

5.9 NASCO has requested ICES to describe the events of the 2004 fishery and status of the stocks

At its annual meeting in June 2004 NASCO agreed to restrict the fishery at West Greenland *to that amount used for internal subsistence consumption in Greenland, which in the past has been estimated at 20 t*. Consequently, the Greenlandic authorities set the commercial quota to nil, i.e. landings to fish plants, sale of salmon to shops, and commercial export of salmon from Greenland was forbidden. Licensed fishermen were allowed to sell salmon at the open markets, to hotels, restaurants, and institutions. A private fishery for personal consumption without a license was allowed. All catches, licensed and private, were to be reported to the License Office on a daily basis. In agreement with the Organisation for Fishermen and Hunters in Greenland the licensed fishery for salmon was allowed from the 9th of August to the end of the year. The consequences in terms of overall catches of extending the allowed fishing period are unknown.

5.9.1 Catch and effort in 2004

By the end of the season a total of 14.7 t of landed salmon were reported. In total, 169 reports were received. The geographical distribution of the reported catches differed from all recent years with catches in NAFO Div. 1A and 1B comprising approximately 27% of landings reported. The catch from NAFO Division 1F was less than 15% of the reported landings (Table 5.9.1.1). In the last few years approximately 50% of the catch was in NAFO Div 1F. The catch was distributed relatively evenly across the weeks, perhaps even increasing in weeks 44 and 45. In the last few years, reported catches decreased during the season.

The number of active participants in the salmon fishery has decreased sharply since 1987, when a catch of more than 900 tons was allowed and more than 500 licenses were active in the fishery. In 2004 there were 151 licenses issued, similar to the 152 in 2003. In 2004, of the 66 fishers who reported catch, only 24 were licensed. However, the total number of fishers reporting is an increase from approximately 40 active fishers in 2002 and 2003. ICES notes that sampling provided more fish than were reported in Nuuk, confirming that the nominal catch is an underestimate. In addition, ICES has been unable to estimate average CPUE values for several years.

There is presently no quantitative approach to estimating the magnitude of personal consumption or subsistence fishing in this fishery. Since 2000, an arbitrary figure for unreported catch of 10 t has been proposed; however, there is no method to verify the accuracy.

5.9.2 Biological characteristics of the catches

The international programme to sample landings at West Greenland has continued. The sampling program in 2004 included sampling teams from Greenland, Ireland, United Kingdom, and United States. Teams were in place at the start of the fishery and continued through October. In total, 1890 specimens, representing 40% by weight of the reported landings, were sampled for presence of tags or fork length, weight, scales, and tissue samples for DNA analysis. The broad geographic distribution of the subsistence fishery caused practical problems for the sampling teams. However, the sampling program adequately sampled the Greenland catch temporally. The sampling teams at Nuuk sampled larger amounts of salmon than reported for sale in the official statistics. Therefore, the total reported landings were corrected for the total weight of fish sampled for assessment purposes.

Tissue and biological samples were collected from three landing sites: Qaqortoq (NAFO Div. 1F), Nuuk (NAFO Div. 1D), and Maniitsoq (NAFO Div. 1C) (Figure 5.9.1.1). Biological characteristics (length, weight, or age) were recorded from approximately 1800 fish in catches from NAFO Div. 1C, 1D and 1F in 2004 (Table 5.9.1.1). The smallest fish sampled was 54 cm fork length and weighed 1.46 kg gutted weight, while the largest was 95 cm and weighed 10.30 kg. The average weight of a fish from the 2004 catch was 3.18 kg, with North American 1SW fish averaging 64.7 cm and European 1SW fish averaging 64.2 cm in length (Table 5.9.1.1). The mean lengths and mean weights for the 2004 samples were among the highest in the last decade.

The river ages of European salmon ranged from 1 to 5 (Table 5.9.1.1). Over half (58%) of the European fish in the catch were river-age 2 and 20% were river-age 3. Although the proportion of the European origin river-age 1 salmon in the catch has been variable in the last 15 years, it has been between 9% and 18% since 2001. North American salmon up to river-age 6 were caught at West Greenland in 2004, with over half being river-age 3 (52%).

In 2004, 97% of the European samples were 1SW salmon, with previous spawners 0.2% of the samples and 2SW salmon 2.8%. One sea winter salmon dominated (97%) the North American component, with repeat spawners comprising 2.5% of the samples (Table 5.9.1.1).

The sampling team stationed in Nuuk obtained 120 whole fish for disease testing. Tissue samples were tested for the presence of ISAv by RT-PCR assay only and all test results were negative. The sex of 115 salmon collected in Nuuk was determined; of these 35 (30%) were males and 80 (70%) females. ICES recommends that sex be determined on as many whole fish as practicable, and methods be considered for determining sex on gutted fish.

A total of 1639 samples were genotyped at four microsatellites. In total, 1192 (72.7%) of the salmon sampled from the 2004 fishery were of North American origin and 447 (27.3%) fish were determined to be of European origin (Table 5.9.1.1). Applying the continental percentages to the nominal total catch (14.7 t) resulted in estimates of 9.9 t of North American origin and 4.8 t of European origin fish (3900 and 1500 rounded to the nearest 100 fish, respectively) landed in West Greenland in 2004 (Fig. 5.9.2.1).

5.9.3 NASCO has requested ICES to provide information on the origin of Atlantic salmon caught at West Greenland at a finer resolution than continent of origin (river stocks, country or stock complexes)

In 2005 an updated probabilistic genetic assignment (PGA) model was applied to the 2000–2002 West Greenland fisheries data, assigning both continent and country of origin based on genotyping at 11 loci traditionally used for continent of origin assignment (King *et al.*, 2001). The suite of 11 loci allowed for suitable classification accuracy within North America to the country of origin level.

The PGA model 90% confidence intervals for the North American and European contributions to the West Greenland fishery encompass the deterministic point estimates previously reported by ICES. Canadian origin fish dominated the North American component of the harvest, ranging from 96% to 99% for the period 2000–2002.

ICES has previously noted that reference baseline datasets for the European and Canadian stock complexes lacked adequate spatial and temporal coverage for finer scale assignments with acceptable accuracy. Some progress has been made to bolster reference datasets; however, deficiencies remain, particularly for NEAC stocks. An international collaboration is currently establishing a reference genetic dataset to improve the ability of assigning origin of Atlantic salmon caught during any mixed stock fishery or sampling endeavour at a finer resolution than continent of origin (river stocks, country, or stock complexes).

5.10 NASCO has requested ICES to provide a detailed explanation and critical examination of any changes to the models used to provide catch advice

The forecast model used to estimate pre-fishery abundance of 2SW salmon in 2005 was the same as that used in 2004 (ICES, 2003). The approach accounts for uncertainty in the data and in model selection. The overall approach of modelling the natural log transformed PFA_{NA} and LS_{NA} using linear regression and the Monte Carlo method used to derive the probability density for the PFA_{NA} forecast was also retained from 2004.

The lagged spawner variable used in the forecast model is an index of the 2SW parental stock of the PFA. It provides a means of examining the value in managing for spawning escapement and predicting recruitment in existing fisheries. The lagged spawner index was the sum of the lagged spawner estimates for six regions of North America. ICES developed a method for deriving Labrador spawners for the recent years and therefore Labrador is again included in the index (Section 4.9.5). With the inclusion of Labrador, the lagged spawner series begins in the 1978 year of PFA.

5.10.1 North American Forecast Model

The advice for any given year has been dependent on obtaining a reliable predictor of the abundance of non-maturing 1SW North American stocks prior to the start of the fishery in Greenland. A two-phase regression between North American pre-fishery abundance (PFA_{NA}) and lagged spawners (LS_{NA}), assuming a break between the phases occurred during 1989 or 1990, was described in 2003 and elaborated upon in 2004. This pattern was reinforced with the addition of the 2003 PFA_{NA} estimate (Figure 5.10.1.1). The relative recruits (PFA_{NA}) per spawner index (LS_{NA}) has declined from an average of 5.7 during 1978–1989 to an average of 1.9 during the period 1990 to 2003 (Figure 5.10.1.1).

As in 2004, 42 models were fitted to each dataset derived using Monte Carlo simulation. These models included two models without phase shifts, plus five models with phase shifts and with eight possible break year points (1986 to 1993) for each model (Table 5.10.1.1). In each simulation the most parsimonious model was selected using Akaike's Information Criterion and this selected model was used to generate a value for the probability density for the 2005 PFA_{NA}.

Seven models and eight break years (1986 to 1993) were run for ten thousand datasets of PFA_{NA} and LS_{NA} created based on the estimated ranges for each year and PFA. One PFA_{NA} prediction was carried forward for the parsimonious model for each randomly selected dataset. For phase shift models, the probability of being in either phase was based on changes in PFA_{NA} from year t to year t–2 (Figure 5.10.1.2). The approach taken in 2005 was identical to the method used in 2003 and 2004. The two-year lag is used because current year PFA (i.e 2004) is not available due to its dependence upon 2SW returns in the next year.

Although it was possible that up to 42 models might be represented in estimating the distribution of PFA_{NA}, those selected most often were model III and VII and break years 1989 through 1992 (see below). The lagged spawner index variable was informative for PFA_{NA} in 63% of the simulated data sets. In such cases, the break years describing the phase shift were mostly 1991 and to lesser extents, 1992, 1989, and 1988. Model VII (intercept through the origin) was favoured more often (57% of all models). In 37% of the data sets, the lagged spawner variable (Model III) was uninformative and therefore this model with two means describing phases in PFA was selected. The corresponding break years were 1991 and 1992. For the 2005 forecast of PFA_{NA}, the probability (runs/10 000) of being in the high phase was negligible (0.6%) and the probability of being in the lower productivity phase was over 99%.

Model	Phase	1998	1989	1990	1991	1992	1993	Models
III	High	0	0	0	1	0	0	
	Low	0	0	0	2260	1395	0	3656
VII	High	1	4	1	29	12	0	
	Low	273	1375	162	2616	1206	1	5680
IV to VI	High	10	6	0	0	0	0	
	Low	300	285	4	48	11	0	664
Phases	High	11	10	1	30	12	0	64
	Low	573	1660	166	4924	2612	1	9936

5.10.2 Critical evaluation of model updates

Critical evaluations of updates to the model input data were documented during the process of developing catch advice. These include:

- Application of the updated model to estimate the 2004 PFA produced a higher estimate (median 118 600) than the estimate provided last year (median 100 000).

- The lagged spawner variable used in the model declined in 2005 to its lowest value and was used to predict PFA using spawner abundances that are outside the range of previously observed values. The uncertainty of associations increases as the predictor variable gets farther from the mean, which has been the case for the 2004 and 2005 projections.

5.10.3 Provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved

Based on the previous five-year average biological characteristics of 1SW non-maturing salmon in the fishery at West Greenland, each tonne of salmon catch equates to 316–366 fish (5^{th} to 95^{th} percentiles). After discounting for eleven months of natural mortality, each tonne not harvested equates to 159 to 187 (5^{th} to 95^{th} percentiles) fish returning to home waters in North America and 64 to 80 (5^{th} to 95^{th} percentiles) salmon returning to European home waters. Because these spawners are distributed among a large number of rivers on both continents, it has been difficult to show direct benefits to individual stocks. No further information is available on the effect of recent management measures.

5.11 Data deficiencies and research needs

Data deficiencies and research needs for West Greenland are presented in Section 6.

West Greenland	Simultaneous	Improvement (SF, USA)		Conservation
Harvest	Conservation	of returns in 2006		MSW Salmon
(t)	(Lab, NF, Quebec, Gulf)	> 10%	> 25%	Southern NEAC
0	0.091	0.000	0.000	0.684
5	0.084	0.000	0.000	0.680
10	0.079	0.000	0.000	0.673
15	0.073	0.000	0.000	0.669
20	0.069	0.000	0.000	0.664
25	0.065	0.000	0.000	0.656
30	0.061	0.000	0.000	0.650
35	0.057	0.000	0.000	0.645
40	0.054	0.000	0.000	0.640
45	0.050	0.000	0.000	0.634
50	0.046	0.000	0.000	0.628
100	0.023	0.000	0.000	0.576

Table 5.6.1. Probability of meeting the 2SW conservation limits simultaneously in the four northern areas of North America (Labrador, Newfoundland, Quebec, Gulf), of achieving increases in returns from the 1992 to 1996 base year average in the two southern areas (Scotia-Fundy and USA) of the NAC area, and of meeting the MSW conservation limit of the southern European stock complex relative to quota options for West Greenland. A sharing arrangement of 40:60 (F_{NA}) of the salmon from North America and southern European MSW stocks was assumed.

Distribution of 2004 nominal catch (metric tons) among NAFO Divisions.

Total	NAFO Division					
	1A	1B	1C	1D	1E	1F
15	3	1	4	2	3	2

River age distribution (%) by origin

	1	2	3	4	5	6	7	8
NA	1.9	19.1	51.9	22.9	3.7	0.5	0	0
E	18.3	57.7	20.5	3.2	0.2	0	0	0

Length and weight by origin and sea age.

	1 SW		2 SW		Previous spawners		All sea ages	
	Fork length (cm)	Whole weight (kg)	Fork length (cm)	Whole weight (kg)	Fork length (cm)	Whole weight (kg)	Fork length (cm)	Whole weight (kg)
NA	64.7	3.11	86.2	7.33	77.6	4.71	65.1	3.17
E	65.0	3.15	76.4	5.22	88	6.48	65.3	3.22

Biological Characteristics of Atlantic salmon sampled from the 2004 West Greenland food fishery.

Continent of Origin (%)	
North America	Europe
72.7	27.3

Sea age composition by continent of origin: North America (NA) and Europe (E)

	Sea-age composition (%)		
	1SW	2SW	Previous Spawners
NA	97.0	0.5	2.5
E	97.0	2.8	0.20

Table 5.9.1.1. Nominal catch and biological characteristics of the West Greenland catch, 2004.

Model	Function Ln(PFA_{NA}) =	Model description
I	$\mu + \xi$	A single mean PFA_{NA}; No phases or lagged spawner index variable
II	$\alpha + \gamma * Ln(LS_{NA}) + \xi$	A single regression of PFA_{NA} on lagged spawner index
III	$\beta * Ph + \xi$	Two means of PFA_{NA} for the two phases; no lagged spawner index variable
IV,V,VI	$\alpha + \beta * Ph + (\gamma + \delta * Ph) * Ln(LS_{NA}) + \xi$	Two regressions of PFA_{NA} on lagged spawner index with possible variations in slopes and intercepts
VII	$(\gamma + \delta * Ph) * Ln(LS_{NA}) + \xi$	Two regressions of PFA_{NA} on lagged spawner index with intercept through the origin

PFA_{NA} = PFA for North America (1977 to 2002)

LS_{NA} = Lagged spawner index excluding Labrador (1977 to 2002)

Ph = Phase (indicator variable representing two time periods)

$\alpha, \beta, \gamma, \delta$ = coefficients of the slope and intercept variables

ξ = residual error, normal

phase shift periods: ranging from 1977-1985 and 1986-2002 to 1977-1993 and 1994-2002

Table 5.10.1.1. Reference number, formula, and brief description of the nested models included in the approach to modelling lagged spawner index and PFA_{NA} encompassing a possible phase shift relative recruitment per spawner.

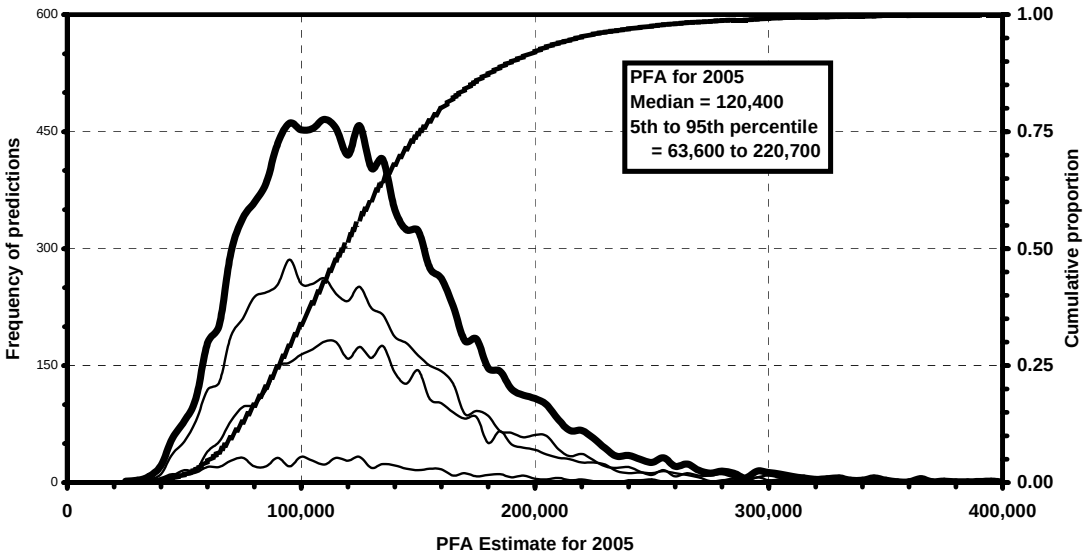


Figure 5.6.1. PFA_{NA} forecast estimate distribution for the year 2005 non-maturing 1SW salmon.

PERCENTILE	ESTIMATE
5	63,645
10	73,321
15	80,509
20	87,109
25	92,725
30	98,151
35	103,830
40	109,312
45	114,715
50	120,360
55	125,768
60	132,023
65	138,048
70	145,407
75	153,173

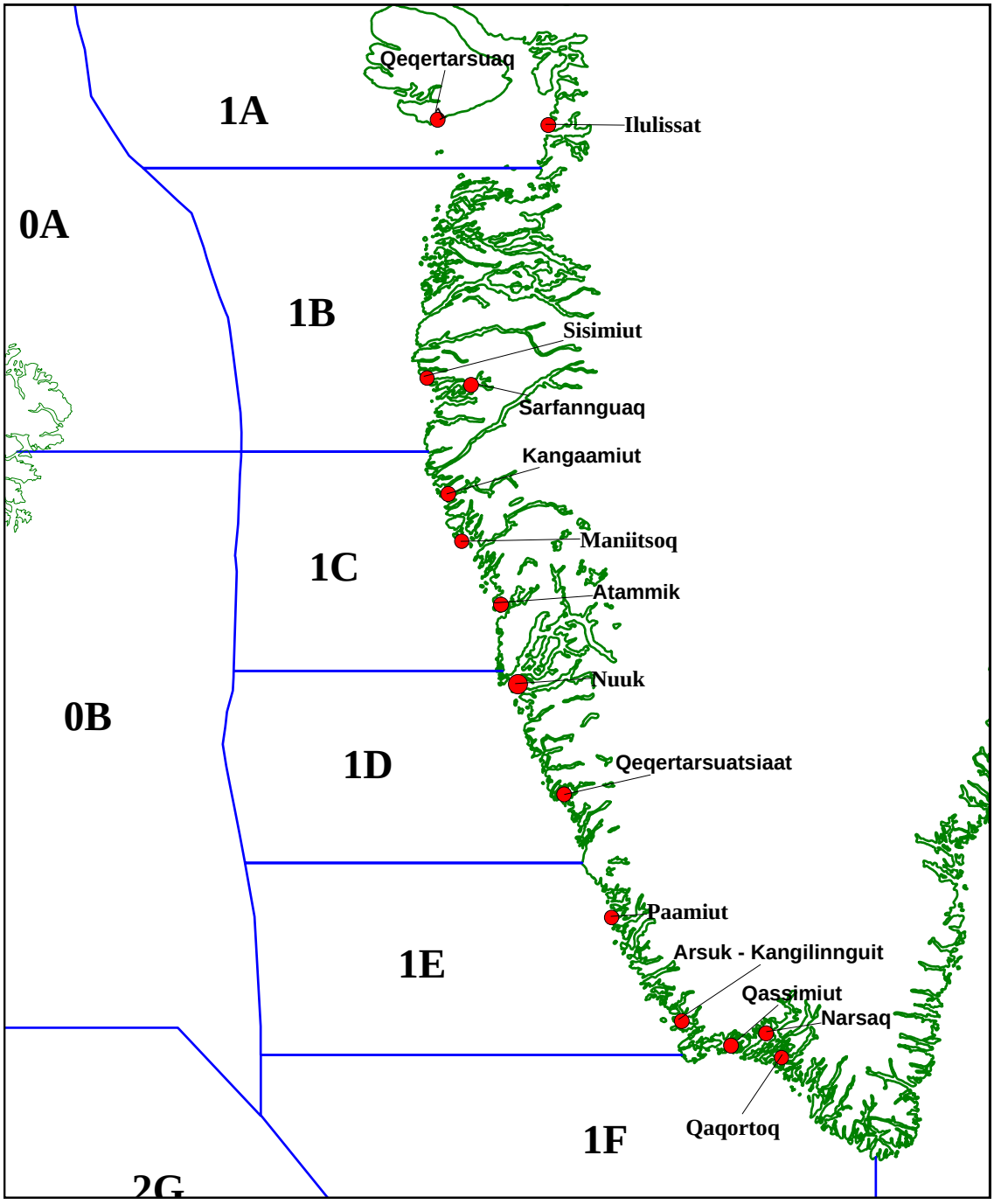


Figure 5.9.1.1. West Greenland NAFO divisions.

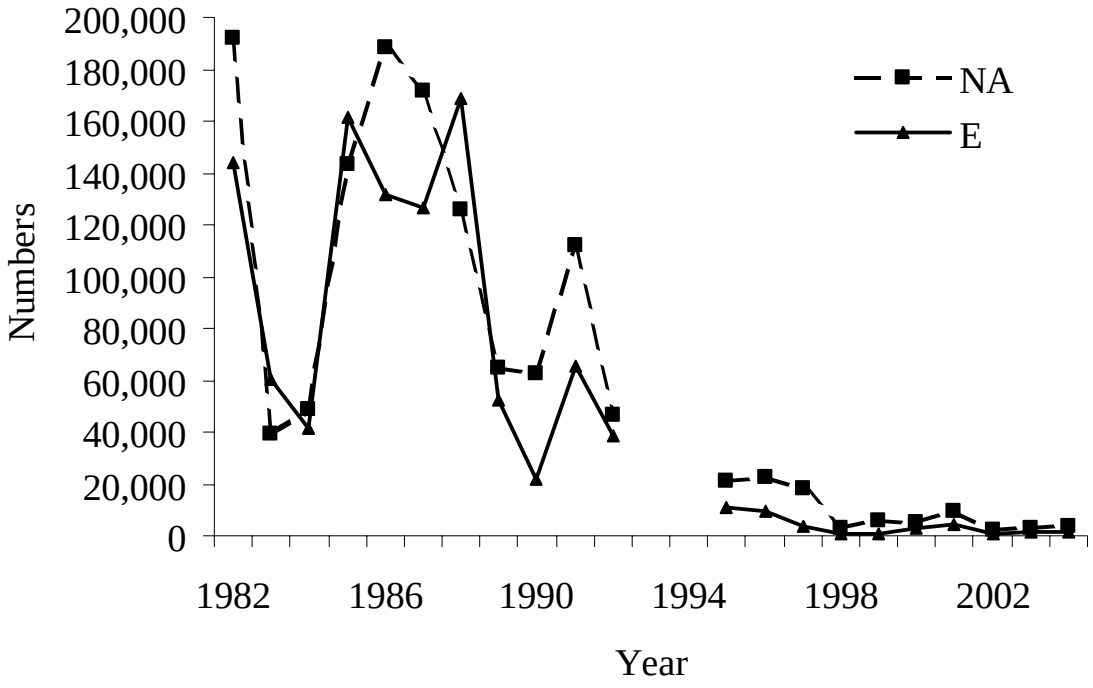


Figure 5.9.2.1. Number of North American (NA) and European (E) salmon caught at West Greenland, 1982–1992 and 1995–2004.

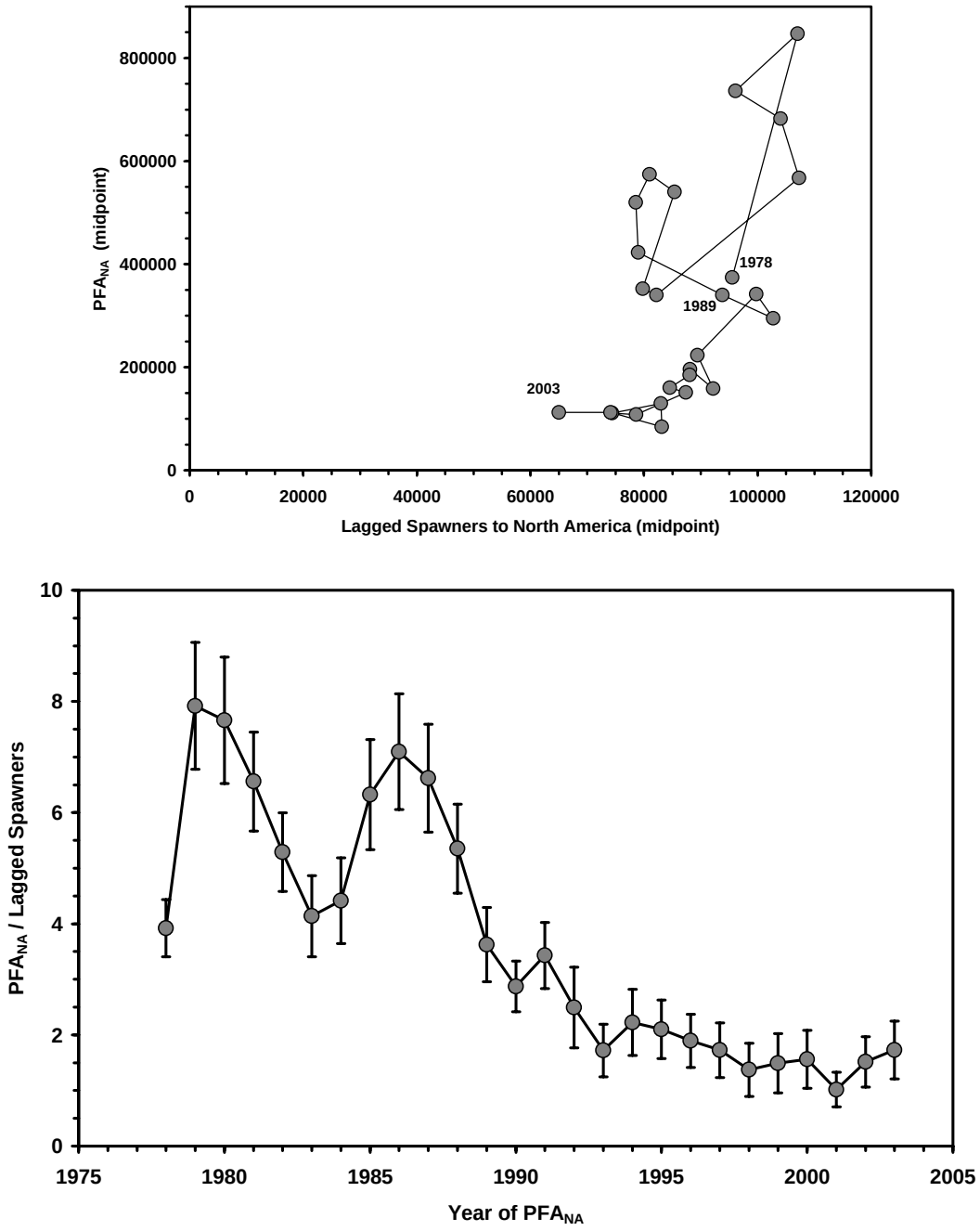


Figure 5.10.1.1. PFA (mid-point) and lagged spawner (mid-point) association for the NAC area showing the sequence from 1978 to 2003 (upper panel) and the relative change of the PFA to lagged spawners over the time-series (lower panel).

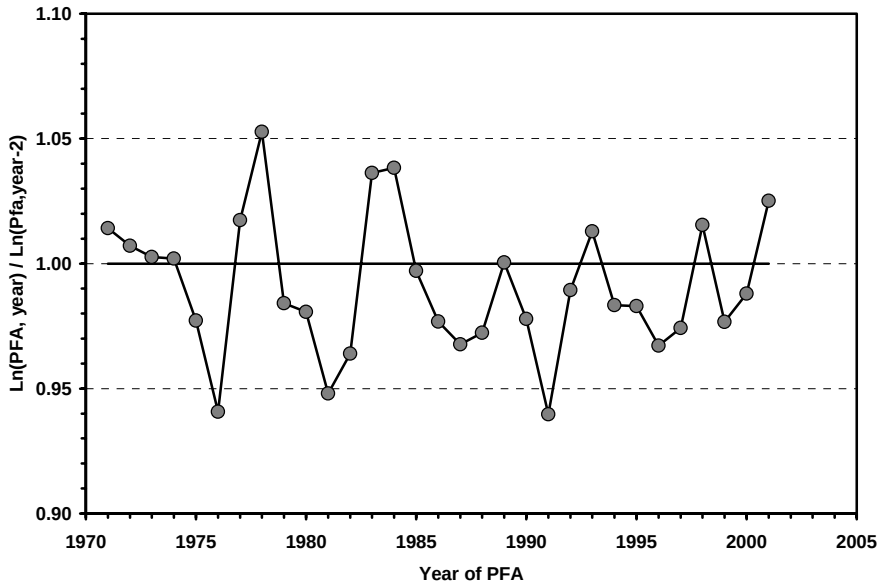


Figure 5.10.1.2. Relative change in Ln(PFA) in year relative to Ln(PFA) in year-

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List of Participants

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NEXT STEPS STAKEHOLDER

Dr Dennis Doherty	Electricity Supply Board, Limerick, Ireland

STATES NOT PARTIES TO THE CONVENTION

France (in respect of St Pierre and Miquelon)

Mr Christophe Lenormand	Ministère de l'Agriculture, de l'Alimentation, de la Pêche, Paris, France

INTER-GOVERNMENT ORGANIZATIONS

Dr Walter Ranke	International Baltic Sea Fishery Commission, Warsaw, Poland
Dr Walter Crozier	Chairman, ICES Working Group on North Atlantic Salmon, Bushmills, Northern Ireland
Mr Kaj P Mortensen Mr Andras Kristiansen	North Atlantic Marine Mammal Commission, Tromsø, Norway
Mr Vladimir Fedorenko	North Pacific Anadromous Fish Commission, Vancouver, Canada

NON-GOVERNMENT ORGANIZATIONS *

Major General Seymour Monro	Atlantic Salmon Trust, UK
Mr Jean-Pierre Tane Mme Sylvie Tissier Mr Christian Vernes	Association Internationale de Défense du Saumon, France
Mr Hugh Campbell-Adamson	Association of Salmon Fishery Boards, UK
Mr Gunnar Noren	Coalition Clean Baltic, Sweden
Mr Mark Boyden	Coomhola Salmon Trust Ltd, Co Cork, Ireland
Mr Bernard Breton Mr Chris Poupard	European Anglers Alliance
Mr Niall Greene	Federation of Irish Salmon and Sea-Trout Anglers, Ireland
Mr Patrick Martin Mr Jean Thomas	Fondation Saumon, France
Mr John Gregory	Institute of Fisheries Management, UK
Mr Patrick Byrne	National Anglers Representative Association, Ireland
Mr Bjornulf Kristiansen	Norges Bondelag (Norwegian Farmers Union), Norway
Mr Aage Wold	Norskelakseelver (Norwegian Salmon Rivers), Norway
Mr Paul Knight	Salmon and Trout Association, UK
Mr Ian Calcott	Scottish Anglers National Association, UK
Mr Martin Arnould	World Wide Fund for Nature, France

* Up to two representatives from Non-Government Organizations are allowed to attend the meetings of the Council and Commissions at any time.

SPECIAL ADVISOR

Mr Jacque Robichaud	Canada

SECRETARIAT

Dr Malcolm Windsor	Secretary
Dr Peter Hutchinson	Assistant Secretary
Miss Margaret Nicolson	PA to the Secretary
Mrs Sophie Ross	PA

Support Staff

Mr Jocelyn Rancon

Mr Samuel Dejan