

2007

REPORT OF THE TWENTY-FOURTH ANNUAL MEETINGS OF THE COMMISSIONS

BAR HARBOR, MAINE, USA

4 - 8 JUNE 2007

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REPORT OF THE

TWENTY-FOURTH ANNUAL MEETING

OF THE

NORTH AMERICAN COMMISSION

4 - 8 JUNE 2007 BAR HARBOR, MAINE, USA

Chairman:	Mr George Lapointe (USA)
Vice-Chairman:	Mr Guy Beaupré (Canada)
Rapporteur:	Mr Maurice Mallett (Canada)
Secretary:	Dr Malcolm Windsor

NAC(07)7

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Report of the Twenty-Fourth Annual Meeting of the North American Commission of the North Atlantic Salmon Conservation Organization Harborside Hotel and Marina, Bar Harbor, Maine, USA 4 - 8 June, 2007

1. Opening of the Meeting

- 1.1 The Chairman, Mr George Lapointe (USA), opened the meeting and welcomed delegates to Bar Harbor.
- 1.2 The representative of the NGOs, Ms Sue Scott, made an opening statement on behalf of the NGOs (Annex 1).
- 1.3 A list of participants at the Twenty-Fourth Annual Meeting of the Council and Commissions is included on page 143 of this document.

2. Adoption of the Agenda

2.1 The Commission adopted its agenda, NAC(06)6 (Annex 2).

3. Nomination of a Rapporteur

3.1 The Commission appointed Mr Maurice Mallet (Canada) as rapporteur.

4. Review of the 2006 Fishery and ACFM Report from ICES on Salmon Stocks in the Commission Area

4.1 The representative of ICES, Mr Timothy Sheehan, presented the scientific advice relevant to the North American Commission, CNL(07)7. The ACFM report, which contains the scientific advice relevant to all Commissions, is included on page 101 of this document.

5. Review and Discussion of the 2007 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 The representative of the US tabled a report on its Atlantic salmon management and research activities in 2006, NAC(07)3 (Annex 3). This report provided information on: adult returns; stock enhancement programs; tagging and marking programs; the fisheries; commercial aquaculture production; habitat conservation, enhancement and restoration; the Endangered Gulf of Maine Population Segment and additional items of interest.
- 5.2 The representative of Canada tabled a review of its Atlantic salmon management measures for 2007, NAC(07)5 (Annex 4). The report described three major initiatives introduced in 2007 that will positively affect Atlantic salmon conservation. These

are: modernization of the Fisheries Act to put emphasis on the Precautionary Approach to conserve fish and other resources; the introduction to stakeholders of a draft Wild Atlantic Salmon Conservation Policy, the first overhaul of these policies since 1986; and the establishment of an Atlantic Salmon Endowment Fund to which the Federal Government has contributed Can\$30 million. The report also described the regional plans for the management of the aboriginal and recreational fisheries in 2007. There is no commercial salmon fishery in Canada.

6. The St Pierre and Miquelon Salmon Fishery

6.1 The Secretary introduced a report provided by France (in respect of St Pierre and Miquelon), CNL(07)20, containing updated information from the French authorities on the regulatory framework for managing the fishery, providing catch statistics and information on the number and type of licences issued, and describing the sampling programme conducted in 2006. The Commission believed that it would be beneficial if France (in respect of St Pierre and Miquelon) became a Party to the NASCO Convention. The Commission decided to ask the Council to pursue this matter with the French authorities.

7. Salmonid Introductions and Transfers

7.1 The Parties agreed to meet inter-sessionally for discussions on this subject and other issues. The intention would be to hold a meeting this Fall. The meeting would be based on the Framework for an Inter-sessional Meeting of the NAC Parties to Coordinate on Atlantic Salmon, NAC(07)8 (Annex 5). The Commission decided that the agenda for the meeting would be mutually agreed.

8. Sampling in the Labrador Fishery

8.1 The Commission agreed that details of sampling in the Labrador salmon fishery in 2006 had been covered in the presentation by ICES. The representative of Canada confirmed that a similar sampling programme would be in place for the 2007 fishery.

9. Announcement of the Tag Return Incentive Scheme Prize

9.1 The draw for the North American Commission prize in the NASCO Tag Return Incentive Scheme was made by the Auditor on 9 May. The winning tag was of Canadian origin. The tag was applied to a 57.8cm male grilse in August 2006 at a trap-net on the Northwest Miramichi River. It was recaptured on the Little Southwest Miramichi River at Conner's Bogan. The winner of the Commission prize of US\$1,500 was Mr Frank H Somers, Whitney, New Brunswick, Canada. 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 decided to agree its request to ICES when the full request is presented to the Council. The request to ICES, as agreed by the Council, is contained in document CNL(07)14 (Annex 6).

11. Other Business

11.1 The Commission agreed that discussions with regard to the development of a research plan for the Northwest Atlantic component of the SALSEA Programme would continue during the summer with a view to resolving the issue at the inter-sessional meeting on introductions and transfers.

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-Fifth Annual Meeting of the Council in 2008.

13. Report of the Meeting

- 13.1 The Commission agreed a report of the meeting.
- 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 7.

Compte rendu de la Vingt-quatrième réunion annuelle de la Commission Nord-Américaine de l'Organisation pour la Conservation du Saumon de l'Atlantique Nord Hôtel et Marina Harborside, Bar Harbor, Maine, EUA 4 - 8 juin, 2007

1. Séance d'ouverture

- 1.1 Le Président, M. George Lapointe (Etats-Unis) a ouvert la réunion et a souhaité la bienvenue aux délégués à Bar Harbor.
- 1.2 La représentante des ONG, Ms Sue Scott, a prononcé une allocution d'ouverture au nom des ONG (annexe 1).
- 1.3 Une liste des participants à la Vingt-quatrième réunion annuelle du Conseil et des Commissions de l'OCSAN figure à la page 143 de ce document.

2. Adoption de l'ordre du jour

2.1 La Commission a adopté l'ordre du jour, NAC(06)6 (annexe 2).

3. Nomination d'un Rapporteur

3.1 La Commission a nommé, Rapporteur, M. Maurice Mallet (Canada).

4. Examen de la pêcherie de 2006 et rapport du CCGP du CIEM sur les stocks de saumons dans la zone de la Commission

4.1 Le représentant du CIEM, M. Tim Sheehan, a présenté les recommandations scientifiques pertinentes à la Commission, CNL(07)7. Le rapport du CCGP qui énonce les recommandations scientifiques intéressant l'ensemble des Commissions, figure à la page 101 de ce document.

5. Examen et discussion des mesures de gestion du saumon, proposées pour l'année 2007 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 Le représentant des Etats-Unis a présenté un rapport sur la gestion du saumon atlantique des Etats-Unis en 2006 et sur les activités de recherche effectuées au cours de la même année, NAC(07)3 (annexe 3). Ce rapport donnait, entre autres, des informations sur les sujets suivants : remontées des adultes ; programme de mise en valeur des stocks ; programmes de marquage ; pêcheries ; production commerciale d'aquaculture ; conservation de l'habitat (mise en valeur et restauration) ; segment de la population du Maine en risque de disparition.
- 5.2 Le représentant du Canada a exposé les mesures de gestion mises en application par le pays en 2007, NAC(07)5 (annexe 4). Ce rapport décrivait trois initiatives majeures

introduites en 2007 qui joueraient positivement sur la conservation du saumon atlantique, à savoir: la mise à jour du Décret régissant les pêcheries avec une attention plus importante apportée à l'approche préventive en ce qui concernait la conservation des poissons et d'autres ressources ; l'élaboration d'un avant projet de politique sur la Conservation du saumon atlantique sauvage, visant les *stakeholders*. Ces deux mesures représentaient la première remise à jour de ces politiques depuis 1986. A ceci venait s'ajouter un fond de dotation pour le saumon atlantique auquel le gouvernement fédéral avait contribué à hauteur de 30 millions de dollars canadiens. Le rapport décrivait également les programmes de gestion régionaux de 2007 des pêcheries aborigènes et de loisirs. Il n'existait aucune pêcherie commerciale de saumons au Canada.

6. Pêcherie de saumons à Saint-Pierre et Miquelon

6.1 Le Secrétaire a présenté un compte rendu fourni par la France (au titre de Saint Pierre et Miquelon), CNL(07)20, qui renfermait une mise à jour des informations provenant des autorités françaises sur le cadre de réglementation de la gestion de la pêcherie. Ce document donnait des renseignements statistiques et des informations sur le nombre et type de permis octroyés. Il décrivait également le programme d'échantillonnage entrepris en 2006. La Commission était d'avis qu'il serait avantageux d'admettre la France (au titre de Saint Pierre et Miquelon) comme membre à la Convention de l'OCSAN. La Commission a décidé de prier le Conseil de poursuivre la question auprès des autorités françaises.

7. Introductions et transferts de salmonidés

7.1 Le Parties ont convenu de se réunir entre les Réunions annuelles afin de débattre de ce sujet et d'autres questions. Il était ainsi prévu d'organiser une inter-session en automne. La réunion serait basée sur le format des réunions inter-sessionelles des Parties de la CAN et aurait pour objectif la coordination de leurs efforts et de leurs information quant au saumon atlantique NAC(07)8 (annexe 5). La Commission a décidé de fixer l'ordre du jour de la réunion d'un commun accord.

8. Echantillonnage dans la pêcherie du Labrador

8.1 La Commission a convenu que la présentation du CIEM avait couvert en détail la question de l'échantillonnage effectué en 2006 dans la pêcherie du Labrador. Le représentant du Canada a confirmé qu'un programme d'échantillonnage similaire serait en place pour 2007.

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 Commissaire aux comptes le 9 mai 2007. La marque gagnante était d'origine canadienne. Elle avait été posée, en août 2006, sur un grisle mâle de 57,8 cm capturé dans un filet piège dans la rivière Miramichi du Nord-ouest. Ce poisson a été recapturé dans la rivière *Little Southwest Miramichi River* à Conner's Bogan. M. Frank H Somers, de Whitney, au Nouveau Brunswick, Canada 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 La Commission a décidé de ne convenir de sa demande de recommandations que lorsque la demande de recommandations sera présentée au Conseil dans son intégralité. La demande de recommandations scientifiques adressée au CIEM et approuvée par le Conseil figure dans le document CNL(07)14 (annexe 6).

11. Divers

11.1 La Commission a décidé de continuer, pendant l'été, le débat concernant l'élaboration d'un programme de recherches pour l'élément Atlantique Nord-ouest du programme SALSEA ; l'objectif étant de résoudre la question lors de la réunion qui aurait lieu entre les Réunions annuelles sur les introductions et transferts.

12. Date et lieu de la prochaine réunion

12.1 La Commission a convenu de tenir sa prochaine réunion en même temps et au même endroit que la Vingt-cinquième réunion annuelle du Conseil en 2008.

13. Compte rendu de la réunion

13.1 La Commission a accepté le compte rendu de la réunion.

Note: Une liste des documents de la Commission Nord-Américaine figure à l'annexe 7.

ANNEX 1

Joint NGO Statement to the North American Commission

Mr Chairman, NASCO Secretariat, Delegates and Colleagues:

On behalf of the NGOs, I thank the United States and Canada for producing Implementation Plans. We look forward to working with the Parties to further develop the process.

North American large salmon have declined by 89% in 30 years. ICES is predicting poor returns of two-sea-winter salmon to spawn in our rivers from 2007 to 2009, about half the total number that are required to sustain North America's populations. We encourage Canada to heed the advice from ICES that there be no harvest where salmon from various rivers are mixed together, such as in the coastal migration areas. Such fisheries exist off the coast of Labrador. The Implementation Plan Review Group has noted that measures to reduce Labrador's catch of large salmon lack specific details.

We encourage the United States and Canada to urge France to control the fishery at St Pierre et Miquelon which, at 3.55 tonnes (about 800 fish) in 2006, is the highest in recorded history, and intercepts salmon from Canada and the United States. ICES does not give an unreported catch estimate, but the First Nations on Newfoundland's Conne River believe that the fishery is larger than reported, and are concerned that it kills Conne River salmon that they have worked so hard to restore. It is unfortunate that the Government of France is not represented at this meeting.

We thank the Canadian Government for the investment of \$30 million in an endowment that will support watershed conservation projects to restore wild Atlantic salmon.

We urge leadership and funding for acid rain mitigation in Nova Scotia, where 54 rivers are acid-impacted. The Atlantic Salmon Federation and the Nova Scotia Salmon Association are liming West River Sheet Harbour, using Norwegian technology, and initial results are good. The Canadian Government's help is needed to expand this approach.

We applaud the United States for committing, in its Implementation Plan, to establishing with Canada a system of "rapid notification" of reported escapes and of weirs and traps to intercept aquaculture escapees and conduct genetic and fish health assessments of captured escapees.

And finally, we appreciate the contribution of Canada and the United States to SALSEA and urge them to provide continued support.

Twenty-Fourth Annual Meeting of the North American Commission Harborside Hotel and Marina, Bar Harbor, Maine, USA

4 - 8 June, 2007

Agenda

- 1. Opening of the Meeting
- 2. Adoption of the Agenda
- 3. Nomination of a Rapporteur
- 4. Review of the 2006 Fishery and ACFM Report from ICES on Salmon Stocks in the Commission Area
- 5. Review and Discussion of the 2007 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. Sampling in the Labrador Fishery
- 9. Announcement of the Tag Return Incentive Scheme Prize
- 10. Recommendations to the Council on the Request to ICES for Scientific Advice
- 11. Other Business
- 12. Date and Place of the Next Meeting
- 13. Report of the Meeting

ANNEX 3

North American Commission

NAC(07)3

Report on US Atlantic Salmon Management and Research Activities in 2006

Report on US Atlantic Salmon Management and Research Activities in 2006

Adult Returns

In 2006, the total return to USA rivers was 1,480, a 13% increase from 2005 returns. Changes from 2005 by river were: Connecticut (+15%), Merrimack (165%), Penobscot (+6%), Saco (+20%), and Narraguagus (+15%). In addition to catches at traps and weirs (1,422), returns were estimated for the eight core populations that comprise the federally endangered Gulf of Maine Distinct Population Segment (GOM DPS). Data on adult returns and redd counts collected from the Narraguagus, Pleasant, and Dennys rivers have been used to estimate returns to core populations within the GOM DPS using a linear regression [In (returns) = 0.5699 ln(redd count) + 1.3945]. The relationship between these estimates and the returns to the Narraguagus River were used to estimate GOM DPS returns in 2006 because high flows precluded complete redd counts. Seventy-nine adult (90% CI = 49 - 122) fish were estimated to return to the rivers within the GOM DPS.

Stock Enhancement Programs

During 2006 about 12 million juvenile salmon (91% fry) were released into 15 river systems. The number of juveniles released was less than that in 2005 (nearly 14 million). Fry were stocked in the Connecticut, Merrimack, Saco, Penobscot, and six rivers within the geographic range of the GOM DPS in Maine. The 363,379 parr released in 2006 were primarily the by-products of smolt production programs and included ages 0 and 1 fish. Smolts were stocked in the Penobscot (549,200), Merrimack (50,000), Connecticut (53,132), Dennys (56,500), Pleasant (15,200), and Pawcatuck (12,842) rivers. In addition to juveniles, 3,755 adult salmon were released into USA rivers. Most were spent broodstock or broodstock excess to hatchery capacity. However, mature pre-spawn salmon released in the Sheepscot, East Machias, and Machias rivers and Hobart Stream produced redds. In the Merrimack River, excess broodstock were released to support a recreational fishery and to enhance spawning in the watershed.

Mature adults stocked into Sheepscot, East Machias, and Machias rivers and Hobart Stream in the fall were added to USA 2SW returns to calculate spawners. Thus, spawners exceeded returns in 2006 with USA spawners totaling 1,876. Escapement to natural spawning areas was 1,048 (returns – broodstock + stocked pre-spawn adults).

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 473,850 salmon released into USA waters in 2006 was marked or tagged. Tags used on parr, smolts and adults included: Floy, Carlin, HI-Z Turb'N, PIT, radio and acoustical, fin clips, and visual implant elastomer. About 14% of the marked fish were released into the Connecticut River watershed, 18% into the Dennys River watershed, and 57% into the Penobscot River.

Description of Fisheries

Commercial 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). A limited recreational fishery was conducted on reconditioned surplus broodstock released in the Merrimack River. In spring 2006, 592 (age 2 and 3) domestic broodstock were released for the fishery. In the fall of 2006, an additional 640 (age 2) broodstock were released for a combined total release of 1,232 fish to support the fishery in the main stem of the Merrimack River and the lower portion of the Pemigewasset River. The fishery caught an estimated 434 fish, released 424, and kept 10 salmon. In addition, the State of Maine Atlantic Salmon Commission (MASC) authorized a one-month experimental recreational fishery on the Penobscot River, Maine, from 15 September to 15 October 2006. The MASC had the authority to close the fishery during the open season, as necessary, to protect the resource. The primary criterion for temporary closures was river temperature and the fishery was closed for one day, early in the season, when river temperatures exceeded 68°F (20°C). A total of 241 licenses were sold, with 147 anglers complying with reporting requirements. Non-reporting anglers will not be permitted to fish if there is a 2007 season. A total of 247 angler trips were reported (3.4 hours/trip with 2.8 hours spent fishing). Based on trap records, at least 29 adults were present in the area at the time of the fishery. One Atlantic salmon was captured and released just after 7 a.m. on September 27th and an additional 14 Atlantic salmon raised/observed. Despite strict control over authorized recreational fisheries 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. No illegal harvest of Atlantic salmon was documented in 2006.

Commercial Aquaculture Production

Over the last year, several US aquaculture companies have merged into one large producer of salmon for Maine: Cooke Aquaculture. Production of farmed salmon in Maine was estimated at 3,580 metric tonnes in 2006, a decrease from 5,263 t in 2005 and 8,515 t in 2004. Production in three of the last five years has been less than half of the 13,202 t produced in 2001. Stocking of over 3 million smolts in 2006 should result in an increase in harvest totals in 2007/2008.

Habitat Conservation, Enhancement, and Restoration

- In 2006, 18 stream habitat connectivity projects were completed in three of the Downeast Rivers. The principle funding sources were USDA-WHIP, USFWS, MASC-SCEP, Project SHARE, Washington County Soil and Water Conservation District, and private landowner contributions. Four stream-road crossings (culverts) were completely removed in the Machias River watershed. The remaining 14 projects replaced undersized culverts with open-bottom arches that spanned 1.2 times bankfull stream width in the Machias, Narraguagus and East Machias watersheds.
- The Sandy River Dam, located between the towns of Norridgewock and Starks, was decommissioned and the dam/spillway completely breached in 2006. Total cost of the project was \$500,000. Removal of this dam will allow for 52 miles of unimpeded passage for Atlantic salmon and other migratory fish on the Sandy River to Smalls Falls. The MASC has estimated that the Sandy River can provide up to 80 percent of the salmon spawning habitat on the Kennebec River Basin. Removal of the Madison Electric Works dam also offers significant benefits to American eels, which now have

almost full access to the Sandy River due to recent improvements on downstream hydroelectric stations.

- Maine's rivers have experienced dramatic changes over the last 300 years. One of the most sweeping is the removal, lack of recruitment, and subsequent attrition of large woody debris (LWD). The result is that the rivers likely have very low loading of LWD, and thus have less complex fish habitat compared to the past. LWD creates pools, retains gravel, retains nutrients, supports benthic macroinvertebrates, influences current velocities and water depth, provides cover for fishes, and refugia during high water. The value of LWD in Atlantic salmon habitat is undocumented. A project has been implemented to enhance habitat at a scale that will have population-level benefits. with a design that allows powerful evaluation of the effects of LWD additions on stream geomorphology. LWD was added to two sites, each with a paired control site, in Creamer Brook, East Machias Drainage in October, 2006. Streams in the Narraguagus, Machias and East Machias drainages were also evaluated for potential LWD additions in 2007 or 2008. The Creamer Brook sites were scouted and surveyed for similarity and all four sites were surveyed for fish populations immediately prior to the habitat work. Each site was electrofished using multiple pass depletion and fish were weighed, measured and released into their site. LWD was added at a rate of approximately 12 pieces per 100m by cutting trees in the riparian zone and adjusting their placement to achieve either stability or geomorphologic effect. In addition, all LWD (existing and added) in the treatment sites was tagged with metal numeric tags and marked with spray paint. The site was surveyed with a total station before and after LWD placements. Trees were also felled in the riparian zone to increase roughness to minimize channel migration as a result to the LWD additions.
- In 2006, the multi-agency New Hampshire River Restoration Task Force continued to work on identifying dams for removal in the State and pursuing strategic alterations and/or modifications of dams.
- The New England Atlantic Salmon Committee (NEASC) requested that the US Atlantic Salmon Assessment Committee provide a list of the top priority of fish passage projects for New England. NEASC hopes to use this information to leverage funding from a variety of sources to implement these projects. The prioritized list was developed by soliciting information from representatives from each of the New England States responsible for managing Atlantic salmon. NEASC hopes that this initiative will result in a large-scale effort to improve passage and remove obstructions for salmon and other diadromous fish species throughout New England.

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 79 fish (90% CI= 49-122). Scientists estimated the total number of returning salmon to the GOM DPS using capture data on all DPS rivers with trapping facilities (Dennys, Pleasant, and Narraguagus Rivers) combined with redd count data from the other five rivers of this group. Estimated returns are then extrapolated from redd count data using a return redd-regression established from the 1991-2000 Narraguagus River and 2000 Pleasant River assessments by the Maine Atlantic Salmon Commission.

The US Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS), collectively referred to as the Services, have joint responsibility for recovery of the endangered GOM DPS of Atlantic

salmon (*Salmo salar*). In December 2005, the Services finalized the Recovery Plan for the Gulf of Maine DPS of Atlantic Salmon (National Marine Fisheries Service and U.S. Fish and Wildlife Service, 2005). A copy of the Final Recovery Plan is available at the following link: http://www.nmfs.noaa.gov/pr/recovery/. In September 2005, the Northeast Regional Director for the USFWS and the Assistant Administrator for Fisheries for NMFS appointed a Recovery Team to identify priority recovery actions and provide input and recommendations on specific recovery issues. The Services convened a Recovery Team representing a diversity of expertise in order to facilitate implementation of the Recovery Plan. The Recovery Team was asked to develop recommendations to the Services as to what actions identified in the Plan are the most critical to carry out over the next several years. From a list of over 120 actions in the Final Recovery Plan, the Recovery Team developed a list of 30 priority actions for recovery that they recommended to the Services for implementation.

In 2003 the Services assembled an Atlantic Salmon Biological Review Team (BRT) to review and evaluate all relevant scientific information necessary to evaluate whether the population in the Penobscot River and other rivers should be included in the GOM DPS. The populations in the Penobscot and a few other rivers were not included in the GOM DPS at the time it was listed under the ESA in November of 2000 because there was not enough scientific information at that time to demonstrate that those populations were part of the same DPS or constituted a different DPS. Since the listing in 2000, new information has come to light which indicates that the GOM DPS should be re-evaluated to determine if any other populations should be included because they are closely related. The Draft Status Review was completed in January 2006 and underwent peer review. The Center for Independent Experts (CIE) completed the review and the BRT made revisions to the document based upon this critique. The Status Review was made available to the public during the fall of 2006. NMFS is currently considering the information presented in the 2006 Status Review, the comments from the peer reviewers, and the response of the BRT to the peer reviewers to determine if action under the ESA is warranted. NMFS could determine that a change to the boundaries or conservation status of the existing GOM DPS is warranted, that a separate listing action is warranted, or that no action is warranted. If NMFS determined that a modification to the existing listing or a new listing was warranted, then a proposed rule will be published along with the rationale for that proposal.

Additional Items of Interest

- The MASC, USFWS, and NMFS contracted the Sustainable Ecosystems Institute (http://www.sei.org/) to conduct an independent program review to determine if current hatchery operations, protocols, and practices are scientifically sound, have potential to further recovery, and are integrated with population assessment and evaluation programs. The focus question was: Is there integrated adaptive management of Atlantic salmon in Maine? A team of six scientists was convened to review the Maine program. The visit included a tour of CBNFH and two days of presentations by, and discussions with, agency staff and interested scientists (i.e. researchers, managers from other programs, and retirees). The report was provided to the Services and MASC in May 2007.
- NMFS has used ultrasonic telemetry to assess Atlantic salmon smolt migration since 1997. In 2006, naturally-reared (n = 25) and hatchery-reared (n = 25) smolts were tagged and released into the Penobscot River estuary. Fish migration dynamics were passively monitored with ultrasonic receivers moored throughout the estuarine and near-shore marine environment. Survivorship to the furthermost quantitative marine array was 32.0% for hatchery and 56.0% for naturally-reared smolts. Smolts

sometimes reverse direction during emigration; initially moving downstream, reversing direction upstream, then continuing emigration downstream. Reversals were observed for 44% of naturally-reared smolts and 73% of hatchery-reared smolts. The average distance for reversals was 3.18 km for naturally-reared and 4.64 km for hatchery-reared smolts. Total migration time for successful emigrants was shorter for naturally-reared smolts (3.54 days) than for hatchery-reared smolts (4.39 days). In addition to differing in total migration duration, wild and hatchery smolts travel at different times of day. Naturally-reared smolts utilized non-daytime hours for travel more often while hatchery smolts preferred daylight hours through the estuary portion of the migration. Upon entering the open bay, daytime travel made up the largest portion of arrival times for both groups.

- One of the most significant ongoing restoration projects is the Penobscot River • Restoration Project. In June 2004, Pennsylvania Power and Light Corporation filed a multi-party settlement agreement with the Federal Energy Regulatory Commission (FERC) that effectively resolved all fish passage issues for diadromous fish species at their hydroelectric projects on the lower Penobscot River in Maine. The Agreement, which was signed by the US Department of Interior's Bureaus of Fish and Wildlife and Indian Affairs, the National Park Service, the State of Maine, the Penobscot Indian Nation and several Non-Governmental Organizations, details conditions for dam removal, fish passage, and operational changes at eight hydroelectric projects on the lower Penobscot. The partners in the Penobscot Agreement must raise 25 million dollars to purchase the dams within the next 5 years and then another 25 million dollars will need to be raised to support restoration. NMFS has supported fundraising efforts for the Agreement by participating in meetings with the Penobscot Partners concerning fund-raising efforts and we have also worked with various researchers in developing grant proposals for river restoration projects. In addition, the President's budget also currently contains 10 million dollars towards the purchase price and the assessment. Unfortunately, the President's budget could change at any time and therefore those funds are not guaranteed.
- The National Cold Water Marine Aquaculture Center continued USDA efforts to develop a biological and economically suitable North American Atlantic salmon strain for US aquaculture production. The primary research objective is to genetically improve the existing North American stocks through a family-based selective breeding program. This program has received sea-run Penobscot eyed eggs annually since 2004 for this effort.
- The Adopt a Salmon Family Program has been operating for the past 14 years. This 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(07)5

Review of Atlantic Salmon Management Measures for 2007 (tabled by Canada)

Review of Atlantic Salmon Management Measures for 2007 (tabled by Canada)

Introduction

The outlook for Atlantic salmon stocks continues to be generally poor throughout Atlantic Canada and Québec. 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.

Three major initiatives that will positively affect Atlantic salmon conservation have been introduced by the Canadian government in 2007. The first is a modernized *Fisheries Act*, which will put emphasis on the Precautionary Approach to conserve fish and other aquatic resources, and on a science-based approach to fisheries management. This new Act is currently being considered by Canada's Parliament.

Secondly, the Department of Fisheries and Oceans has recently introduced to stakeholders a draft new *Wild Atlantic Salmon Conservation Policy*. This represents the first overhaul of wild Atlantic salmon policies since 1986. The overall goal of this Policy will be to maintain and restore healthy and diverse salmon populations and their habitats for the benefit and enjoyment of the people of Canada now and in the future.

The *Wild Atlantic Salmon Conservation Policy* is intended to transform the approach to conserving Atlantic salmon, their habitat, and dependent ecosystems. Key elements of the policy recognize that:

- Protection of the genetic and geographic diversity of salmon is a prerequisite to their future evolutionary adaptation and long-term well-being;
- Shared stewardship and inherent responsibilities provide the most efficient and effective use of resources to achieve conservation objectives. Decision-making has to be shared and undertaken using open and accountable public processes that are collaborative, inclusive and comprehensive;
- Future success in salmon conservation relies on the use of freshwater, estuarine and marine habitats. Habitat requires effective protection and rehabilitation if salmon are to prosper. This will require partnered approaches with provinces and others;
- Ecosystem integrity must be considered in management decision-making to foster the conservation of salmon in an increasingly uncertain future; and
- Management must be based on good scientific information and consider biological, social, and economic consequences.

The Policy will provide a modernized framework for priority-setting and decision-making with respect to wild Atlantic salmon. The Policy will help guide the delivery of both the approximately C\$10 million annual investment by the federal government in Atlantic salmon and the C\$30 million Atlantic Salmon Endowment Fund.

The third initiative is the Atlantic Salmon Endowment Fund. The federal government has contributed C\$30 million to this Fund, which will be held in trust by an incorporated Board

(the Atlantic Salmon Conservation Foundation). Income earned on the investment of the Fund will be used to fund projects at the local, watershed or broader level that contribute to salmon restoration and conservation in Atlantic Canada and Quebec. The Foundation has recently been established and is organizing project review committees in each province.

Aboriginal Food Fisheries

Aboriginal food fisheries for Atlantic salmon take place throughout Atlantic Canada and Quebec. Aboriginal fisheries for food, social and ceremonial (FSC) 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 with specific allocations of salmon, monitoring system requirements (fishery guardians, logbooks, tagging, etc.) and in some areas where practical, scientific projects such as tagging or gear trials.

In the Gulf Region, Aboriginal FSC fisheries in 2006 occurred in the southern Gulf of St. Lawrence rivers generally in accordance with agreements and communal fishing licences. It is expected that the agreements will be negotiated at approximately the same levels for 2007.

In the Maritimes Region, food fisheries on five rivers in southern Nova Scotia are permitted for fin-clipped hatchery grilse. This limited access is not expected to contribute to any further decline in the stocks.

In Labrador, reduction of the harvest of multi-sea-winter fish continues to be the primary consideration in 2007 for the three directed FSC salmon fisheries (the Innu Nation, Labrador Métis Nation and the Nunatsiavut Government). In 2006, FSC fisheries resulted in the harvest of approximately 30t of salmon. Recent harvests have been below 2004 levels. Allocations for 2007 are still under negotiation with the Aboriginal groups involved, and measures already in place to reduce 2SW catches will continue.

There are 3 user groups with directed FSC access to salmon in Labrador. These fisheries are monitored through dedicated guardian programs and the Department of Fisheries and Oceans. There is also an all-resident trout and char fishery at Upper Lake Melville and the south coast with a limited bycatch of salmon, which is monitored by the Department.

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, ended in 1999.

Recreational Fishery

Newfoundland and Labrador

A new five-year (2007-2011) recreational salmon management plan for Newfoundland and Labrador was announced on 23 May, 2007. Key measures from the previous multi-year plan are maintained, including an adaptive management strategy, river classification system and special watershed management plans, as well as mandatory use of barbless hooks, and river closures based on environmental protocols. No changes for Labrador. For insular

Newfoundland, the changes are a standard season for all zones (1 June - 7 September) and standard retention levels for all Class I rivers.

Maritimes Region

In the Maritimes Region (southern Nova Scotia and Bay of Fundy), only one stock is believed to have met conservation requirements in 2006 (North River, Cape Breton). Inner Bay of Fundy (iBoF) salmon populations are listed as "endangered" under Canada's *Species at Risk Act.* Live-gene banking continues for iBoF salmon; over 3.5 million releases of various life stages to the wild since 2001. Low abundance is expected to continue with possible extirpations in rivers in the Southern Uplands area, which are negatively impacted by acid rain and are generally of low productivity. Live gene banking, i.e., parr to adult grow-out on a rotational basis, is done in priority rivers to prevent extirpations in Saint John River and several Southern Upland rivers.

Given the stock status and the forecast for similar returns in 2007, management options in the Maritimes Region are limited. Complete closures will be applied to most rivers in the Region with some limited hook and release angling opportunities in cold water conditions. Angling licence sales have declined in Nova Scotia by about 74% within the past decade.

Gulf Region

In 2007, the Gulf Region is embarking on a new, multi-year (2007-2011) integrated management plan for Atlantic salmon. The Region's main focus will be to strengthen communications with stakeholders and provinces, to encourage the community-based salmon management organizations to share responsibility in managing the resource and to develop and implement the new integrated management plan.

Key elements in developing the Plan will be to set management objectives, define management measures and to establish the process to involve stakeholders and other interested parties, both in the conduct of the management program and in the decisionmaking process. The management approach will be adaptive and inclusive, based on local capacity and on the roles and responsibilities of the parties, with management activities that could range from a renewed participation in, and collaboration with, the local recreational advisory committees, to a more extensive sharing of the management responsibilities associated with fish and fish habitat for a management unit or on a watershed basis.

Quebec

Quebec has 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 the 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.

ANNEX 5

North American Commission

NAC(07)8

Framework for an Inter-sessional Meeting of the NAC Parties to Coordinate on Atlantic Salmon

Framework for an Inter-sessional Meeting of the NAC Parties to Coordinate on Atlantic Salmon

As noted in the Memorandum of Understanding between Canada and USA (NAC(05)7), introductions and transfers of salmonids in both Canada and the USA may have effects in the other's jurisdiction, and there is a need to coordinate and communicate on such issues. As such, the Parties of the NAC agree to meet inter-sessionally to coordinate on the following issues:

Establishing a communication and notification protocol regarding escapes of farmed salmon so that Federal, State, and provincial authorities in each jurisdiction are notified in a timely manner of such events.

Sharing of information on regulations related to aquaculture practices in each jurisdiction, such as use of non-North American stocks, containment measures, marking schemes, measures to minimize disease transfer, bay management, etc.

Informing each other on the statutory and policy guidelines used in each jurisdiction for management of introductions and transfers in regards to Atlantic salmon.

At this inter-sessional, the Parties will also review, and agree on, the North American research plan for the Northwest Atlantic portion of SALSEA. This research plan will have been developed via coordination between US and Canadian scientists prior to this meeting.

ANNEX 6

CNL(07)14

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 production of farmed and ranched Atlantic salmon in 2007;
- 1.2 report on significant new or emerging threats to, or opportunities for, salmon conservation and management;
- 1.3 examine and report on associations between changes in biological characteristics of all life stages of Atlantic salmon, environmental changes and variations in marine survival with a view to identifying predictors of abundance ¹;
- 1.4 describe the natural range of variability in marine survival with particular emphasis on partitioning mortality to the narrowest geographic scale possible (estuarine, near-shore, offshore, etc.);²
- 1.5 compile information on the marine migration and dispersal of escaped farmed salmon with particular emphasis on movements between countries; ³
- 1.6 provide a compilation of tag releases by country in 2007 and advise on progress with compiling historical tag recovery data from oceanic areas ⁴;
- 1.7 identify relevant data deficiencies, monitoring needs and research requirements; ⁵

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

- 2.1 describe the key events of the 2007 fisheries; ⁶
- 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 review and report on the development of age-specific stock conservation limits, where possible based upon individual river stocks;
- 2.4 describe the status of the stocks and provide annual catch options or alternative management advice for 2009-2011, 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;⁷
- 2.5 further develop methods to forecast PFA for northern and southern stocks with measures of uncertainty.

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

- 3.1 describe the key events of the 2007 fisheries (including the fishery at St Pierre and Miquelon);⁶
- 3.2 report on the biological characteristics (size, age, origin) of the catch in coastal fisheries and potential impacts on non-local salmon stocks.
- 3.3 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;
- 3.4 update age-specific stock conservation limits based on new information as available;

In the event that NASCO informs ICES that the framework (FWI) indicates that reassessment is required:*

3.5 describe the status of the stocks and provide annual catch options or alternative management advice for 2008-2011 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;⁷

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

- 4.1 describe the key events of the 2007 fisheries; ⁶
- 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;

In the event that NASCO informs ICES that the framework (FWI) indicates that reassessment is required:*

4.3 describe the status of stocks and provide annual catch options or alternative management advice for 2008-2010 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.^{7,8}

Notes:

- 1. With regard to question 1.3, there is interest in determining if declines in marine survival coincide with changes in the biological characteristics of juveniles in fresh water or are modifying characteristics of adult fish (size at age, age at maturity, condition, sex ratio, growth rates, etc.) and with environmental changes. In the event that an annual measure is agreed for the West Greenland fishery, this question should be considered a lower priority than the other questions.
- 2. With regard to question 1.4, there is interest in determining the extent to which marine survival regimes are driven by factors in estuarine, nearshore, or offshore environments. To the extent possible, this assessment should focus on discrete stock complexes corresponding to NASCO management objectives. Characterizing these losses could provide regional and stock-specific context for ongoing research and upcoming research initiatives such as SALSEA.
- 3. A number of implementation plans presented by NASCO Parties raised concern about the occurrence in their marine fisheries and rivers of farmed salmon originating in other countries.
- 4. With regard to question 1.6 the data on tag recovery information should be compiled according to the format developed by the ICES Workshop on the Development and Use of Historical Salmon Tagging Information from Oceanic areas
- 5. 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.
- 6. 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.
- 7. In response to questions 2.4, 3.5 and 4.3 provide a detailed explanation and critical examination of any changes to the models used to provide catch advice.

- 8. In response to question 4.3, 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 2.4 and 3.5.
- * The aim should be for NASCO to inform ICES by 31 January of the outcome of utilising the FWI.
ANNEX 7

List of North American Commission Papers

- NAC(07)1 Provisional Agenda
- NAC(07)2 Draft Agenda
- NAC(07)3 Report on US Atlantic Salmon Management and Research Activities in 2006
- NAC(07)4 Draft Report
- NAC(07)5 Review of Atlantic Salmon Management Measures for 2007 (tabled by Canada)
- NAC(07)6 Agenda
- NAC(07)7 Report of the Twenty-Fourth Annual Meeting of the North American Commission
- NAC(07)8 Framework for an Inter-sessional Meeting of the NAC Parties to Coordinate on Atlantic Salmon



REPORT OF THE

TWENTY-FOURTH ANNUAL MEETING

OF THE

NORTH-EAST ATLANTIC COMMISSION

4 - 8 JUNE 2007 BAR HARBOR, MAINE, USA

Chairman:	Mr Richard Cowan (European Union)	
Vice-Chairman:	Mr Kaj Mortensen (Denmark (in respect of the Faroe Islands and Greenland))	
Rapporteur:	Dr Paddy Gargan (European Union)	
Secretary:	Dr Malcolm Windsor	

NEA(07)6

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NEA(07)6

Report of the Twenty-Fourth Annual Meeting of the North-East Atlantic Commission of the North Atlantic Salmon Conservation Organization Harborside Hotel and Marina, Bar Harbor, Maine, USA 4 - 8 June, 2007

1. Opening of the Meeting

- 1.1 In the absence of the Chairman, Mr Steinar Hermansen (Norway), Mr Richard Cowan (European Union) was elected Chairman and he opened the meeting and welcomed the delegates to Bar Harbor.
- 1.2 An opening statement was made on behalf of the Non-Government Organizations (NGOs) attending the Annual Meeting (Annex 1).
- 1.3 A list of participants at the Twenty-Fourth Annual Meeting of the Council and Commissions is included on page 143 of this document.

2. Adoption of the Agenda

2.1 The Commission adopted its agenda, NEA(07)7 (Annex 2), but decided to consider Item 7 (Regulatory Measures) immediately after Item 4 (Review of the 2006 Fishery and ACFM Report from ICES).

3. Nomination of a Rapporteur

3.1 Dr Paddy Gargan (European Union) was appointed as Rapporteur for the meeting.

4. Review of the 2006 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 no fishery had taken place at Faroes in 2006.
- 4.2 The representative of ICES, Mr Timothy Sheehan, presented the scientific advice on salmon stocks relevant to the North-East Atlantic Commission, CNL(07)7. The ACFM report, which contains the scientific advice relevant to all Commissions, is included on page 101 of this document.
- 4.3 The representative of the European Union asked ICES if there was a possibility of developing a framework of indicators for the North-East Atlantic, as was the case for West Greenland. The representative of ICES reported that Southern NEAC salmon stocks have been hovering around the spawner escapement reserve in recent years and consequently there is insufficient data to build a robust model. He said that there are sufficient data in the North American Commission to build a framework of indicators as there is greater contrast in the abundance level in comparison to the conservation limit.

- 4.4 The representative of Denmark (in respect of the Faroe Islands and Greenland) asked the representative of ICES if there was any fishing taking place on river stocks that were not meeting conservation limits. The representative of ICES said that data reported to ICES is country-specific and he did not have the information to report if any salmon river stocks below their conservation limits are being exploited.
- 4.5 The representative of Denmark (in respect of the Faroe Islands and Greenland) asked the Chairman if Parties could provide information as to whether salmon stocks in rivers below conservation limit are being exploited. The representative of the European Union responded that the type of information required was very detailed and river-specific and may not be generally available. He noted that in the Implementation Plan process, more information will become available in terms of the management of fisheries and this issue could be examined as Implementation Plans are revised and submitted to NASCO.
- 4.6 The representative of the NGOs requested the representative of ICES to define what was meant by the term "mixed stock fishery" in the ICES report. The representative of ICES said that NASCO had identified coastal fisheries as representing mixed stock fisheries and ICES was providing advice on that guidance. He said the advice is based on the location in which the fishery takes place. While there is a debate on the definition of a salmon stock, ICES defines stocks as single river stocks and a mixed stock fishery can be described as a fishery made up of multiple stocks. The representative of the NGOs asked how this definition relates to the NASCO Decision Structure. The Secretary noted that with regard to the Decision Structure, mixed stock fisheries are defined as those exploiting stocks from two or more rivers.
- 4.7 The representative of Denmark (in respect of the Faroe Islands and Greenland) commented that Parties do not specifically derive conservation limits for each river but conservation limits are derived for a small number of monitored rivers and transported to all other rivers to provide a conservation limit. The representative of the European Union indicated that conservation limits are ideally developed for specific rivers by conducting long-term monitoring of the river stock. It is not practical to undertake such studies on all rivers and therefore conservation limits are transferred between rivers. This involves relating the conservation limit in the monitored river to its productive area. Conservation limits are then set for other rivers by scaling the value for the monitored river according to their productive areas. As a result, conservation limits for all rivers are based on best available scientific information.
- 4.8 The representative of Denmark (in respect of the Faroe Islands and Greenland) requested clarification from the representative of ICES on a number of issues relating to the Framework of Indicators: the use of hatchery stocks as well as wild stocks, the number of rivers represented in the West Greenland analysis and if datasets which were excluded from the analysis may bias the results. The representative of ICES responded by saying that hatchery stocks do not perform as well as wild stocks but it is the relative performance over time which is important. If there is a strong relationship in the data this can be used as an indicator of the current status of stocks. With regard to the rivers used in the West Greenland analysis, the representative of ICES said that there was a large geographic sampling of datasets across all contributing stock complexes. He said the indicator datasets are not representative of

the absolute number of fish in the ocean but are a relative measure of the stock status as compared to the management objective. For example, a small river contributing a small proportion to a fishery, with a strong indicator relationship with regard to stock status, would provide equal weight as a large river contributing a large proportion to the fishery. There were a number of reasons why some datasets were not included in the analysis, including not meeting pre-defined criteria. While some datasets could not be used, the study group concluded that this was not likely to bias the results.

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

- 5.1 The Secretary gave a brief history of issues relating to this agenda item. In 2004, the Commission had adopted a 'road map', NEA(04)13, for minimizing the risks posed by *G. salaris* and the risk of transmission to non-infested countries. The road map included terms of reference for a Commission Working Group and this Group had reported to the Commission in June 2006. It had not been possible for the Group to meet since the last Annual Meeting. The Secretary asked the Parties if they wished the Working Group to continue to examine the risk of transmission of *G. salaris* and to update the Commission on measures to deal with this parasite.
- 5.2 The representative of the European Union referred to the extensive debate on this issue and the statement made at the Commission's 2006 Annual Meeting, and emphasized that additional guarantees are in place under the new EU Fish Health Directive. He referred to measures being taken in the European Community to prevent the spread of *G. salaris*.
- 5.3 The representative of the European Union reported that in Ireland, a comprehensive Fish Disease Contingency Plan is in the late stages of drafting and includes *G. salaris*. The following issues are covered in the plan:
 - Policy Objective, Legal Framework and Administrative Framework;
 - National Crisis Centre;
 - Communications;
 - Detailed technical instructions for implementation of the contingency plan;
 - Training programmes and laboratory facilities available for implementation of the Contingency Plan;
 - Appropriate action in the event of identifying *G. salaris;*
 - Enforcement and related issues.
- 5.4 If *G. salaris* is suspected or found in Ireland, the Department of Communications, Marine and Natural Resources will liaise with the appropriate authorities in Northern Ireland (the Department of Agriculture and Rural Development) for the purpose of preventing the spread of *G. salaris* throughout the island. In the event of any fish suspected of being infected with the disease Gyrodactylosis, a National Crisis Centre (NCC) will be established to co-ordinate all control measures against the disease.
- 5.5 The representative of the European Union reported that Scotland had established a Task Force on *G. salaris* and had published a contingency plan in 2006. The plan was launched nationally and regionally and has been trialed in a desk study with participation from England, Wales and Norway. Posters and leaflets have been distributed widely, advising visiting anglers of the risks of introduction of *G. salaris* to Scotland. An Aquaculture and Fisheries Act was passed in 2007 and Part 2 of this

Act has provisions with regard to prevention of the spread of *G. salaris* within Scotland. These provisions include restrictions on the movement of fish and fish eggs, provision to clear out fish farms, create barriers in rivers, provide compensation, etc. There is great concern regarding the threat of the introduction of *G. salaris* to Scottish rivers and the potential impact on stocks. NASCO is seen as a good vehicle for all members to work together to prevent the spread of the parasite. A similar plan to that being finalized in Ireland is also in the final stages of preparation in England and Wales.

- 5.6 The representative of Norway commented that, besides the introgression of escaped farm salmon, the greatest threat to salmon stocks in Norway is *G. salaris*. To date, the total number of rivers infected with the parasite has fallen from 46 to 21 rivers. Chemical treatment has been undertaken in 35 infected rivers and the parasite has been eradicated in 15 rivers. Ten rivers are still being monitored and the parasite has re-infected 10 rivers. Because of the level of re-infection, there is a need for a five-year monitoring programme after chemical treatment to confirm the absence of the parasite. Salmon stocks are being re-introduced into three rivers. The budget for the eradication of *G. salaris* has risen from £256,000 per annum over the 1995-1999 period to £4.2 million in 2007. The representative of Norway said that due to the continuing problem with *G. salaris*, the Working Group should continue its work.
- 5.7 The representative of Iceland commented that *G. salaris* was not present in Iceland but the prospects of its introduction were very serious. He supported the continuation of the Working Group and said that the Group may not need to meet on an annual basis but rather could meet as required.
- 5.8 The representative of the NGOs supported the continuation of the Working Group. He commented that the best guarantee to prevent the spread of *G. salaris* was not to allow any transfer of live salmonid material between countries. There was considerable concern, both within NGOs and certain Parties, that since the introduction of WTO guidelines, it was now possible to transfer live salmonids between zones designated as "*G. salaris*-free". Concern had increased, given the reappearance of the parasite in one river from which it had apparently been eliminated. He suggested that additional resources would be required to eradicate the parasite from Norway, as with existing resources the parasite was unlikely to be eradicated before 2024.
- 5.9 The Chairman noted the support for the continuation of the *G. salaris* Working Group and concluded that there was general approval that the Working Group continue to operate. The representative of the European Union expressed support for the continuation of the Working Group but sought more clarity on its role, as this was unclear from the interventions made. The Secretary commented that the Working Group was a place for cooperation and exchange of information. The role of the Group includes:
 - Monitoring the spread of the parasite;
 - Reviewing methods for identifying *G. salaris;*
 - Reviewing treatment methods;
 - Identifying control measures;
 - Considering appropriate measures to prevent the spread of the parasite.

5.10 The Commission agreed that the Working Group should meet prior to the next Annual Meeting of the Commission and that the need for subsequent meetings be reviewed on an annual basis.

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

6.1 It was agreed at the 2003 Annual Meeting of the North-East Atlantic Commission that a pilot programme should be undertaken to determine the fate of salmon released from farms and to study the implications for wild salmon fisheries. Dr Lars Petter Hansen (Norway) presented the results of a study of two releases of farmed salmon in Scotland and Norway in 2006. In April 2006, 678 farmed salmon were released from a farm in the north-west of Scotland and in May, 594 salmon were released from a farm in mid-western Norway. The Norwegian fish were released in areas of high salmon fishing activity. Recapture rates were very low, with a recapture rate of 0.6%and 7.0% respectively for Scottish and Norwegian fish. Norwegian fish were recorded both north and south of the release location but the majority of fish were recaptured in the release area. The study suggests that farmed salmon which escape from Scottish farms in spring are not as abundant as was previously suggested along the Norwegian coast. However, a large escape of farmed fish in Scotland may result in more significant numbers of farmed fish appearing along the Norwegian coast. Recapture data suggest that the released farmed salmon were following the predominant current. Dr Hansen concluded that while it was somewhat controversial to release farmed salmon, there is a need to continue these studies and release salmon at different life stages in order to understand more about the movement and migration of escaped farmed salmon. The Chairman thanked Dr Hansen for his contribution and noted that the issue of salmon farm escapes was a matter of great concern to NASCO.

7. Regulatory Measures

- 7.1 The Chairman commented that there had not been a regulatory measure in the North-East Atlantic Commission for a number of years, although Decisions regarding the Faroes fishery had been agreed annually. He noted that the text of the Convention required a regulatory measure. He asked if Denmark (in respect of the Faroe Islands and Greenland) would be prepared to consider a regulatory measure for 2007. The representative of Denmark (in respect of the Faroe Islands and Greenland) responded by asking if Parties could set out how they regulate homewater fisheries, if there were fisheries in rivers not meeting conservation limits, and if Parties have conservation limits set for each specific river. The representative of the Russian Federation responded by saying that there are no fisheries in Russia that exploit salmon stocks failing to their meet conservation limits. The representative of Iceland commented that there were no mixed stock fisheries in Iceland.
- 7.2 The representative of the European Union noted that the scientific advice was clear, that there was no catch option for a fishery at Faroes that would meet the precautionary management objectives and there was no basis for a fishery for 2008, 2009 or 2010. His preference would be to have a measure in place similar to 2006 and multi-annual in nature. If agreement could not be reached on a multi-annual measure, an annual measure would be the alternative but he indicated that this was the less desirable option as the scientific advice from ICES was unlikely to change over the next three years.

- 7.3 The representative of Norway also agreed that there should be no fishery at Faroes for the next few years. He reported that the total salmon catch in Norway in 2006 was similar to the 2005 catch and a new five-year fishery regulation will come into effect in 2008. This regulation will be aimed at reducing mixed stock fisheries, achieving spawning targets and reducing the relative number of escaped salmon in rivers and spawning stocks. Norway is working on developing spawning targets for all rivers and by 2008 these will be available for most rivers where there is a fishery.
- 7.4 The representative of the Russian Federation supported the view expressed by the European Union that there should be no fishery at Faroes as such a fishery exploiting mixed stocks would be contrary to the ICES advice. The representative of Iceland also agreed with the ICES advice on mixed stock fisheries.
- 7.5 The Chairman asked the representative of Denmark (in respect of the Faroe Islands and Greenland) if a multi-annual measure could be considered in light of the view that the scientific advice from ICES was unlikely to change for a number of years. The representative of Denmark (in respect of the Faroe Islands and Greenland) commented that it was difficult to argue that there should not be a fishery at Faroes when fisheries were operating in homewaters on the same stocks. With regard to a regulatory measure for 2008, he indicated that Denmark (in respect of the Faroe Islands and Greenland) was prepared not to have a quota set for 2008.
- 7.6 The Chairman said that while not setting a quota for 2008 was the less favorable option, he could recommend this option to the Parties in the interests of achieving agreement. He suggested that the Commission accept the willingness of Denmark (in respect of the Faroe Islands and Greenland) to accept a measure with no quota at Faroes in 2008. The representative of the European Union said that while an annual measure was the least preferable option, he could accept this option. The representative of Norway also agreed to accept no quota at Faroes in 2008 provided the guarantees given by Denmark (in respect of the Faroe Islands and Greenland) were in place again for 2008. The representative of Iceland and the representative of the Russian Federation both concurred with the view expressed by Norway. The representative of Denmark (in respect of the Faroe Islands and Greenland) indicated that the measures adopted last year would apply to 2008. The Chairman circulated a Draft Decision regarding the Salmon Fishery in Faroese Waters in 2008 (NEA(07)3). The Commission adopted this Decision, NEA(07)4 (Annex 3).

8. Announcement of the Tag Return Incentive Scheme Prize

8.1 The draw for the North-East Atlantic Commission prize in the NASCO Tag Return Incentive Scheme was made by the Auditor on 9 May 2007. The winning tag was of Russian origin. The tag was applied to an over-wintered one-sea-winter salmon on 7 June 2006 on the Ponoi River, and the tagged fish was recaptured during catch and release fishing on the Ponoi on 10 August 2006 by Mr Daniel Schelokov, Murmansk, Russia.

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

9.1 The Commission agreed the request for scientific advice from ICES prepared by the Standing Scientific Committee in relation to the North-East Atlantic Commission

area. The request to ICES, as agreed by the Council, is contained in document CNL(07)14 (Annex 4).

10. Other Business

10.1 There was no other business.

11. Date and Place of the Next Meeting

11.1 The Commission agreed to hold its next meeting at the Twenty-Fifth meeting of the Council.

12. Report of the Meeting

- 12.1 The Council agreed the report of the meeting.
- Note: The annexes mentioned above begin on page 55, following the French translation of the report of the meeting. A list of North-East Atlantic Commission papers is included in Annex 5.

NEA(07)6

Compte rendu de la Vingt-quatrième réunion annuelle de la Commission de l'Atlantique du Nord-Est de l'Organisation pour la Conservation du Saumon de l'Atlantique Nord Hôtel et Marina Harborside, Bar Harbor, Maine, EUA 4 – 8 juin, 2007

1. Ouverture de la réunion

- 1.1 En l'absence du Président, M. Steinar Hermansen (Norvège), M. Richard Cowan (Union européenne) a été élu Président. M. Richard Cowan a ouvert la réunion et a souhaité aux délégués la bienvenue à Bar Harbor.
- 1.2 Une déclaration d'ouverture a été prononcée au nom des Organisations non gouvernementales présentes à la Réunion annuelle (annexe 1).
- 1.3 Une liste des participants à la Vingt-quatrième réunion annuelle du Conseil et des Commissions de l'OCSAN figure à la page 143 de ce document.

2. Adoption de l'ordre du jour

2.1 La Commission a adopté l'ordre du jour, NEA(07)7 (annexe 2). Elle a néanmoins convenu d'étudier le point 7 (Mesures de réglementation) à la suite du point 4 (Examen de la pêcherie de 2006 et du rapport du CCGP du CIEM).

3. Nomination d'un Rapporteur

3.1 La Commission a nommé le Dr Paddy Gargan (Union européenne), Rapporteur de la réunion.

4. Examen de la pêcherie de 2006 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 en 2006.
- 4.2 Le représentant du CIEM, M. Timothy Sheehan, a présenté les recommandations scientifiques intéressant la Commission de l'Atlantique du Nord-Est, CNL(07)7. Le rapport du CCGP qui énonce les recommandations scientifiques intéressant l'ensemble des Commissions, figure à la page 101 de ce document.
- 4.3 Le représentant de l'Union européenne a demandé au CIEM s'il était possible d'élaborer un cadre d'indicateurs pour l'Atlantique du Nord-est, comme cela avait été fait pour le Groenland occidental. Le représentant du CIEM a indiqué que les stocks de saumons sud de la CANE ne s'étaient guère démarqués ces dernières années du niveau d'échappements pour la reproduction fixé comme limite de conservation. De ce fait, les données n'étaient pas assez suffisantes pour construire un modèle solide. Il a ajouté que dans le cas de la Commission de l'Amérique du Nord, il y avait toutefois

suffisamment de données pour mettre au point un cadre d'indicateurs, vu que le niveau d'abondance divergeait de la limite de conservation d'une façon plus nette.

- 4.4 Le représentant du Danemark (pour les Iles Féroé et le Groenland) a demandé au représentant du CIEM si une pêche avait eu lieu dans les stocks de rivières qui ne satisfaisaient pas les limites de conservation. Le représentant du CIEM a répondu que les données envoyées au CIEM étaient spécifiques à chacun des pays. N'ayant pas l'information requise à sa disposition, il ne pouvait donc pas affirmer d'une façon comme d'une autre si les stocks de saumons de rivière, qui étaient inférieurs à leurs limites de conservations, étaient exploités.
- 4.5 Le représentant du Danemark (pour les Iles Féroé et le Groenland) a demandé au Président si les Parties pouvaient fournir l'information qui indiquerait si les stocks de saumons de rivières se trouvant en dessous de leurs limites de conservation étaient exploités. Le représentant de l'Union européenne a répondu que l'information nécessaire était très précise et propre à chaque rivière. De ce fait, il se pouvait qu'elle ne soit pas disponible pour toutes les rivières. Il a indiqué, qu'au cours du processus de mise en application, de nouvelles informations émergeraient à ce sujet. Cette question pourrait alors être examinée au moment de la révision des programmes de mise en application et de leur soumission à l'OCSAN.
- 4.6 Le représentant des ONG a demandé au représentant du CIEM de définir ce que l'on entendait par le terme « pêcherie de stock mélangé » dans le rapport du CIEM. Le représentant du CIEM a expliqué que l'OCSAN avait identifié les pêcheries côtières comme représentant des pêcheries de stock mélangé et le CIEM apportait ses recommandations sur cette considération. Il a indiqué que les recommandations étaient basées sur l'endroit où se trouvait la pêcherie. Malgré un débat en cours sur la définition de stock de saumon, le CIEM définissait automatiquement un stock comme stock d'une seule rivière. Une pêcherie de stocks mélangés pouvait par conséquent être décrite comme étant constituée de stocks multiples. Le représentant des ONG a demandé comment cette définition se rapportait au Cahier des charges de l'OCSAN. le Secrétaire a noté qu'à cet égard, les pêcheries de stocks mélangés étaient définies comme exploitant des stocks d'un minimum de deux rivières.
- 4.7 Le représentant du Danemark (pour les Iles Féroé et le Groenland) a émis le commentaire que les Parties ne déterminaient pas spécialement des limites de conservation pour chaque rivière, mais que celles-ci étaient déterminées pour un petit nombre de rivières surveillées puis appliquées aux autres rivières pour y établir également une limite de conservation. Le représentant de l'Union européenne a indiqué qu'il était préférable de définir des limites de conservation propres à chaque rivière, en menant une surveillance à long terme du stock de rivière. Il n'était pas possible d'entreprendre des études de ce type sur toutes les rivières et donc les limites de conservation étaient transférées de rivière à rivière. Ce processus exigeait d'établir en premier lieu une corrélation entre la limite de conservation de la rivière sous surveillance et son aire de production. Les limites de conservation sont ensuite fixées pour les autres rivières en adaptant la valeur obtenue pour la rivière sous surveillance selon l'étendue de production de chacune des autres rivières. Ainsi les limites de conservation étaient basées, pour la totalité des rivières, sur la meilleure information scientifique disponible.

4.8 Le représentant du Danemark (pour les Iles Féroé et le Groenland) a demandé au représentant du CIEM de clarifier plusieurs questions se rattachant au cadre des indicateurs, notamment : l'utilisation de stocks d'écloseries comme également de stocks sauvage ; le nombre de cours d'eau représenté dans l'analyse du Groenland Occidental ; et si les groupes de données, qui étaient exclus de l'analyse, pouvaient en biaiser les résultats. Le représentant du CIEM a répondu que même si les stocks d'écloseries ne donnaient pas d'aussi bons résultats que les stocks sauvages, c'était la performance sur une période de temps donnée qui était importante. S'il y avait une forte corrélation entre les données, ceci pouvait être utilisé comme indicateur de l'état actuel des stocks. En ce qui concernait les rivières utilisées dans l'analyse du Groenland Occidental, le représentant du CIEM a déclaré que l'on avait eu recours pour l'ensemble des complexes de stocks à des groupes de données d'échantillonnage recouvrant une large étendue géographique. Il a signalé que les groupes de données indicateurs ne représentaient pas le nombre de poissons dans l'océan d'une façon absolue, mais étaient, pour ce qui est de l'objectif de gestion, une mesure relative de l'état du stock. Par exemple, un petit cours d'eau qui ne procurait qu'une petite proportion des poissons d'une pêcherie, mais qui affichait une solide corrélation d'indicateurs en ce qui concernait l'état du stock, fournirait un poids aussi important qu'une rivière plus importante qui procurait une grande proportion des poissons de la pêcherie. Nombre de raisons expliquaient l'absence de certaines données dans l'analyse, dont notamment le fait qu'elles ne satisfaisaient pas certains critères définis. Toutefois et même si certains groupes de données ne pouvaient pas être utilisés, le groupe d'étude avait conclu que ceci n'influencerait probablement pas les résultats.

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

- 5.1 Le Secrétaire a retracé brièvement l'historique des questions liées à ce point de l'ordre du jour. En 2004, la Commission avait adopté une « feuille de route », NEA(04)13, en vue de minimiser les dangers posés par le *G. salaris* et le danger de transmission de ce parasite aux pays non contaminés. La « feuille de route » comprenait un mandat destiné à un Groupe de travail de la Commission. Celui-ci avait rendu compte de son activité en juin 2006. Les membres du groupe n'avaient pas pu se rencontrer depuis la dernière Réunion annuelle. Le Secrétaire a demandé aux Parties, si elles désiraient que le Groupe de Travail continue à étudier le risque de transmission du *G. salaris* et à informer la Commission de toutes mesures nouvelles introduites pour faire face à ce parasite.
- 5.2 Le représentant de l'Union européenne a rappelé le long débat que cette question avait engendré lors de la Réunion annuelle de 2006 de la Commission et la déclaration faite à ce sujet. Il a aussi mis l'accent sur le fait que, grâce à la nouvelle Directive européenne concernant la santé des poissons, des garanties supplémentaires étaient désormais en place. Il s'est reporté aux mesures prises au sein de la Communauté européenne visant à éviter la propagation du *G. salaris*.
- 5.3 Le représentant de l'Union européenne a déclaré qu'en Irlande, la rédaction d'un Plan d'urgence exhaustif, s'adressant aux maladies de poissons, était sur le point d'être achevée. Ce plan incluait le *G. salaris* et couvrait les points suivants :
 - Objectif politique, Cadre juridique et Cadre administratif ;
 - Centre National de Crise ;
 - Communications ;

- Instructions techniques détaillées pour une mise en application du plan d'urgence ;
- Programmes de formation et laboratoires disponibles à la mise en application du Plan d'urgence ;
- Action appropriée à prendre dans l'éventualité d'une identification du *G. salaris*;
- Exécution et questions connexes.
- 5.4 En Irlande, au cas où l'on suspecterait une présence du *G. salaris* ou si ce parasite était réellement présent le Service des Communications, Ressources marine et naturelle (*Communications, Marine and Natural Resources*) se mettrait en contact avec les autorités appropriées d'Irlande du Nord, à savoir le Service de l'Agriculture et de l'Aménagement des Zones rurales (*Department of Agriculture and Rural Development*) en vue d'éviter la propagation du *G. salaris* dans toute l'île. S'il y avait des raisons de penser qu'un poisson soit infecté de la maladie Gyrodactylosis, un Centre de Crise National (CCN) serait établi pour coordonner l'ensemble des mesures de contrôle contre la maladie.
- 5.5 Le représentant de l'Union européenne a indiqué qu'en 2006, l'Ecosse avait établi une Force opérationnelle (Task Force) sur le G. salaris et avait publié un plan d'urgence. Le plan avait été lancé au niveau national et régional ; de plus, un test sur document en avait été effectué avec la participation de l'Angleterre, du Pays de Galles et de la Norvège. Des posters et des dépliants avertissant les pêcheurs à la ligne de passage d'une possibilité d'introduction du G. salaris en Ecosse avaient par ailleurs fait l'objet d'une grande diffusion. Un décret portant sur l'aquaculture et les pêcheries avait été adopté en 2007. La seconde partie de ce décret comporte des dispositions concernant la prévention de la propagation du G. salaris au sein de l'Ecosse. Ces dispositions comprennent des restrictions sur les mouvements de poissons et d'œufs de poissons, l'extermination de la totalité des stocks dans les élevages contaminés, la création de barrières dans les cours d'eau, l'allocation de compensation, etc. La menace d'une introduction du G. salaris dans les cours d'eau d'Ecosse et les effets nuisibles potentiels que ceci représentait, suscitaient une grande inquiétude. L'OCSAN était considéré comme le véhicule approprié pour faciliter, entre ses différents membres, une action collective contre la propagation de ce parasite. En Angleterre et au Pays de Galles, un plan, semblable à celui qui était en train d'être achevé en Irlande, était en voie de finalisation.
- 5.6 Le représentant de la Norvège a indiqué que, mise à part l'intrusion des saumons échappés d'élevage, la plus grande menace envers les stocks de saumons en Norvège était le *G. salaris*. Aujourd'hui le nombre total de rivières infectées par le parasite était passé de 46 à 21 rivières. Des traitements chimiques avaient été entrepris sur 35 rivières infectées et le parasite avait été détruit dans 15 de ces rivières. On continuait à en surveiller dix. Le parasite avait réinfecté les 10 dernières rivières. À cause du niveau de ré-infection, il était nécessaire de mettre en place, à la suite du traitement chimique, un programme de contrôle quinquennal afin de garantir l'absence totale du parasite. Un repeuplement de trois rivières avec des stocks de saumons était en cours. Le budget alloué à l'éradication du *G. salaris* était passé de £256,000 par an (au cours de la période de 1995 à 1999) à £ 4,2 millions en 2007. Le représentant de la Norvège a déclaré que le Groupe de travail chargé de ce parasite devrait continuer son travail, étant donné la persistance du problème que le *G. salaris* représentait.

- 5.7 Le représentant de l'Islande a signalé l'absence du *G. salaris* dans son pays, mais la possibilité d'une introduction de ce parasite, toujours possible, représentait un problème très grave. Il approuvait la continuation du Groupe de travail même s'il n'avait pas nécessairement besoin de se réunir chaque année, et seulement en cas de besoin.
- 5.8 Le représentant des ONG a également cautionné la continuation du Groupe de travail. Il a suggéré que la meilleure garantie d'éviter la propagation du *G. salaris* était de ne permettre aucun transfert, de quelque nature que ce soit, de salmonidés vivants d'un pays à l'autre. Or depuis l'introduction des directives de l'OMC, il était possible de transférer des salmonidés vivants d'une zone désignée comme « exempte de *G. salaris* » à une autre, ce qui suscitait une grande inquiétude au sein des ONG tout comme au sein de certaines Parties. L'inquiétude grandissait, vu la réapparition du parasite dans une rivière d'où il avait été éliminé. Le représentant des ONG a donc suggéré que, pour éradiquer le parasite de la Norvège, des ressources supplémentaires étaient nécessaires. Avec celles existantes, il était en effet peu probable que le parasite serait éradiqué avant 2024.
- 5.9 Le Président a pris acte du soutien pour le maintien du Groupe de travail sur le *G. salaris* et en a conclu que le consensus était favorable à sa continuation. Le représentant de l'Union européenne a exprimé son soutien pour le maintien du Groupe de travail, mais a cherché à obtenir plus de clarté sur son rôle. D'après les interventions faites, ceci, en effet, n'était pas clair. Le Secrétaire a indiqué que le Groupe de travail représentait un forum de coopération et d'échange d'information. Le rôle du Groupe incluait :
 - La surveillance de la propagation du parasite;
 - L'examen des méthodes servant à identifier le *G. salaris;*
 - L'étude des méthodes de traitement ;
 - L'identification des mesures de contrôle ;
 - D'envisager les mesures appropriées afin d'éviter la propagation du parasite.
- 5.10 La Commission a convenu qu'il serait bon que le Groupe de travail se rencontre avant la prochaine Réunion annuelle de la Commission. Il serait également approprié de décider de la nécessité de réunions futures une fois par an.

6. Compte rendu d'une Etude pilote menée pour améliorer la compréhension de la migration, dispersion et survie des saumons échappés d'élevage

6.1 Il avait été convenu lors de la Réunion annuelle de 2003 de la Commission de l'Atlantique du Nord-Est qu'un programme pilote serait entrepris afin de déterminer le sort des saumons relâchés d'élevages et afin d'étudier les implications que représentaient les pêcheries de saumons sauvages. Le Dr Lars Petter Hansen (Norvège) a présenté les conclusions d'une étude portant sur deux relâchements de saumons d'élevage effectués à partir d'établissements en Ecosse et en Norvège en 2006. En avril 2006, 678 saumons d'élevage ont été relâchés d'un élevage situé dans le nord-ouest de l'Ecosse et en mai, 594 saumons ont été libérés d'un élevage situé dans la région ouest du centre de la Norvège. Les poissons norvégiens avaient été relâchés dans des zones de grande pêche au saumon. Les taux de re-capture étaient très bas; 0,6% et 7.0% respectivement pour les poissons écossais et norvégiens. Même si on avait enregistré des poissons de Norvège au nord comme au sud du site

de relâchement, la majorité des poissons avait néanmoins été re-capturée dans la zone de relâchement. L'étude porte à croire que les saumons d'élevage qui s'échappent des élevages d'Ecosse au printemps ne sont pas aussi abondants le long des côtes norvégiennes qu'il ne l'avait été suggéré auparavant. Cependant, un échappement important de poissons d'élevage d'Ecosse pourrait résulter en une plus grande présence de poissons d'élevage le long de la côte norvégienne. Selon les données de re-capture, les saumons relâchés d'élevage suivaient le courant prédominant. En conclusion, le Dr Hansen a déclaré que, bien que le relâchement de saumons d'élevage soit un sujet quelque peu controversé, il s'avérait nécessaire de poursuivre ces études et de relâcher des saumons à différents stades de leur vie afin de mieux comprendre les déplacements et migrations des saumons échappés d'élevage. Le Président a remercié le Dr Hansen de sa contribution et a souligné que la question d'échappement de saumons d'élevage constituait pour l'OCSAN un sujet de grande inquiétude.

7. Mesures de réglementation

- 7.1 Le Président a fait remarquer que depuis plusieurs années il n'y avait pas eu de mesure de réglementation concernant la Commission de l'Atlantique Nord-Est, même si des Décisions étaient prises chaque année à propos de la pêcherie féringienne. Il a indiqué que le texte de la Convention exigeait l'établissement d'une mesure de réglementation. Il a demandé si le Danemark (pour les Iles Féroé et le Groenland) était prêt à envisager cette mesure pour 2007. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a répondu à cette question en demandant si les Parties pouvaient décrire la façon dont elles réglementaient les pêcheries situées dans les eaux territoriales. Il a demandé aussi s'il existait des pêcheries dans les cours d'eau qui ne satisfaisaient pas leurs limites de conservation et si les Parties fixaient des limites de conservation pour chaque rivière particulière. Le représentant de la Fédération de Russie a affirmé qu'en Russie, il n'existait aucune pêcherie qui exploitait les stocks de saumons se trouvant en dessous de leurs limites de conservation. Le représentant de l'Islande a fait remarquer qu'il n'existait aucune pêcherie de stocks mélangés en Islande.
- 7.2 Le représentant de l'Union européenne a fait remarquer que les recommandations scientifiques étaient claires, qu'aucune option de capture effectuée dans le cadre d'une pêcherie aux Iles Féroé satisferaient les objectifs d'une gestion préventive et qu'il n'y avait aucune justification qui puisse soutenir une pêcherie en 2008, 2009 ou 2010. Ce qu'il préférerait voir se réaliser était l'instauration d'une mesure semblable à celle de 2006 et, de nature, pluriannuelle. Au cas ou un accord ne pourrait pas être conclu sur une mesure pluriannuelle, une mesure annuelle serait une autre possibilité. Toutefois, à son avis, cette option serait moins souhaitable puisque les recommandations du CIEM ne changeraient probablement pas au cours des trois prochaines années.
- 7.3 Le représentant de la Norvège a également convenu qu'au cours des prochaines années aucune pêche ne devrait avoir lieu aux Iles Féroé. Il a mentionné que la totalité des captures de saumons en Norvège en 2006 était semblable à celle de 2005 et qu'un nouveau règlement quinquennal entrerait en vigueur en 2008. Ce règlement aurait pour objectif de réduire le nombre de pêcheries de stocks mélangés, de faire en sorte que les objectifs de frai soient atteints et de diminuer le nombre relatif de saumons échappés d'élevage dans les stocks de rivières et les stocks de reproduction. La Norvège s'attache à fixer des cibles de reproduction pour l'ensemble de ses rivières.

Ces cibles seront disponibles, dès 2008, pour la plupart des rivières abritant une pêcherie.

- 7.4 Le représentant de la Fédération de Russie a entériné l'opinion exprimée par le représentant de l'Union européenne, à savoir qu'il ne devrait y avoir aucune pêcherie aux Iles Féroé, puisqu'une telle pêcherie, exploitant des stocks mélangés, serait à l'encontre des recommandations du CIEM. Le représentant de l'Islande a également appuyé les recommandations du CIEM concernant les pêcheries de stocks mélangés.
- 7.5 Etant donné qu'il était reconnu que les recommandations du CIEM ne changeraient probablement pas pendant plusieurs années, le Président a demandé au représentant du Danemark (pour les Iles Féroé et le Groenland) s'il était possible d'envisager une mesure pluriannuelle. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a indiqué qu'il était difficile d'avancer l'argument qu'il ne devrait y avoir aucune pêcherie aux Iles Féroé alors que des pêcheries, opérant dans les eaux territoriales, exploitaient les mêmes stocks. En ce qui concernait la question de mesure de réglementation pour 2008, il a ajouté que le Danemark (pour les Iles Féroé et le Groenland) était prêt à ne pas fixer de quota pour 2008.
- 7.6 Le Président a déclaré que ne pas fixer de quota pour 2008 était l'option la moins favorable. Il la recommanderait toutefois aux Parties en vue d'obtenir un accord. Il a suggéré que la Commission accepte la bonne volonté du Danemark (pour les Iles Féroé et le Groenland) dans son acceptation d'une mesure sans quota pour les Iles Féroé en 2008. Le représentant de l'Union européenne a confirmé qu'il pouvait accepter cette option, même si une mesure annuelle était, de loin, l'option la moins souhaitable. Le représentant de la Norvège a également convenu d'accepter une absence de quota aux Iles Féroé pour 2008, à la condition que les garanties données auparavant par le Danemark (pour les Iles Féroé et le Groenland) soient de nouveau en place en 2008. Les représentants de l'Islande et de la Fédération de Russie ont chacun entériné l'opinion exprimée par la Norvège. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a confirmé que les mesures adoptées l'année précédente seraient également en vigueur en 2008. Le Président a fait circuler un Avant projet de prise de décision concernant la pêcherie de saumons dans les eaux féringiennes en 2008 (NEA(07)3). La Commission a adopté cette décision, NEA(07)4 (annexe 3).

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

8.1 Le tirage au sort du prix de la Commission du Groenland Occidental du Programme d'encouragement au renvoi des marques de l'OCSAN a été effectué par le Commissaire aux comptes le 9 mai 2007. La marque gagnante était d'origine russe. Elle avait été posée sur un saumon 1HM le 7 juin 2006 dans la rivière Ponoi où il avait passé l'hiver. Le poisson marqué avait été re-capturé lors d'une pêche avec remise à l'eau des prise, dans la rivière Ponoi le 10 août 2006 par M. Daniel Schelokov, de Mourmansk, en Russie.

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

9.1 La Commission a approuvé la demande de recommandations scientifiques concernant la zone de la Commission de l'Atlantique Nord-Est, telle qu'elle avait été préparée par

le Comité scientifique permanent et adressée au CIEM. La demande de recommandations scientifiques, approuvée par le Conseil, figure dans le document CNL(07)14 (annexe 4).

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 lors de la Vingt-cinquième réunion du Conseil.

12. Compte rendu de la réunion

- 12.1 La Commission a accepté le compte rendu de la réunion.
- Note: Une liste des documents de la Commission de l'Atlantique du Nord-Est figure à l'annexe 5.

ANNEX 1

Joint NGO Statement to the North-East Atlantic Commission

Mr Chairman, colleagues:

In our opening statement to Council we indicated the issues of major concern to NGOs and the need to ensure that they are adequately addressed in the Implementation Plans of Parties. I would like to drill down in a little more detail to the issues which should concern this Commission.

Mixed stock fisheries

In the light of the ICES advice, we urge Parties to address the issue of their remaining mixed stock coastal fisheries. While we acknowledge the major steps which have already been taken in many countries – Ireland closing their drift net fishery, Northern Ireland and Ireland decommissioning 128 salmon nets in the Foyle area, Scotland closing the Strathy fishery on top of large reductions in coastal netting in recent years, England and Wales closing the major part of the North East Coast Drift Net fishery, a regional buy-out of some coastal nets in Norway – it is a fact that numbers of coastal fisheries remain in all these countries and, taken together, are responsible for some 40 - 50% of the total catch in the NEAC area. In terms of numbers of fish caught, the culprits are, in descending order, Norway, Scotland, England and Wales and Ireland/Northern Ireland. We call on the Parties involved to establish a timescale for closure of these fisheries. We appreciate that this may involve some pain, it may involve public and/or private sector funding, but this is precisely the kind of detailed commitment that we believe Parties should be developing in their Implementation Plans.

Habitat

There are concerns in many countries at continuing loss of salmon habitat due to a wide range of factors. This issue was not particularly well addressed in many Implementation Plans. The EU Water Framework Directive, which aims to establish good ecological quality in all surface waters and groundwaters over the period 2009 - 2027, offers a good opportunity for countries to co-ordinate their salmon management plans with river basin plans under the Directive.

Impacts of aquaculture

In the light of continued high levels of escapes from Norwegian salmon farms (900,000 fish last year), we welcome the announcement made by Norway yesterday of a programme to develop sterile fish. However, we point out that the industry are actively resistant to this idea, which may take many years to develop and introduce. In the meantime, while the adoption of a zero-escape policy by the industry is laudable, we expect to see rigorous management action to address the situation on the ground, which actually shows an increasing trend. The magnitude of escapes in Scotland is somewhat less, but again the trend is not downwards. Some good measures are included in the Norwegian Implementation Plan, and we would expect to see similar containment measures introduced, as well as reducing targets set for escapes in all countries that produce farmed salmon. There are real concerns about the long-term impact of interbreeding between escaped farm salmon and wild fish.

We note with interest the information in the ICES report of definitive scientific evidence from Norway of secondary impacts of sea lice on survival of migrating post-smolts. This reinforces previous evidence presented at the Bergen symposium and our concerns about the impact of high farm-generated concentrations of lice on wild salmon; we call for countries to introduce target levels for numbers of ovigerous lice during smolt migration, and the rigorous enforcement of inspection and treatment regimes. These targets should be an integral part of Implementation Plans, or part of the detailed management targets for Area or Bay Management Agreements.

In terms of good news, we applaud the Norwegian government for the designation of 52 rivers and 19 fjords as national salmon reserves, although this is tempered by the concern that some existing fish farms may be permitted to continue operating in some fjords. The commitment to eradicate *Gyrodactylus salaris* is obviously welcome, but the sums of money allocated are still not enough.

Last year, we raised the issue of transfer of live fish within Europe as a consequence of new WTO regulations, and the potential for introduction of parasites (like Gs), which can devastate wild salmon stocks, and diseases such as ISA and VHS, which could have serious consequences for both wild and farmed fish. We would be grateful for an update from the EU on the current position.

We note that SALSEA rightly continues to be NASCO's top research priority; we urge all Parties and their member nations to support the project with vigour, in terms of providing research vessels, scientific support and financial assistance.

Finally, Mr Chairman, we hope this Commission can continue to make progress towards the adoption of multi-annual measures for the Faroese fishery.

NEA(07)7

Twenty-Fourth Annual Meeting of the North-East Atlantic Commission Harborside Hotel and Marina, Bar Harbor, Maine, USA

4 - 8 June, 2007

Agenda

- 1. Opening of the Meeting
- 2. Adoption of the Agenda
- 3. Nomination of a Rapporteur
- 4. Review of the 2006 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

NEA(07)4

Decision regarding the Salmon Fishery in Faroese Waters 2008

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;

RECALLING that the Parties to the North-East Atlantic Commission have previously agreed decisions for the Faroese fishery based on the scientific advice from ICES;

ACKNOWLEDGING that in the past the Faroe Islands have managed the salmon fishery in the area of its fisheries jurisdiction in consideration of the advice from ICES concerning the biological situation and the status of the stocks contributing to the fishery;

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 socioeconomic needs;

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;

RECOGNIZING that ICES considers it highly unlikely that the catch options provided for the North-East Atlantic Commission will change during the next three years;

NOTING that Denmark (in respect of the Faroe Islands and Greenland) will, in case of any decision to open the fishery, inform the 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 Procedure;

RECOGNISING that a Framework of Indicators has not been provided by ICES;

HEREBY DECIDES:

Not to set a quota for the salmon fishery in the Faroese Fisheries Zone for 2008.

ANNEX 4

CNL(07)14

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 production of farmed and ranched Atlantic salmon in 2007;
- 1.2 report on significant new or emerging threats to, or opportunities for, salmon conservation and management;
- 1.3 examine and report on associations between changes in biological characteristics of all life stages of Atlantic salmon, environmental changes and variations in marine survival with a view to identifying predictors of abundance ¹;
- 1.4 describe the natural range of variability in marine survival with particular emphasis on partitioning mortality to the narrowest geographic scale possible (estuarine, near-shore, offshore, etc.);²
- 1.5 compile information on the marine migration and dispersal of escaped farmed salmon with particular emphasis on movements between countries; ³
- 1.6 provide a compilation of tag releases by country in 2007 and advise on progress with compiling historical tag recovery data from oceanic areas ⁴;
- 1.7 identify relevant data deficiencies, monitoring needs and research requirements; ⁵

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

- 2.1 describe the key events of the 2007 fisheries; ⁶
- 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 review and report on the development of age-specific stock conservation limits, where possible based upon individual river stocks;
- 2.4 describe the status of the stocks and provide annual catch options or alternative management advice for 2009-2011, 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;⁷
- 2.5 further develop methods to forecast PFA for northern and southern stocks with measures of uncertainty.

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

- 3.1 describe the key events of the 2007 fisheries (including the fishery at St Pierre and Miquelon);⁶
- 3.2 report on the biological characteristics (size, age, origin) of the catch in coastal fisheries and potential impacts on non-local salmon stocks.
- 3.3 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;
- 3.4 update age-specific stock conservation limits based on new information as available;

In the event that NASCO informs ICES that the framework (FWI) indicates that reassessment is required:*

3.5 describe the status of the stocks and provide annual catch options or alternative management advice for 2008-2011 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;⁷

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

- 4.1 describe the key events of the 2007 fisheries; ⁶
- 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;

In the event that NASCO informs ICES that the framework (FWI) indicates that reassessment is required:*

4.3 describe the status of stocks and provide annual catch options or alternative management advice for 2008-2010 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.^{7,8}

Notes:

- 1. With regard to question 1.3, there is interest in determining if declines in marine survival coincide with changes in the biological characteristics of juveniles in fresh water or are modifying characteristics of adult fish (size at age, age at maturity, condition, sex ratio, growth rates, etc.) and with environmental changes. In the event that an annual measure is agreed for the West Greenland fishery, this question should be considered a lower priority than the other questions.
- 2. With regard to question 1.4, there is interest in determining the extent to which marine survival regimes are driven by factors in estuarine, nearshore, or offshore environments. To the extent possible, this assessment should focus on discrete stock complexes corresponding to NASCO management objectives. Characterizing these losses could provide regional and stock-specific context for ongoing research and upcoming research initiatives such as SALSEA.
- 3. A number of implementation plans presented by NASCO Parties raised concern about the occurrence in their marine fisheries and rivers of farmed salmon originating in other countries.
- 4. With regard to question 1.6 the data on tag recovery information should be compiled according to the format developed by the ICES Workshop on the Development and Use of Historical Salmon Tagging Information from Oceanic areas
- 5. 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.
- 6. 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.
- 7. In response to questions 2.4, 3.5 and 4.3 provide a detailed explanation and critical examination of any changes to the models used to provide catch advice.

- 8. In response to question 4.3, 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 2.4 and 3.5.
- * The aim should be for NASCO to inform ICES by 31 January of the outcome of utilising the FWI.

ANNEX 5

List of North-East Atlantic Commission Papers

- NEA(07)1 Provisional Agenda
- NEA(07)2 Draft Agenda
- NEA(07)3 Draft Decision regarding the Salmon Fishery in Faroese Waters 2008
- NEA(07)4 Decision regarding the Salmon Fishery in Faroese Waters 2008
- NEA(07)5 Draft Report
- NEA(07)6 Report of the Twenty-Fourth Annual Meeting of the North-East Atlantic Commission
- NEA(07)7 Agenda



REPORT OF THE

TWENTY-FOURTH ANNUAL MEETING

OF THE

WEST GREENLAND COMMISSION

4 - 8 JUNE 2007 BAR HARBOR, MAINE, USA

Chairman:	Mr Guy Beaupré (Canada)
Vice-Chairman:	Mr Alan Gray (European Union)
Rapporteur:	Ms Jessica Pruden (United States)
Secretary:	Dr Malcolm Windsor

WGC(07)6
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WGC(07)6

Report of the Twenty-Fourth Annual Meeting of the West Greenland Commission of the North Atlantic Salmon Conservation Organization Harborside Hotel and Marina, Bar Harbor, Maine, USA 4 - 8 June, 2007

1. Opening of the Meeting

- 1.1 The Chairman, Mr Guy Beaupré (Canada), opened the meeting.
- 1.2 There were no initial statements from the Parties. The NGO Chairman, Mr Chris Poupard, designated Ms Sue Scott of the Atlantic Salmon Federation to make an opening statement on behalf of the NGOs (Annex 1). The NGOs recommended to the Parties that the West Greenland Commission achieve a multi-year agreement for Greenland's commercial fishery, a reduction of the present 20-tonne allowance for Greenland's subsistence fishery, and better monitoring to control all fisheries, including unreported catch.
- 1.3 A list of participants at the Twenty-Fourth Annual Meeting of the Council and Commissions is included on page 143 of this document.

2. Adoption of the Agenda

2.1 The Commission adopted its agenda, WGC(07)7 (Annex 2).

3. Nomination of a Rapporteur

3.1 The Commission appointed Ms Jessica Pruden (United States) as its Rapporteur for the meeting.

4. Review of the 2006 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) presented a paper on the 2006 fishery at West Greenland, WGC(07)4 (Annex 3).
- 4.2 The representative of ICES, Mr Timothy Sheehan, presented the scientific advice from ICES relevant to the West Greenland Commission, prepared in response to a request from the Commission at its Twenty-Third Annual Meeting. The ACFM report from ICES, which contains the scientific advice relevant to all Commissions is found in CNL(07)7. The ACFM report, which contains the scientific advice relevant to all Commissions, is included on page 101 of this document. The overhead presentation is included in CNL(07)53.
- 4.3 The Chairman thanked the representative of ICES for his presentation.

- 4.4 The representative of the European Union asked why there was a disparity between the level of catch reported by West Greenland in document WGC(07)4 (22.8 tonnes) and the level reported by ICES in the ACFM report (20.7 tonnes). The representative of the European Union commented on the relationship between the disproportionately high level of catch reported in the final weeks of the fishery and the public education television campaign that ran at the end of the season. The representative of the European Union also commented upon the catch distribution ratio, specifically noting that there seemed to be a higher proportion of salmon of European origin in Division 1A. The representative of ICES stated that he was unsure as to why there is a discrepancy in the reported catch values, but that it may be attributed to how the catch is reported (i.e. gutted weight vs. whole). The representative of Denmark (in respect of the Faroe Islands and Greenland) stated that the discrepancy between the two values resulted from the initial report of the catch being expressed in gutted weight. With respect to the continent-of-origin distribution question, the representative of ICES stated that he could not give any explanation as to why more salmon of European origin were found in Division 1A. He agreed that there appears to be a strong link between the television campaign and the high levels of reported catch at the end of the season; however, there was no representative from Denmark (in respect of the Faroe Islands and Greenland) at the Working Group on North Atlantic Salmon meeting to confirm this. The representative of Denmark (in respect of the Faroe Islands and Greenland) stated that it was likely that the television campaign did influence the level of reported catch at the end of the season. The NGO Chairman asked for clarification from the representative of Denmark (in respect of the Faroe Islands and Greenland) as to whether the catch being reported after the television campaign was from earlier in the season or a reflection of higher catch at the end of the season. The representative of Denmark (in respect of the Faroe Islands and Greenland) stated that it was likely that the catch was from earlier in the season, but that he would have to verify that information.
- 4.5 The ICES representative presented an overview of the Framework of Indicators (FWI). The representative of the United States expressed appreciation to ICES on the development of the FWI and stated that the United States was confident in recommending that there should be no catch. The representative of the United States asked the representative of ICES to characterize the robustness of the FWI. The representative of ICES stated that the FWI is very robust; it was drafted by an ICES study group and then sent to, and reviewed by, the Working Group on North Atlantic Salmon and finally reviewed and approved by ACFM. The representatives from Canada and the European Union commended ICES on development of the FWI. The representative of Denmark (in respect of the Faroe Islands and Greenland) also commended ICES on the FWI.

5. **Regulatory Measures**

5.1 The Chairman stated that, last year, the Parties agreed to request a finalized FWI from ICES. The Chairman stated that the Parties now have the FWI and must make a decision on whether it is satisfactory or not. If the FWI is satisfactory to all Parties then the multi-annual regulatory measures would apply for 2007 and 2008. The representative of Canada stated that they accepted the FWI and are ready to move forward. The representative of Denmark (in respect of the Faroe Islands and Greenland) proposed that the agenda item stay open. The representative of the United States stated that there appear to be two options: 1) retain the agreement from last

year since it was contingent upon completion of the FWI; or 2) the Parties could adopt new measures for 2007-2009, given that ICES completed a full assessment. The representative of Canada stated that the second option proposed by the United States should be considered.

- 5.2 The Chairman subsequently reopened the discussion on regulatory measures. The representative of Canada asked if the representative of ICES could comment on the sensitivity of the FWI. The representative of ICES stated that the FWI is sensitive because it incorporates 32 indicator variables, each having a probability of at least 80% of identifying a true high or a true low state of abundance.
- 5.3 The Chairman then asked the Parties if anyone had a proposal for moving forward. The representative of Denmark (in respect of the Faroe Islands and Greenland) proposed that the agenda item be kept open because they still had questions on the FWI. The Chairman proposed that the Parties leave the agenda item open until the West Greenland Commission meeting the next day. The representative of the European Union stated that when discussions proceed, Parties should respect the agreement from last year rather than agree to a new multi-annual regulatory measure. The representative of Denmark (in respect of the Faroe Islands and Greenland) asked if it is possible to have catch-per-unit-effort (CPUE) as an indicator. The representative of ICES responded that it would be possible to use CPUE if the data was available, but the data has not been available in recent years since 2001. The Chairman stated that the rest of the agenda items would be covered and the discussion on regulatory measures would be discussed again the following day in the meeting of the West Greenland Commission.
- 5.4 Upon reconvening, the representative of Denmark (in respect of the Faroe Islands and Greenland) stated that he had additional questions and comments about the FWI. The representative of Denmark (in respect of the Faroe Islands and Greenland) commented that the FWI does not include all rivers relevant for the FWI and he does not find the FWI fully developed in terms of covering the entire West Greenland Commission area. In addition, the representative of Denmark (in respect of the Faroe Islands and Greenland) stated that they wanted to draw attention to the fact that adopting a multi-year catch advice is giving up a legitimate right of Greenland to utilize its own resources by setting a quota. Therefore, Denmark (in respect of Faroe Islands and Greenland) considers it of vital importance that new management measures, such as adopting the multi-annual advice, are closely linked to a high probability of recovering the state of the salmon stock. Considering the ICES report, which states less than a 3% probability of meeting the management objectives if there is no catch taken in Greenland, it is the Greenlandic point of view that there must be other, and more vital, factors influencing the mortality of the salmon stocks in the Canadian and USA rivers than the Greenlandic catch. Examples of these factors include river pollution, hydropower, and climate change. The representative of Denmark (in respect of the Faroe Islands and Greenland) then went on to pose two questions to the representative of ICES: 1) does the FWI take into consideration marine mortality?; 2) how essential is adopting the multi-annual catch advice compared to the influences of other factors that might affect salmon stocks in the North Atlantic? The representative of ICES stated that the FWI does take into account marine survival by utilizing the entire time series of datasets available, which cover stock performance across varying survival scenarios. With respect to the second question, the representative of ICES stated that ICES is not prepared to rank

the effects of other factors. However, ICES notes that the fish harvested off West Greenland have already successfully completed one half of their marine life-cycle.

5.5 The Chairman asked the Parties to agree to continue with multi-annual catch advice. The representative of Denmark (in respect of the Faroe Islands and Greenland) stated that they would accept the FWI for a fixed period of 2007-2008. The representative of Denmark (in respect of the Faroe Islands and Greenland) also stated that the Greenlandic government will consider accepting new multi-annual advice at the NASCO Annual Meeting in 2009 in light of further development of the FWI, the continued research of the mortality of salmon stocks and possible improvement of the stocks. The representatives of the United States, Canada, and the European Union all stated that it would be acceptable to continue the 2006 agreement. Given agreement by all Parties, the Chairman stated that he considered the regulatory measure to be accepted. The measure agreed in 2006 is contained in document WGC(06)6 (Annex 4).

6. Sampling in the West Greenland Fishery

6.1 There was support from all Parties to continue the sampling program in the West Greenland Fishery. The Sampling Agreement was approved, provided that the typo was corrected in the last three bullets referencing 2006 instead of 2007, WGC(07)5 (Annex 5). The Chairman highlighted the West Greenland sampling brochure and poster.

7. Announcement of the Tag Return Incentive Scheme Prize

7.1 The draw for the West Greenland Commission Prize was made by the auditor on 9 May, 2007. The winning tag was of Canadian origin. The tag was applied to a wild male grilse (55.6 cm) on August 22, 2005, at the Fisheries and Oceans Canada tagging site at Millerton, New Brunswick on the Main Southwest Miramichi River. It was recaptured at West Greenland in 2006. The Commission prize of US\$1,500 goes to Mr Jørgen Dalager of Qasigiannguit, Greenland. The Commission offered its congratulations to the winner.

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

8.1 The Draft Request for Scientific Advice from ICES, SSC(07)4, was presented by the Assistant Secretary, Dr Peter Hutchinson. The Assistant Secretary noted that the scientific advice was slightly different this year due to the completion of the FWI. The Assistant Secretary asked the Parties if they could agree to move questions 3.3, 3.4, and 4.2 above the italicized text so that it is reported on annually. This resulted in a significant discussion as to whether ICES or NASCO would be responsible for applying the FWI and the collection of data. The Parties ultimately agreed that it should be NASCO's responsibility to collect the data from all Parties and apply the FWI when necessary. Therefore, question 1.3 should be removed from the Draft Request. It was further agreed that there would be a representative from each of the members of the Commission to coordinate the collection of data and application of the FWI. NASCO would then communicate the conclusion of the analysis of the FWI to ICES. The request to ICES, as agreed by the Council, is contained in document CNL(07)14 (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-Fifth Annual Meeting of the Council from 2-6 June 2008.

11. Report of the Meeting

- 11.1 The Commission agreed a report of its meeting.
- Note: The annexes mentioned above begin on page 83, following the French translation of the report of the meeting. A list of West Greenland Commission papers is included in Annex 7.

WGC(07)6

Compte rendu de la Vingt-quatrième réunion annuelle de la Commission du Groenland Occidental de l'Organisation pour la Conservation du Saumon de l'Atlantique Nord Hôtel et Marina Harborside, Bar Harbor, Maine, EUA 4 - 8 juin, 2007

1. Séance d'ouverture

- 1.1 Le Président, M. Guy Beaupré (Canada), a ouvert la réunion.
- 1.2 Les Parties n'ont prononcé aucune déclaration initiale. Le Président des ONG, M. Chris Poupard, a chargé Ms Sue Scott de la Fédération du Saumon Atlantique de prononcer une déclaration d'ouverture au nom des ONG (annexe 1). Les ONG recommandaient vivement aux Parties de convenir d'un accord pluriannuel pour la pêche commerciale du Groenland, de réduire le quota actuel de 20 tonnes pour la pêche de subsistance du Groenland et de mieux contrôler l'ensemble des pêches, y compris les captures non déclarées.
- 1.3 Une liste des participants à la Vingt-quatrième réunion annuelle du Conseil et des Commissions se trouve à la page 143 de ce document.

2. Adoption de l'ordre du jour

2.1 La Commission a adopté l'ordre du jour, WGC(07)7 (annexe 2).

3. Nomination d'un Rapporteur

3.1 La Commission a nommé Ms Jessica Pruden (Etats-Unis) Rapporteur de la réunion.

4. Examen de la pêcherie de 2006 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 présenté un exposé traitant de la pêcherie de 2006 au Groenland Occidental, WGC(07)4 (annexe 3).
- 4.2 Le représentant du CIEM, M. Timothy Sheehan, a énoncé 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 Vingttroisième réunion annuelle. Le rapport du CCGP du CIEM contenant les recommandations scientifiques pour l'ensemble des Commissions est contenu dans le document CNL(07)7. Le rapport du CCGP qui énonce les recommandations scientifiques intéressant l'ensemble des Commissions, figure à la page 101 de ce document. Le document CNL(07)53 regroupe les diapositives projetées au cours de la présentation de M. Timothy Sheehan.

- 4.3 Le Président a remercié le représentant du CIEM pour sa présentation.
- 4.4 Le représentant de l'Union européenne a demandé une explication dans le but d'éclaircir la différence qui existait entre le niveau de captures déclarées relevé par la Commission du Groenland Occidental dans le document WGC(07)4 (22,8 tonnes) et celui qui avait été présenté par le CIEM dans le rapport du CCGP (20,7 tonnes). Le représentant de l'Union européenne a fait le rapprochement entre le niveau disproportionné des captures enregistré au cours des dernières semaines de la pêche et une campagne télévisée de sensibilisation qui avait eu lieu à la fin de la saison. Le représentant de l'Union européenne a également émis des commentaires sur le pourcentage de la répartition des captures, faisant remarquer notamment que le saumon d'origine européenne semblerait en plus haute proportion dans la Division 1A. Le représentant du CIEM a répondu qu'il ne savait pas exactement pourquoi il y avait une différence dans le nombre de captures déclarées. Ceci pourrait cependant être expliqué par la façon dont les captures étaient enregistrées (i.e. poids du poisson vidé contre poids du poisson non vidé). Le représentant du Danemark (pour les Iles Féroé et le Groenland) a déclaré que la différence entre les deux valeurs provenait du fait que le rapport initial sur les captures avait utilisé comme mesure le poids du poisson vidé. En ce qui concernait la question de la répartition selon le continent d'origine, le représentant du CIEM a indiqué qu'il ne pouvait pas expliquer pourquoi on trouvait plus de saumons d'origine européenne dans la Division 1A. Il a accepté l'idée qu'il semblerait y avoir une forte relation entre la campagne télévisée et les hauts niveaux de captures en fin de saison; cependant aucun représentant du Danemark (pour les Iles Féroé et le Groenland) n'avait été présent à la réunion du Groupe de travail sur le saumon de l'Atlantique nord pour confirmer cette supposition. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a avancé qu'il était probable que la campagne télévisée ait influencé le niveau de captures déclarées en fin de saison. Le Président des ONG a demandé au représentant du Danemark (pour les Iles Féroé et le Groenland) de clarifier la situation concernant le niveau des captures noté à la suite de la campagne télévisée. Correspondait-il à une période plus tôt dans la saison ou reflétait-il un niveau de captures plus élevé à la fin de la saison? Le représentant du Danemark (pour les Iles Féroé et le Groenland) a répondu que le niveau de captures correspondait probablement à une période plus tôt dans la saison, mais qu'il devait vérifier cette supposition.
- 4.5 Le représentant du CIEM a présenté une vue d'ensemble du cadre des indicateurs (CDI). Le représentant des Etats-Unis a exprimé son appréciation au CIEM pour avoir mis au point le CDI. Il a par ailleurs déclaré que les Etats-Unis étaient persuadés qu'il ne devrait y avoir aucune capture et a demandé au représentant du CIEM d'apprécier la solidité du CDI. Le représentant du CIEM a répondu que le CDI était très solide ; un avant projet avait été rédigé par un groupe d'étude du CIEM, puis envoyé au Groupe de travail chargé du saumon de l'Atlantique nord qui en avait effectué une révision. Le document avait enfin été étudié et approuvé par le CCGP. Les représentants du CAIA et de l'Union européenne ont félicité le CIEM pour leur mise au point du CDI. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a fait de même.

5. Mesures de réglementation

5.1 Le Président a rappelé que, l'année dernière, les Parties avaient convenu d'exiger du CIEM une version finale du CDI. Le Président a indiqué que le CDI étant désormais

disponible, il incombait aux Parties de décider si ce cadre était acceptable ou non. Dans la mesure où le cadre satisfaisait l'ensemble des Parties, des mesures de réglementation pluriannuelles seraient de rigueur pour 2007 et 2008. Le représentant du Canada a déclaré que son pays acceptait le CDI et qu'il était prêt à passer au stade suivant. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a proposé de garder ce point de l'ordre du jour en attente. Le représentant des Etats-Unis a déclaré qu'il semblerait que deux options s'offrent : 1) maintien de l'accord de l'année précédente puisqu'il dépendait de l'achèvement du CDI; ou 2) adoption par les Parties de nouvelles mesures pour 2007-2009, étant donné que le CIEM avait accompli une évaluation complète. Le représentant du Canada a déclaré que l'on devrait envisager la seconde option proposée par les Etats-Unis.

- 5.2 Le Président a, par la suite, réouvert le débat sur les mesures de réglementation. Le représentant du Canada a demandé au représentant du CIEM s'il pouvait se prononcer sur la sensibilité du CDI. Le représentant du CIEM a déclaré que le CDI était sensible car il incorporait 32 variables d'indicateur, chacune ayant une probabilité d'au moins 80% d'identification d'un état véritablement haut ou bas d'abondance.
- 5.3 Le Président a ensuite demandé aux Parties si quelqu'un pouvait suggérer comment faire progresser la situation. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a proposé de garder ce point de l'ordre du jour ouvert car il se posait encore des questions au sujet du CDI. Le Président a proposé aux Parties de maintenir ce point à l'ordre du jour jusqu'à la réunion du Groenland Occidental le jour suivant. Le représentant de l'Union européenne a invité les Parties, dès que le débat serait repris, à respecter l'accord de l'année précédente plutôt que de convenir d'une nouvelle mesure de réglementation pluriannuelle. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a demandé s'il était possible d'utiliser les captures par unité d'effort (CPUE) comme indicateur. Le représentant du CIEM a répondu que ceci serait en effet possible si seulement les données étaient disponibles, mais, récemment, depuis 2001, les données n'avaient pas été disponibles. Le Président a indiqué que le restant des points de l'ordre du jour serait couvert le jour suivant, et que le débat sur les mesures de réglementation reprendrait le lendemain également, au cours de la réunion de la Commission du Groenland Occidental.
- 5.4 A la reprise de la réunion, le représentant du Danemark (pour les Iles Féroé et le Groenland) a déclaré qu'il avait des questions supplémentaires à poser et des commentaires à faire à propos du CDI. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a dit que le CDI n'incluait pas toutes les rivières appropriées et qu'il ne pensait pas que le CDI soit complètement mis au point sur la question de savoir s'il couvrait l'intégralité de la zone de la Commission du Groenland Occidental. De plus, le représentant du Danemark (pour les Iles Féroé et le Groenland) a déclaré qu'il voulait attirer l'attention sur le fait que l'adoption d'une recommandation de captures pluriannuelles signifiait un abandon par le Groenland du droit légitime quant à l'utilisation, sous quota, de ses propres ressources. Par conséquent le représentant du Danemark (pour les Iles Féroé et le Groenland) a considéré comme étant d'importance vitale de lier les nouvelles mesures de gestion, telles que l'adoption de recommandations pluriannuelles, à une forte probabilité de rétablissement du stock de saumon. Vu le rapport du CIEM, qui indiquait qu'une absence de pêche au Groenland ne signifierait que moins de 3% de chance de satisfaire les objectifs de gestion, le point de vue du Groenland était qu'il devait y avoir d'autres facteurs, plus importants que les captures du Groenland, qui

influençaient la mortalité des stocks de saumons dans les rivières du Canada et des Etats-Unis. Parmi ces facteurs on comptait : la pollution des cours d'eau, l'hydroélectricité, et le changement climatique. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a ensuite posé deux questions au représentant du CIEM : 1) Le CDI tenait-il compte de la mortalité marine?; 2) Par rapport à l'influence d'autres facteurs qui pourraient affecter les stocks de saumons dans l'Atlantique Nord, comment l'adoption de recommandations de captures pluriannuelles était-elle essentielle? Le représentant du CIEM a confirmé que le CDI tenait compte de la survie en mer en utilisant l'intégralité des données historiques disponibles, qui recouvraient en effet la performance des stocks selon différents scénarios de survie. En ce qui concernait la seconde question, le représentant du CIEM a déclaré que le CIEM n'était pas prêt à classer les effets d'autres facteurs. Le CIEM notait toutefois que les poissons récoltés au large du Groenland Occidental avaient déjà accompli la moitié de leur cycle de vie en mer.

5.5 Le Président a invité les Parties à continuer d'adopter les recommandations de captures pluriannuelles. Le représentant du Danemark (pour les Iles Féroé et le Groenland) a déclaré qu'il accepterait le CDI pour une période fixe, à savoir de 2007 à 2008. Il a ajouté que les autorités groenlandaises envisageraient la possibilité d'accepter de nouvelles recommandations pluriannuelles, lors de la réunion annuelle de l'OCSAN de 2009, à la lumière de la mise au point supplémentaire du CDI, de la continuation de la recherche sur la mortalité des stocks de saumons et d'une amélioration potentielle des stocks. Les représentants des Etats-Unis, du Canada, et de l'Union européenne ont tous déclaré qu'ils acceptaient de continuer selon l'accord de 2006. Etant donné l'accord unanime des Parties, le Président a déclaré qu'il considérait la mesure de réglementation acceptée. La mesure adoptée en 2006 figure au document WGC(06)6 (annexe 4).

6. Echantillonnage de la Pêche du Groenland Occidental

6.1 Les Parties ont donné leur soutien unanime à la continuation du programme d'échantillonnage dans la Pêcherie du Groenland Occidental. L'accord d'échantillonnage a été approuvé, à la condition que l'erreur de frappe soit corrigée dans les trois points qui mentionnaient 2006 au lieu de 2007, WGC(07)5 (annexe 5). Le Président a présenté la brochure et l'affiche sur l'échantillonnage du Groenland Occidental.

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

7.1 Le tirage au sort du prix de la Commission du Groenland Occidental du Programme d'encouragement au renvoi des marques de l'OCSAN a été effectué par le Commissaire aux comptes le 9 mai 2007. La marque gagnante était d'origine canadienne. Elle avait été posée sur un grisle mâle de 55,6 cm, le 22 août 2005 à la station de marquage des *Fisheries and Oceans* du Canada à Millerton, au Nouveau Brunswick dans la rivière *Main Southwest Miramichi River*. Le grisle avait été recapturé au Groenland Occidental en 2006. M. Jørgen Dalager de Qasigiannguit, Groenland a remporté le prix de 1 500 dollars (US). La Commission a félicité le gagnant.

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

Le Dr. Peter Hutchinson, Secrétaire adjoint, a présenté la demande provisoire de 8.1 recommandations scientifiques adressée au CIEM, SSC(07)4. Le Secrétaire adjoint a fait remarquer que les recommandations scientifiques différaient légèrement des années précédentes à cause de l'achèvement du CDI et a demandé aux Parties si elles accepteraient de déplacer les points 3.3, 3.4, et 4.2 pour les placer au dessus du texte en italique de facon à ce que l'on en rende compte tous les ans. Cette demande a entraîné un débat important sur la question de savoir s'il incombait au CIEM ou à l'OCSAN d'appliquer le CDI et de collecter les données. Les Parties ont, en fin de compte, convenu qu'il en revenait à l'OCSAN de collecter les données des Parties et d'appliquer, en l'occurrence, le CDI. Par conséquent, le point 1.3 devrait être retiré de la Demande provisoire. Il a été également accepté qu'un représentant de chacun des membres de la Commission coordonnerait le rassemblement des données et l'application du CDI. L'OCSAN communiquerait alors les conclusions de l'analyse du CDI au CIEM. La demande de recommandations scientifiques, approuvée par le Conseil, figure dans le document CNL(07)14 (annexe 6).

9. Divers

9.1 Aucune autre question n'a été traitée.

10. Date et lieu de la prochaine réunion

10.1 La prochaine réunion de la Commission du Groenland Occidental aura lieu en même temps que la Vingt-cinquième réunion annuelle du Conseil, à savoir du 2 au 6 juin 2008.

11. Compte rendu de la réunion

- 11.1 La Commission a accepté le compte rendu de la réunion.
- Note: Une liste des documents de la Commission du Groenland Occidental figure à l'annexe 7.

Joint NGO Statement to the West Greenland Commission

Mr Chairman, colleagues:

ICES indicates that there has been an 89% decline in numbers of two-sea-winter North American salmon in 30 years and the low numbers will continue until at least 2010. The number that return to North American rivers is about half the total number needed to meet minimum conservation targets in the salmon rivers of North America. Some of the salmon that migrate to West Greenland are from the salmon populations that have been listed as endangered in the United States.

Southern European salmon populations failed to meet minimum conservation targets in 2006 and ICES predictions are for continuing declines until 2010.

In Greenland, the food fishery for salmon increased to 21 tonnes (5,800 fish) in 2006, from 14 tonnes (4,900 fish) in 2005 and 9 tonnes (3,400 fish) in 2002. There is presently no quantitative approach for estimating the unreported catch, according to ICES. However, in 2006 it is likely to have been at the same level proposed in recent years (10 tonnes or about 2,700 fish).

ICES' prime recommendation for 2007 is that, since the predicted number of two-sea-winter salmon is substantially below the conservation target, there should be no harvest where salmon from various rivers are mixed together, such as in Greenland waters.

The NGOs recommend that the West Greenland Commission achieve a multi-year agreement to close Greenland's commercial fishery, a reduction of the present 20-tonne allowance for Greenland's subsistence fishery, and better monitoring to control all fisheries, including unreported catch.

WGC(07)7

Twenty-Fourth Annual Meeting of the West Greenland Commission Harborside Hotel and Marina, Bar Harbor, Maine, USA

4 - 8 June, 2007

Agenda

- 1. Opening of the Meeting
- 2. Adoption of the Agenda
- 3. Nomination of a Rapporteur
- 4. Review of the 2006 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

West Greenland Commission

WGC(07)4

The 2006 Fishery at West Greenland (tabled by Denmark (in respect of Faroe Islands and Greenland))

WGC(07)4

The 2006 Fishery at West Greenland (tabled by Denmark (in respect of Faroe Islands and Greenland))

At the Annual Meeting of NASCO in June 2006, 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 2006. Only a subsistence fishery was allowed, i.e. a fishery for private consumption, and a 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 2006, the fishery was opened at the beginning of August and closed at the end of October. During this period a total catch of 22.8 tonnes of salmon was reported to the Greenland Fishery Licence Control (GFLK). Of this, 13.4 tonnes were reported by licensed fishermen as sold at open air markets, etc., and 9.4 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 the Salmon Fishery. The Executive Order distinguishes between 1) the commercial fishery for Atlantic salmon to be landed at fish plants, 2) the subsistence fishery by residents of Greenland, and 3) the rod fishery by tourists/non-residents.

All fishermen who wish to sell Atlantic salmon must hold a licence issued by GFLK. In 2006, 165 licences were issued, but only 51 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 2006, the wildlife and fisheries officers have once again 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.

Greenland Home Rule is considering ways of improving the catch reports. First of all the Department of Fisheries, Hunting and Agriculture continue the work of reminding fishermen to report salmon catches. This will be done by transmitting TV spots during the salmon season to remind the fishermen about the gear allowed and to report catches.

WGC(06)6

Regulatory Measure for the Fishing for Salmon at West Greenland for 2006, with possible application in 2007 and 2008

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);

RECALLING that NASCO has requested that the ICES advice for 2006 include annual catch options or alternative management advice for 2006-2008 for the West Greenland Commission area;

RECALLING that in 2005 the West Greenland Commission committed to explore the possibility during the 2006 Annual Session of adopting regulatory measures on a multi-annual basis, subject to revision in case of unforeseen developments, as suggested within the 'Next Steps' Process;

ACKNOWLEDGING 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;

COMMITTING to continue 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 below the conservation limit and thus suffering reduced reproductive capacity;

FURTHER CONSIDERING that ICES has advised that there should be no catch on the stocks at West Greenland in 2006, 2007 or 2008;

RECOGNIZING that ICES considers it highly unlikely that the catch options provided for the West Greenland Commission will change during the next three years;

RECOGNIZING that a Framework of Indicators has not yet been provided by ICES;

The Parties agree that:

- (1) In 2006 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 annually. There will be no commercial export of salmon.
- (2) This regulatory measure would also apply in 2007 and 2008 if the following two conditions are met:
 - (a) A Framework of Indicators is provided by ICES; and
 - (b) The Parties to the West Greenland Commission accept the Framework of Indicators for use in the interim years to identify any significant change in the previously provided multi-annual advice.
- (3) Denmark (in respect of the Faroe Islands and Greenland) will inform NASCO of the outcome of the 2006, 2007, and 2008 fisheries.

West Greenland Commission

WGC(07)5

West Greenland Fishery Sampling Agreement, 2007

WGC(07)5

West Greenland Fishery Sampling Agreement, 2007

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 2007 are to:

- Continue the time series of data (1969-2006) 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 2007 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 2007 fishing season:

- The European Union¹ agrees to provide a minimum of 6 person weeks² to sample Atlantic salmon at West Greenland during the 2007 fishing season
- Canada agrees to provide a minimum of 4 person weeks² to sample Atlantic salmon at West Greenland during the 2007 fishing season
- The United States agrees to provide a minimum of 4 person weeks² to sample Atlantic salmon at West Greenland during the 2007 fishing season
- The United States agrees to co-ordinate the sampling programme for 2007

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

- The United States agrees to provide microsatellite DNA analysis of tissue samples collected from Atlantic salmon harvested at West Greenland
- Canada agrees to provide ageing 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 and 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 weeks³ 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 150 salmon) required to complete disease sampling. To facilitate land-based collection of tissue samples required for disease sampling, the Home

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.

Rule Government of Greenland agrees to provide samplers with written permits that allow for landing of a total of 150 salmon.

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.

CNL(07)14

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 production of farmed and ranched Atlantic salmon in 2007;
- 1.2 report on significant new or emerging threats to, or opportunities for, salmon conservation and management;
- 1.3 examine and report on associations between changes in biological characteristics of all life stages of Atlantic salmon, environmental changes and variations in marine survival with a view to identifying predictors of abundance ¹;
- 1.4 describe the natural range of variability in marine survival with particular emphasis on partitioning mortality to the narrowest geographic scale possible (estuarine, near-shore, offshore, etc.);²
- 1.5 compile information on the marine migration and dispersal of escaped farmed salmon with particular emphasis on movements between countries; ³
- 1.6 provide a compilation of tag releases by country in 2007 and advise on progress with compiling historical tag recovery data from oceanic areas ⁴;
- 1.7 identify relevant data deficiencies, monitoring needs and research requirements; ⁵

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

- 2.1 describe the key events of the 2007 fisheries; ⁶
- 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 review and report on the development of age-specific stock conservation limits, where possible based upon individual river stocks;
- 2.4 describe the status of the stocks and provide annual catch options or alternative management advice for 2009-2011, 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;⁷
- 2.5 further develop methods to forecast PFA for northern and southern stocks with measures of uncertainty.

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

- 3.1 describe the key events of the 2007 fisheries (including the fishery at St Pierre and Miquelon);⁶
- 3.2 report on the biological characteristics (size, age, origin) of the catch in coastal fisheries and potential impacts on non-local salmon stocks.
- 3.3 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;
- 3.4 update age-specific stock conservation limits based on new information as available;

In the event that NASCO informs ICES that the framework (FWI) indicates that reassessment is required:*

3.5 describe the status of the stocks and provide annual catch options or alternative management advice for 2008-2011 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;⁷

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

- 4.1 describe the key events of the 2007 fisheries; ⁶
- 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;

In the event that NASCO informs ICES that the framework (FWI) indicates that reassessment is required:*

4.3 describe the status of stocks and provide annual catch options or alternative management advice for 2008-2010 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.^{7,8}

Notes:

- 1. With regard to question 1.3, there is interest in determining if declines in marine survival coincide with changes in the biological characteristics of juveniles in fresh water or are modifying characteristics of adult fish (size at age, age at maturity, condition, sex ratio, growth rates, etc.) and with environmental changes. In the event that an annual measure is agreed for the West Greenland fishery, this question should be considered a lower priority than the other questions.
- 2. With regard to question 1.4, there is interest in determining the extent to which marine survival regimes are driven by factors in estuarine, nearshore, or offshore environments. To the extent possible, this assessment should focus on discrete stock complexes corresponding to NASCO management objectives. Characterizing these losses could provide regional and stock-specific context for ongoing research and upcoming research initiatives such as SALSEA.
- 3. A number of implementation plans presented by NASCO Parties raised concern about the occurrence in their marine fisheries and rivers of farmed salmon originating in other countries.
- 4. With regard to question 1.6 the data on tag recovery information should be compiled according to the format developed by the ICES Workshop on the Development and Use of Historical Salmon Tagging Information from Oceanic areas
- 5. 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.
- 6. 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.
- 7. In response to questions 2.4, 3.5 and 4.3 provide a detailed explanation and critical examination of any changes to the models used to provide catch advice.

- 8. In response to question 4.3, 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 2.4 and 3.5.
- * The aim should be for NASCO to inform ICES by 31 January of the outcome of utilising the FWI.

List of West Greenland Commission Papers

- WGC(07)1 Provisional Agenda
- WGC(07)2 Draft Agenda
- WGC(07)3 Draft Report
- WGC(07)4 The 2006 Fishery at West Greenland (tabled by Denmark (in respect of the Faroe Islands and Greenland))
- WGC(07)5 West Greenland Fishery Sampling Agreement, 2007
- WGC(07)6 Report of the Twenty-Fourth Annual Meeting of the West Greenland Commission
- WGC(07)7 Agenda

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

3 NORTH-EAST ATLANTIC COMMISSION

Conservation limits (CLs) have been defined by ICES as the level of stock that will achieve long-term average maximum sustainable yield (MSY). NASCO has adopted this definition of CLs (NASCO, 1998). The CL is a limit reference point; having populations fall below these limits should be avoided with high probability. However, management targets have not yet been defined for all NEAC Atlantic salmon stocks. Therefore:

- ICES considers homewater stocks in the NEAC Commission to be at full reproductive capacity when the lower bound of the confidence interval of the most recent spawner estimate is above the CL. In a similar manner, the status of stocks prior to the commencement of distant water fisheries has been interpreted to be at full reproductive capacity when the lower bound of the confidence interval of the most recent PFA estimate is above the Spawner Escapement Reserve (SER).
- ICES considers a stock to be at risk of suffering reduced reproductive capacity when the lower boundary of the spawner/PFA confidence limit is below the CL/SER, but the midpoint is above.
- ICES considers a stock to be suffering reduced reproductive capacity when the spawner/PFA midpoint is below the CL/SER.

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 used the risk level of 75%, which is part of the agreed management plan (ICES, 2003).

For stock assessment purposes, the NEAC stocks are grouped 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) ¹
Iceland (south/west regions) ¹	

3.1 Status of stocks/exploitation

The status of stocks is shown in Figure 3.1.1.

ICES classifies the status of stock complexes prior to the commencement of distant water fisheries with respect to the SER requirements as follows:

- Northern European 1SW stocks are considered to be at full reproductive capacity.
- Northern European MSW stocks are considered to be at full reproductive capacity.
- Southern European 1SW stocks are considered to be at risk of suffering reduced reproductive capacity.
- Southern European MSW stocks are considered to be at risk of suffering reduced reproductive capacity.

Estimated exploitation rates have generally been decreasing over the time period for both 1SW and MSW stocks in Northern and Southern NEAC areas (Figure 3.1.2 and Figure 3.1.3). Exploitation on Northern 1SW stocks is higher than on Southern 1SW and considerably higher for MSW stocks. There has been a slight increase in exploitation on 1SW and 2SW northern stocks since 2002. However, the current estimates for both stock complexes are amongst the lowest in the time-series.

3.2 Management objectives

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

¹ The Iceland stock complex was spilt into two separate complexes for stock assessment purposes in 2005. Prior to 2005, all regions of Iceland were considered to contribute to the Northern European stock complex.

3.3 Reference points

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

3.3.1 National conservation limits

The national model has been run for all countries that do not have river-specific conservation limits (i.e. all countries except France, Ireland, and UK (England & Wales)).

Iceland, Russia, Norway, UK (Northern Ireland), and UK (Scotland) have provided regional input data for the PFA analysis (1971–2006). For these countries the lagged spawner analysis has been conducted by region. The regional results were combined to estimate conservation limits based on a pseudo stock–recruitment relationship for the country. Outputs from the national model are only designed to provide a provisional guide to the status of stocks in the NEAC area.

To provide catch options to NASCO, conservation limits are required for stock complexes. These have been derived either by summing the individual river CLs to national level, or by taking overall national CLs, as provided by the national model. For the NEAC area, the conservation limits have been calculated by ICES as:

- Northern NEAC 1SW spawners 271 111
- Northern NEAC MSW spawners 140 230
- Southern NEAC 1SW spawners 624 221
- Southern NEAC MSW spawners 269 237

3.3.2 Progress with setting river-specific conservation limits

Specific progress in individual countries is summarised below:

In Iceland, work is progressing on several rivers to derive river-specific CLs. Several datasets and techniques (catch data, counter data, habitat mapping, wetted area and juvenile surveys) are being used to estimate salmon production, run size, and spawning escapement. To date, work has indicated highly variable spawning reference levels. The next stage will explore if and how CLs can be transported to recipient rivers.

In UK (Scotland), work is continuing on the development of procedures for setting river-specific CLs. GIS applications, in conjunction with field-based observation and a literature review of salmon distribution, have been used to develop a map-based useable wetted area model for salmon which can be used to transport CLs among catchments. A CL has been derived for the North Esk and this has been transported to several recipient rivers. Methods to determine spawning escapement values in these rivers are now being investigated.

In Norway, work is in progress to set conservation limits in 80 rivers. This work is based on stockrecruitment relationships in nine rivers, and further transportation to data-poor rivers based on similarities in productivity and stock age structure. Productivity is mostly based on catch statistics, and scale samples are used to access the river- and sea-age structure in a subset of the populations. To derive the CLs, wetted areas have been determined for the rivers, based on digital maps and knowledge on how far salmon can migrate in the rivers. This work is planned to be reported to the Directorate for Nature Management during the summer of 2007.

So far only France, Ireland, and UK (England & Wales) have implemented river-specific conservation limits.

3.4 Management advice

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

- Northern European 1SW stocks: In the absence of specific management objectives for this stock complex the precautionary approach is to fish only on maturing 1SW salmon from rivers where stocks have been shown to be at full reproductive capacity.
- Northern European MSW stocks: In the absence of specific management objectives for this stock complex the precautionary approach is to fish only on non-maturing 1SW salmon from rivers where stocks have been shown to be at full reproductive capacity.
- Southern European 1SW stocks: In the absence of specific management objectives for this stock complex the precautionary approach is to fish only on maturing 1SW salmon from rivers where stocks have been shown to be at full reproductive capacity. 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 stock status.
- Southern European MSW stocks: The quantitative forecast of PFA for 2007 indicates that this stock complex is expected to continue to decline from the previous year. In the absence of any fisheries on this stock complex there is a less than 64% probability that the CL will be achieved in 2008. The PFA forecast for 2007-2010 predicts values below the SER and therefore there should be no fishing on this complex at West Greenland or Faroes. In the absence of specific management objectives for this stock complex, with the exception of the West Greenland fishery, the precautionary approach is to fish only on non-maturing 1SW salmon from rivers where stocks have been shown to be at full reproductive capacity. 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 stock status.

3.5 Relevant factors to be considered in management

The national stock conservation limits discussed in Section 3.3.1 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, 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.

Management for all fisheries should be based upon assessments of the status of individual stocks. Fisheries on mixed stocks, either in coastal or distant waters, pose particular difficulties for management as they cannot target stocks that are at full reproductive capacity. Conservation would be best achieved if fisheries target stocks that have been shown to be at full reproductive capacity. Fisheries in estuaries and rivers are more likely to meet this requirement.

It should be noted that the inclusion of farmed fish in the Norwegian data would result 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.

NEAC PFAs from the national models are combined to provide NASCO with catch advice or alternative management advice for the distant water fisheries at West Greenland and Faroes. These groups were deemed appropriate as they fulfilled an agreed set of criteria for defining stock groups for the provision of management advice that were considered in detail at the 2002 meeting (ICES, 2002) and re-evaluated at the 2005 meeting (ICES, 2005).

Consideration of the level of exploitation of national stocks at Faroes and West Greenland 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 Pre-Fishery Abundance for 2006–2010

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 non-maturing 1SW component of the southern European stock complex. The forecast of this PFA for 2007 has been used to provide management advice for West Greenland and Faroes for 2007. 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 2007 to explore the relative contribution of several variables to predictions of PFA. As in the past three years, ICES decided to apply a model that used the *Year* and *Spawners* terms to predict the PFA of non-maturing salmon where it was fitted to data from 1978–2005 and used to update the PFA in 2006 and to forecast the PFA in 2007 (Figure 3.6.1).

Provision of 3-year management advice for the Faroese fishery requires that PFA forecasts be extended to 2010. This has been achieved by estimating the *Spawner* term for the 1-year-old smolts in 2010 for each homewater country as the average of the previous five years. The quantitative prediction for the southern NEAC non-maturing (potential MSW) stock component gives a projected PFA (at 1st January each year) for catch advice in 2008–2010 (Figure 3.6.1). No projections are available for other stock components or complexes in the NEAC area.

YEAR	PFA	LOWER	UPPER
2006	483,733	319,960	731,333
2007	455,415	300,621	689,913
2008	434,060	285,640	659,602
2009	413,701	271,349	630,733
2010	410,542	267,052	631,130

Predicted PFA and 95% confidence limits of non-maturing 1SW salmon for Southern NEAC are given below:

The lower bound of the 95% confidence intervals for all the estimates are less than the SER (455 413) and therefore there is no surplus available for exploitation.

3.7 Comparison with previous assessment

3.7.1 PFA forecast model

The midpoints of updated forecasts of the southern NEAC MSW PFA for the years 2006 to 2008 were 484 000, 455 000, and 434 000, respectively. All were between 1% and 2% lower than the forecasts (489 000, 461 000, and 440 000) provided last year.

3.7.2 National PFA model and national conservation limit model

Provisional catch data for 2005 were updated where appropriate. In addition, changes were made to the input data from Iceland. Exploitation rates were reduced in recent years to take into account the increasing practice of catch and release in the rod fishery. Changes were also made to non-reporting rates to better reflect current knowledge.

3.8 NASCO has requested ICES to describe the key events of the 2006 fisheries and the status of the stocks

3.8.1 Fishing at Faroes in 2005/2006

No fishery for salmon has been carried out since 2000. No buyout arrangement has been in force since 1999.

3.8.2 Significant events in NEAC homewater fisheries in 2006

In several countries, measures aimed at reducing exploitation were implemented or strengthened in 2006. These include: a reduction of net fisheries in UK (England and Wales), a continuing reduction of a TAC used in Ireland to limit catches, and the introduction of bag limits in some districts.

3.8.3 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.

3.8.4 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 2006 was 1846 tonnes, slightly lower than in 2005 (1995 t), but down on the previous 5-year mean. The catch in the Southern area has declined over the period from about 4500 t in 1972–1975 to below 1500 t since 1986, and is now just above 600 t. The catch declined particularly sharply in 1976 and again in 1989–91. The catch in the Northern area also shows an overall decline over the time-series, but less steep than for the Southern area. The catch in the Northern area varied between 1850 and 2700 t from 1971 to 1986, fell to a low of 962 t in 1997, and then increased to over 1500 t in 2001. The catch has shown a downward trend again since this time. Thus, the catch in the Southern area, which comprised around two-thirds of the NEAC total in the early 1970s, has been lower than that in the Northern area since 1999.

3.8.5 Catch per unit effort (cpue)

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.

In the Southern NEAC area, cpue show a general decrease in UK (Scotland) and UK (England & Wales) net fisheries. cpue for the net fishery showed mostly lower figures compared to 2005 and the previous 5-year averages. In the Northern NEAC area, there has been an increasing trend in the cpue figures for Norwegian net fisheries and Russian rod fisheries in Barents Sea rivers. A decreasing trend was noted for rod fisheries in Finland (River Teno) and Russian White Sea rivers. In comparison with the previous year, most cpue values went up and were higher than the previous 5-year means.

3.8.6 Age composition of catches

1SW salmon comprised 60% of the total catch in the Northern area in 2006, which was below the 5and 10-year means (61% and 64%, respectively). 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 5and 10-year mean (60% in both cases).

3.8.7 Farmed and ranched salmon in catches

The contribution of farmed and ranched salmon to national catches in the NEAC area in 2006 was again generally low (<2% in most countries) and is similar to the values that have been reported in previous reports (ICES, 2006). 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 (33% in 2006), fjordic (19% in 2006), and rod fisheries (7% in 2006). An assessment of the likely effect of these fish on the output data from the PFA model has been reported previously (ICES, 2001).

3.8.8 National origin of catches

Information presented by Ireland on the origin of tagged salmon recovered from their screening programme of Irish fisheries over the period 1985–2006 was reviewed. In 2006, 31 tags originating from fish released from five other countries were recovered in Irish fisheries: 15 from UK (Northern Ireland), 9 from UK (England & Wales), 2 from Spain, and 5 from Germany. The number of tagged salmon recovered is raised to the total fishery to give an indication of the relative contribution of non-Irish salmon. The analysis indicated that the highest average recapture rates for non-Irish tagged

salmon are UK (N. Ireland), UK (Scotland), Denmark, France, UK (England and Wales), Spain, Germany, and Norway, respectively.

These data provide little information on exploitation rates of fish from each country which are taken in Irish fisheries and therefore say little about the potential impacts on individual stocks. River-specific models based on the run reconstruction approach were presented for a number of English and Welsh stocks, which were updated. The results demonstrated that: salmon from all parts of England and Wales are exploited in the Irish coastal fishery, exploitation levels vary among regions and years, and there has been a general decline in exploitation following the introduction of management measures in the Irish fishery since 1997. 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, even low levels of exploitation may represent an impediment to stock recovery.

3.8.9 Trends in the PFA for NEAC stocks

Northern European 1SW and MSW stocks: Recruitment patterns of maturing 1SW salmon and of non-maturing 1SW recruits for Northern Europe (Figure 3.1.1) show broadly similar patterns. The general decline over the time period is interrupted by a short period of increased recruitment from 1998 to 2003. Both stock complexes have been at full reproductive capacity prior to the commencement of distant water fisheries throughout the time-series. Trends in spawner number for the Northern stock complexes for both 1SW and MSW are similar. Throughout most of the time-series, both 1SW and MSW spawners have been either at full reproductive capacity (as in 2006) or at risk of reduced reproductive capacity. This is broadly consistent with the general pattern of decline in marine survival of 1SW and 2SW returns in most monitored stocks in the area (Section 3.8.10).

Southern European 1SW and MSW stocks: Recruitment patterns of maturing 1SW salmon and of non-maturing 1SW recruits for Southern Europe (Figure 3.1.1) show broadly similar declining trends over the time period. The maturing 1SW stock complex has been at full reproductive capacity over the time period with the exception of 2006, when it was at risk of suffering reduced reproductive capacity after homewater fisheries had taken place. The non-maturing 1SW stock has been at full reproductive capacity after homewater fisheries have taken place in five of the nine years since 1996. Declining trends in spawner number are evident in the Southern stock complexes for both 1SW and MSW. However, the 1SW stock has been at risk of reduced reproductive capacity for most of the time-series. In contrast the MSW stock has been at full reproductive capacity for most of the time-series until 1997; since then this stock has been at risk of reduced reproductive capacity or suffering reduced reproductive capacity or suffering reduced reproductive capacity. This is broadly consistent with the general pattern of decline in marine survival of 1SW and 2SW returns in most monitored stocks in the area (Section 3.8.10).

3.8.10 Survival Indices for NEAC stocks

An overall trend in both Northern and Southern NEAC areas, both wild and hatchery smolts, show a decline in marine survival with the annual decline varying between 1% and 13% (Figure 3.8.10.1). Most of the survival indices for wild smolts were lower than those of the previous year, but higher than or at the 5- and 10-year averages. Most of the survival indices for the hatchery-reared smolts were below the 5- and 10-year averages, although many figures were at or higher than those of the previous year. Return rates of hatchery-released fish, however, may not always be a reliable indicator of marine survival of wild fish. Results from these analyses are consistent with the information derived from the PFA model (Section 3.8.9), and suggest that returns are strongly influenced by factors in the marine environment.

3.9 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

In 2005, ICES noted the implications for salmon stocks arising from the implementation of Council Directive 92/43/EEC (on the conservation of natural habitats and of wild flora and fauna). States are obliged to take measures to ensure that the exploitation of salmon stocks is compatible with their being maintained at a favourable conservation status. Under the terms of the Directive, every 6 years Member States are obliged to submit a report detailing the conservation status of their salmon stocks. The first such report is due to be submitted in 2007.

Salmon management in European Member States is becoming increasingly linked with the Water Framework Directive (Directive 2000/60/EC) (WFD), and its 6-year planning cycle. The WFD aims to protect and enhance the water environment, updates all existing relevant European legislation, and promotes a new approach to water management through river-based planning. The Directive requires the development of River Basin Management Plans (RBMP) and Programmes of Measures (PoM) with the aim of achieving Good Ecological Status or, for artificial or more modified waters, Good Ecological Potential.

Member States will need to identify River Basin Districts (RBDs), which will be 'characterized' by assessing the pressures and impacts, on the water environment, such as overuse or pollution. Once that is complete, a RBMP for each District will be prepared setting out how these impacts will be reduced through its PoM. Monitoring programmes will then chart progress towards achievement of Good Ecological Status. RBMPs and PoMs need to be agreed, finalized, and published by December 2009 for the first round of the WFD planning cycle. The second round plans are to be published in 2015. The status of migratory species and access to habitats will be important elements to take into account when assessing Good Ecological Status.

Most management measures introduced in recent years in relation to international, national, and local objectives have aimed to reduce levels of exploitation on NEAC stocks, to increase freshwater escapement, and in some countries specifically to meet river-specific CLs. Although some local measures have had notable success (Table 3.9.1), the two southern NEAC stock complexes are currently suffering reduced reproductive capacity after homewater fisheries have taken place.

3.10 NASCO has requested ICES to provide estimates of bycatch and non-catch fishing mortality of salmon in pelagic fisheries with an assessment of impacts on returns to homewaters

3.10.1 SGBYSAL

Disaggregated pelagic fisheries data (e.g. by weeks, gear types, etc.) are generally available from most countries who have important fisheries in the Nordic Seas. In contrast, there have not been any dedicated investigations on distribution of postsmolts and salmon in this area since 2005. Therefore, without data on salmon distribution or regularly occurring reliable reports on bycatches, it is not possible to provide updated estimates of bycatch. Consequently, the Study Group on Bycatch of Salmon in Pelagic Fisheries (SGBYSAL) was dissolved by ICES in 2006 and will be reconvened when new and relevant information becomes available. However, ICES continues to collate reports on salmon taken in commercial or research fisheries to document any increases in the frequencies of such reports.

3.10.2 Bycatch of salmon in non-targeted catches in 2006

Norwegian research vessels registered a bycatch of 46 post-smolts from one single haul and 7 larger salmon from three separate cruises (Figure 3.10.2).

Norwegian bycatch observers have not reported any salmon bycatches during routine screening of commercial catches.

Records were obtained of a bycatch of 12 larger salmon (from 1 to 12 kg) from a commercial trawl fishery for cod northeast of Bear Island during August and September 2006.

Russian commercial catches screening reported a total of 9 salmon as follows:

In 2006 the screening program was carried out in the Norwegian Sea by FV M-0011 "Boris Syromyatnikov" while pelagic fishing for mackerel, blue whiting, and herring from June 19 to September 16.

Four post-smolts (wt – 127–170 g) were found in a single catch of 40 tonnes of mackerel taken in international waters on 27 June. On 2 July, one post-smolt (wt – 120 g) was found in a catch of 35 tonnes of mackerel. All post-smolts were caught when surface trawling at a depth of 0–50 meters. One adult salmon (female, fl – 54 cm, wt – 3.5 kg) was caught while fishing for herring.

Two other commercial vessels reported Atlantic salmon bycatch while fishing for mackerel. One postsmolt (wt – 130 g) was found on 7 July. One adult salmon (male, fl – 52 cm, wt – 2.0 kg) was reported in the catch of another ship the same day. A third commercial vessel registered a Norwegian Carlin tagged postsmolt (fl – 286 mm) in a herring catch on 15 August (Figure 3.10.2).

The above records do not supply enough information to allow an assessment of the effect of nontargeted fisheries on salmon abundance.

Table 3.9.1. Summary of natio	nal objectives, recent mana	gement measures and attainmer	t of management objectives.
		8	

Country	Objective	Measure	Assessment	Outcome/extent achieved	Further consideration
Russia	Reduce commercial fishing effort and enhance recreational catch and release fisheries	Various management measures including prohibition of some important commercial in-river fisheries and allocation quotas for fisheries	Examination of catch statistics	Mean total commercial catch reduced by 38% and mean in-river commercial catch reduced by 67% (2002-2006 compared to 1997-2001). Catch and release increased twice in past 5 years	Further reductions likely to be introduced
Ireland	Reduce exploitation rates and increase freshwater returns leading to simultaneous attainment of CLs in all rivers	TAC imposed in 2002 which has been reduced by 17%, 11%, 14% and 35% annually or 58% in total. Restrictions in angling catch including bag limits and mandatory catch and release operated from the 1st of September in 8 fishery districts which were assessed as being below their Conservation Limits	Examination of coded wire tagging returns to Irish and UK rivers pre and post imposition of TACs	Exploitation rate reduced from 61% (pre- 2002) to 46% (post 2002) for wild salmon, 82% to 69% for hatchery salmon Exploitation rate on UK stocks reduced by up to 50% following management measures in 1997 and imposition of TACs	Mixed stock marine fisheries will not operate in 2007 and hereafter.
	Maintain salmon stocks in SAC rivers at favourable conservation status	As above	Examination of counter (14 rivers) or rod catch (16 rivers)data to assess CL compliance for 30 SAC rivers	Following re-apraisal in 2007 and with the closure of the irish mixed stock fishery at sea, 19 of 30 SAC rivers will probably meet CLs	Under the EU Water Framework Directive water quality and fish passage are expected to improve
UK (England & Wales)	Safeguard MSW stock component	National spring salmon measures introduced in 1999 (restricted net fishing before June and required compulsory catch & release by anglers up to June 16)	Estimated 1,000 salmon saved from net fisheries and 1,600 saved from rod fisheries in 2006 due to these measures	Spawning escapement of spring salmon may have increased by up to one third on some rivers due to measures	Measures will remain in place until at least 2008.
	Stocks to meet or exceed CLs in at least 4 years of 5	Mixed stock fishery measures imposed including phase outs, closures, buy outs and reductions in fisheries	Examination of catch statistics and annual compliance Examination of counters	Coastal fishery catch reduced from average of 41,000 (88-92) to under 32,000 (98-02) and to about 9,500 (03-06) Declared rod catch in 5 north east rivers 61% higher on average in the 4 years since net buy out in 2003, relative to average of 5 years before buy out. Recorded runs (salmon + sea trout) into the	Continuing to phase out remaining mixed stock fisheries and focus on other limiting factors. Annual application of decision structure to assess need for effort controls. Continue monitoring
				Tyne 97% higher since 2003 compared with mean of previous 5 years.	
		Promote catch and release, including 100% catch and release in some catchments.	Examination of catch statistics, release rates and annual compliance	Catch and release increased to over 50% of rod caught fish in recent years & 100% C&R on some catchments. Estimated to have contributed an extra 34 million eggs in 2006.	Continuing promotion of C&R at national and local levels.

Table 3.9.1. Cont'd. Summar	v of national objectives	, recent management measures a	nd attainment of management objectives.

Country	Objective	Measure	Assessment	Outcome/extent achieved	Further consideration
UK (England &	To meet a management target on	Regulations on River Lune introduced in	Assessment of counter data,	Increase in salmon spawning and	Contine to meet management
Wales)	the River Lune of 14.4 million	2000 to reduce exploitation in net and	catch statistics and juvenile	management target exceeded in all years	objectives
	eggs or about 5,000 adults	rod fisheries by 50% and 25%	monitoring data	since the regulation. Increases in juvenile	
		respectively.		production and net catch.	
	Maintain salmon stocks in SAC	Fishing controls, catch and release and	Examination of counter/rod data	2 are currently considered to be complying	Continue with management plan
	status	Action Plans as appropriate	to assess CL compliance for To	the CL 4 years out of 5	Targeted actions as identified in
	Status	Action Flans as appropriate.	Invers designated as SACS		Salmon Action Plans
UK (Northern	To conserve, enhance, restore	Voluntary net buyout scheme initiated in	Examination of fish counter & rod	Homewater exploitation in FCB area	Continue monitoring and
Ireland)	and manage salmon stocks in	FCB area in 2001/2.	catch data to assess spawning	reduced from around 10,542 fish per year	management protocols under the
	catchments throughout Northern		escapement on index rivers with	(1992-2001) to about 2,852 salmon per year	salmon management plans.
	Ireland through two Salmon		defined CLs	(2002-06).	
	Loughs Agency areas).	Introduction of conservation policies in	Examination of iuvenile electric		Continue to develop salmon
		angling byelaws including mandatory	fishing assessments in-river		management plans on other
		catch & release before 1st June and bag	habitat surveys		major catchments to define CLs
		limit of 2 salmon per day thereafter in the	,		and compliance monitoring
		FCB area.			mechanisms.
		Rational management of fishery in	Assessment of commercial and		Monitor effect of habitat
		Loughs Agency area based on	recreational exploitation through		enhancement schemes.
		compliance against temporal	a carcass tagging scheme in		
		instruments to increase/decrease in-	areas		
		season effort accordingly			
		Introduction of salmon management plan	Examination of CWT data to		
		in FCB area to facilitate monitoring	assess exploitation/survival		
		against CL's.	rates.		

Table 3.9.1. Cont'd. Summary of national objectives, recent management measures and attainment of management objectives.

Country	Objective	Measure	Assessment	Outcome/extent achieved	Further consideration
UK (Scotland)	Improve status of early running MSW salmon	Agreement by Salmon Net Fishing Association to delay fishing to beginning of April from 2000	Examination of catch statistics	80% reduction in MSW net fishery catch in February to March relative to previous 5 yr mean	Further reduction in exploitation
		Bervie, N.and S. Esk salmon district net fishery delayed til May with catch and release only until June	Examination of catch statistics	Believed to have increased escapement	Measure in place for 5 years. Re- evaluation after this period
France	Reduce exploitation on MSW in particular and increase escapement and compliance with river specific CLs	Closure since 1994 of Loire-Allier sport and commercial fisheries	Measured against compliance objectives for the area	This did not seem to enhance salmon numbers	Physical obstructions (noticeably Poutès-Monistrol Hydropower Dam) and other environmental factors, including higher temperatures, also being considered
		TACs introduced in 1996 in Brittany and Lower Normandy MSW TACs have lead to temporary closures on some rivers	Examination of catch statistics	Reduced catch and probably increased in spawning numbers. Reduced catch in MSW catch in Brittany since 2000 and Lower Normandy since 2003	Monitored river (Scorff) has failed to meet CL consistently since 1994. However, the Scorff is non typical of exploitation pattern in the area (small fishery)
		Management measures in the Adour- Gaves basin in 1999 and '2003	Examinaton of catch statistics	Some reduction in rod catch but current regulations have been unable to reduce the exploitation rate on MSW stocks as expected	Rod catch increased in 2004 and 2005 when measures lapsed with steady increase in effort and catch of estuary drift net fishery for 1999 to 2004
Germany	Reintroduction of Atlantic salmon Salmon stocks extinct since the middle of 20th century but improvements in conditions and water quality were thought to be sufficient to support salmon	Restocking of rivers running into North Sea (Rhine, Ems, Weser and Elbe). 2 million juveniles (mainly fry) released annually	Trap and counter data (Sieg, upper Rhine)	200-500 adults recorded annually. Return rates of less than 1%	Low return rates thought to reflect obstructions to migration in the Rhine delta as well as spawning tributaries and probably due to bye-catch in non-target fisheries
	Establish free migration routes for salmon and other migratory fishes and rehabilitation of habitat in rivers basins	Collaborative programme has started e.g. Rheinprogramm 2020 (ICPR) International Commision for the Protection of the River Rhine	Assessment in progress	Assessment in progress	



Figure 3.1.1. Estimated PFA (recruits), with 95% confidence limits, 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. Exploitation rates of wild 1SW and MSW salmon by commercial and recreational fisheries in the Northern NEAC area from 1971–2006.



Figure 3.1.3. Exploitation rates of wild 1SW and MSW salmon by commercial and recreational fisheries in the Southern NEAC area from 1971–2006.



Figure 3.6.1. PFA trends and predictions (95% confidence limits) for non-maturing 1SW European stock. Note: open square is 2006 update and blocked squares are 2007 to 2010 forecasts.



Figure 3.8.10.1. Annual rates of change (%) in marine survival indices of wild and hatchery smolts to adult returns to homewaters (prior to coastal fisheries) in different rivers in northern and southern NEAC areas. Filled circle = 1SW salmon; open circle = 2SW salmon. Note: the annual rates of change presented come from data sets of variable durations. It is therefore not possible to compare rivers directly.



Figure 3.10.2. Number and month of capture of post-smolts and adult salmon in non-target fisheries by Russian commercial trawlers (triangles) and Norwegian research ships (stars) in 2006.

4 North American Commission

4.1 Status of stocks/exploitation

In 2006, the midpoints of the 2SW spawner estimates for six geographic areas indicated that all areas except Newfoundland were below their conservation limit (Figure 4.1.1) and are suffering reduced reproductive capacity. Newfoundland was at risk of suffering reduced reproductive capacity.

The estimated exploitation rate of North American origin salmon in NAC fisheries has declined (Figure 4.1.2) from approximately 80% to 17% for 2SW salmon and from approximately 60% to 17% for 1SW salmon.

The stock status is elaborated in Section 4.9.

4.2 Management objectives

Management objectives are included in Section 1.3.

4.3 **Reference points**

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

4.4 Management advice

As the predicted number of 2SW salmon returning to North America in 2007 is substantially lower than the 2SW CL there are no catch options for the composite North American fisheries. Where spawning requirements are being achieved, there are no biological reasons to restrict the harvest.

Wild salmon populations are critically low in an extensive portion of North America and remnant populations require alternative conservation actions to fisheries regulation to maintain their genetic integrity and their persistence.

4.5 Relevant factors to be considered in management

The management for all fisheries should be based upon assessments of the status of individual stocks. Fisheries on mixed stocks, particularly in coastal waters or on the high seas, pose particular difficulties for management as they cannot target only stocks that are at full reproductive capacity. Conservation would be best achieved if fisheries target stocks that have been shown to be at full reproductive capacity. Fisheries in estuaries and especially rivers are more likely to meet this requirement.

4.6 Updated forecast of 2SW maturing fish for 2007

The updated 2007 forecast for 2SW maturing fish is based on an updated forecast of the 2006 pre-fishery abundance and accounting for fish which were already removed from the cohort by fisheries in Greenland and Labrador in 2006 as 1SW non-maturing fish.

4.6.1 Catch options for 2007 fisheries on 2SW maturing salmon

The updated forecast of the pre-fishery abundance for 2006 provides a PFA mid-point of 117 431, about 1% lower than the forecast last year. The 2006 pre-fishery abundance of maturing 2SW salmon will be available in homewaters in 2007.

Adjusted for natural mortality these catches are the equivalent of 3616 2SW salmon which potentially leaves 80 808 2SW salmon to return to rivers in North America in 2007.

As the predicted number of 2SW salmon returning to North America in 2007 is substantially lower than the 2SW conservation limit of 152 548, there are no catch options at probability levels of 75% for 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 are no biological reasons to restrict the harvest.

4.7 Pre-fishery abundance of 2SW salmon for 2007-2009

Catch options derived from the pre-fishery abundance forecast for 2007–2009 apply to North American fisheries in 2008–2010. The pre-fishery abundance for 2007–2009 is expected to be about 115 000 non-maturing 1SW salmon, a value similar to the estimated abundance for the period 1988 to 2005.

4.7.1 Catch options for 2008–2010 fisheries on 2SW maturing salmon

Accounting for potential catches in 2007–2009, natural mortality to home waters, and the management objective to achieve conservation escapements (assuming a sharing arrangement of 40% of the surplus to West Greenland and 60% to North America) the only risk averse catch option for 2SW salmon in 2008–2010 is zero catch on the composite North American stock.

4.8 Comparison with previous assessment and advice

The updated forecast of the pre-fishery abundance for 2006 provides a PFA mid-point of 117 000 fish. This is essentially unchanged (-1%) from the value forecast last year at this time of 119 000 fish and is mainly due to slight changes in the input values to the model used to forecast PFA for these stocks, as well as changes in the parameter values resulting from the additional year of PFA and lagged spawner values used in the model.

4.9 NASCO has requested ICES to describe the key events of the 2006 fisheries and the status of the stocks

4.9.1 Fisheries in 2006

Homewater fisheries

Three user groups exploited salmon in Canada in 2006: Aboriginal peoples, residents fishing for food in Labrador, and recreational fishers. There were no commercial fisheries in Canada in 2006. There was no harvest of sea-run Atlantic salmon in the USA in 2006.

The provisional harvest of salmon in 2006 by all users was 132 t (Table 2.1.1.1), about 5% lower than the 2005 harvest. The 2006 harvest was 44 233 small salmon and 11 131 large salmon, 7% less small salmon and 2% more large salmon, compared to 2005. The dramatic decline in harvested tonnage since 1988 is in large part due to major reductions in commercial fishery effort throughout Canada, introduced as a result of declining abundance of salmon.

The Aboriginal peoples' harvests in 2006 were 58.9 t, representing an increase of 11% from 2005 and a 6% decrease from the previous 5-year mean. The estimated harvest for residents fishing for food in Labrador was 2.6 t, about 1052 fish (73% small salmon by number). The recreational fisheries harvest totalled 35 171 small and large salmon, 22% below the previous 5-year average, 8% below the 2005 harvest level, and the lowest total harvest reported. The small salmon harvest of 32 171 fish was 5% below 2005 and 22% below the previous 5-year mean. The large salmon harvest of 3000 fish was 31% below the previous five-year mean and 27% below 2005. The small salmon size group has contributed 88% on average of the total harvests since the imposition of catch-and-release recreational fisheries in the Maritimes and insular Newfoundland in 1984.

France (Islands of Saint-Pierre and Miquelon)

In 2006, there were 14 professional and 48 recreational gillnet licenses issued for the fishery that operates between May 1 and July 31. These figures may not accurately reflect the fishing effort in 2006 as the number of fishers that actually fished is unknown.

The total reported harvest in 2006 was 3.6 t, an increase of 0.3 t from 2005 and the largest catch reported since 1983 (Table 2.1.1.1). Professional and recreational fishers reported catching 1730 kg and 1825 kg of salmon, respectively. There is no estimate of unreported catch.

YEAR	PROFESSIONAL LICENSES (KG)	RECREATIONAL LICENSES (KG)	TOTAL (KG)
1990	1146	734	1880
1991	632	530	1162
1992	1295	1024	2319
1993	1902	1041	2943
1994	2633	790	3423
1995	392	445	837
1996	951	617	1568
1997	762	729	1491
1998	1039	1268	2307
1999	1182	1140	2322
2000	1134	1133	2267
2001	1544	611	2155
2002	1223	729	1952
2003	1620	1272	2892
2004	1499	1285	2784
2005	2243	1044	3287
2005	1730	1825	3555

It is unknown if a biological sampling program was conducted in 2006; no reports were received by ICES.

4.9.2 Status of stocks

In 2006, the midpoints of the spawner abundance estimates for six geographic areas indicated that five areas were below their conservation limit for 2SW salmon and are suffering reduced reproductive capacity. Newfoundland was at risk of suffering reduced reproductive capacity (Figure 4.1.1).

Estimates of pre-fishery abundance suggest continued low abundance of North American adult salmon (Figure 4.9.2.1). The total population of 1SW and 2SW Atlantic salmon in the northwest Atlantic has oscillated around a generally declining trend since the 1970s (4.9.2.2). During 1993 to 2005, the total population of 1SW and 2SW Atlantic salmon was about 600 000 fish, about half of the average abundance during 1972 to 1990. The maturing component has declined by 47%, while the non-maturing has declined by 92%.

The returns of 2SW fish in 2006 were similar to 2005 in Labrador, the Gulf of St. Lawrence, Scotia– Fundy, and in the USA, increasing slightly in Newfoundland but declining slightly in Québec. However, all area returns remain close to the lower end of the 35-year time-series (1971–2005). While 2SW salmon are a minor component of Newfoundland stocks, decreases of about 30% have occurred from peak levels of the 1990s. Returns in 2006 of 1SW salmon increased from 2005 in Newfoundland and Labrador but declined or were similar in all other areas.

Egg depositions by all sea-ages combined in 2006 exceeded or equalled the river-specific conservation limits in 35 of the 77 assessed rivers (45%) and were less than 50% of CLs in 27 other rivers (35%, Figure 4.9.2.3).

Return rates to 1SW and 2SW salmon remain variable and unpredictable, with higher return rates in the northern areas and lower rates in the southern areas (Maritimes and USA).

Based on the general increase in 1SW returns in 2006 in all areas except Labrador an increase could be expected for 2SW salmon in 2007. However, return rates of 2SW salmon in monitored stocks remain low. An additional concern is the number of salmon stocks suffering reduced reproductive capacity in eastern NAC, particularly in the Bay of Fundy, Atlantic coast, and USA. Despite major changes in fisheries management, returns have continued to decline in these southern areas and many populations are currently threatened with extirpation.

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

There have been no significant management measures introduced within the NAC in recent years.

4.11 NASCO has asked ICES to provide a comprehensive description of coastal fisheries including timing and location of harvest, biological characteristics (size, age, origin) of the catch, and potential impacts on non-local salmon stocks

In Canada all Aboriginal Peoples have a constitutional right to harvest salmon for food, social, and ceremonial purposes (FSC). In 2006, there were four subsistence fisheries harvesting salmonids in Labrador:

- <u>Nunatsiavut Government (NG) members</u> fishing in the northern Labrador and in Lake Melville;
- <u>Innu Nation members</u> fishing in northern Labrador and in Lake Melville;
- Labrador residents fishing in Lake Melville and in southern Labrador;
- <u>Labrador Métis Nation (LMN)</u> members fishing in southern Labrador.

The Innu and LMN fisheries were jointly regulated by Aboriginal Fishery Guardians administered under the Aboriginal Fisheries Strategy Program with the Department of Fisheries and Oceans (DFO) as well as by DFO Fishery Officers and Guardian staff. The new Nunatsiavut Government is directly responsible through the Torngat Fisheries Board for regulating its fishery through its Conservation Officers. DFO staff is responsible for regulating the Labrador residents fishery. There are no FSC fisheries currently active in the northern portion of SFA 1 and in SFA 14B (Figure 4.11.1).

Description of the fisheries

The fishing gear is multifilament gillnets which are mainly set in estuarine waters although some nets are also set in coastal areas, usually within bays.

FSC fisheries catch statistics are based on logbook reports and fisheries guardians. The overall reporting rate for subsistence fisheries was 79% in 2005 and 2006.

Detailed descriptions of the timing and location of the four FSC fisheries are described in 2006 Management Plans for these fisheries. The harvest limits vary, depending on the management plan, from a minimum of 4 individual fish (Labrador residence) to a maximum of 3 t for the community of Sheshatsiu in Lake Melville and Natuashish (Innu Nation). Various location and timing restrictions apply (generally May through September).

Coastal versus estuary landings

The division of catch between coastal and estuary origins in Labrador FSCs was revised in 2006. In 2000–2005, coastal harvests were determined as all catches in FSCs in Labrador with the exception of Lake Melville, which was estuarine. In 2006, Fishery Officers employed by DFO in Labrador and aboriginal enforcement staff were asked to provide proportions of catch in estuary and coastal areas based on their expert knowledge. The definition used for an estuary was that of Pritchard (1967) which states that an estuary is a partly enclosed coastal body of water in which river water is mixed with seawater. These new proportions are shown in Figure 4.11.1. The text table below compares the new breakdown of catches into estuary and coastal areas to the old breakdown. The new proportions have been applied to the time-series in Section 2.1.1. ICES concluded that the revised approach improved the assignment of fishing locations to estuarine and coastal areas.

	w	eight (kg)		Percenta	ges (kg)	Previous n Percenta	nethods ges (kg)
Year	Estuarine	Coastal	Total	Estuarine	Coastal	Estuarine	Coastal
2000	13,278	2,335	15,613	85	15	38	62
2001	13,497	2,792	16,288	83	17	26	74
2002	13,987	3,585	17,572	80	20	23	77
2003	17,485	4,622	22,108	79	21	20	80
2004	24,862	6,787	31,649	79	21	23	77
2005	25,303	6,611	31,914	79	21	35	65
2006	23,169	7,073	30,242	77	23	30	70

Results of sampling program for Labrador FSCs

A sampling program was in place for the FSC fisheries in Labrador in 2006 and landed fish were sampled opportunistically. A total of 336 samples were collected from Northern and Southern Labrador. Scale reading indicated that 86% of the samples were from 1SW fish, 8% from 2SW, and 6% from previously spawned salmon.

The river ages of the FSC samples were compared to ages from scales obtained from adults at four assessment facilities in Labrador. There were no differences in river age distributions of adults from fisheries compared to returns to rivers in North (Chi-square=4.64, P=0.46) or South Labrador (Chi-square=4.25, P=0.51). Further, the freshwater age distribution did not differ (Chi-square=2.32, P=0.80) between the two regions of Labrador.

The relative absence of age 1 and 2 smolts in the FSC catches in 2006 suggests that these fisheries did not exploit southern North America stocks to any extent. The presence of river age 5 to 7 years in the FSC samples provides evidence that the FSC fisheries are exploiting northern area (predominantly Labrador) stocks.



Figure 4.1.1. Comparison of estimated midpoints 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. Exploitation rates in North America on the North American stock complex of 1SW and 2SW salmon.



Figure 4.9.2.1. 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 the grey symbols for deriving returns to Labrador using returns per unit of drainage area.



Figure 4.9.2.2. Total 1SW recruits (non-maturing and maturing) originating in North America.



Figure 4.9.2.3. Proportion of the conservation requirement attained (by all sea-age spawners) in assessed rivers of the North American Commission in 2006.



Figure 4.11.1. Map showing community locations mentioned in the text, SFAs, and proportions of estuary versus coastal in Labrador.

5 Atlantic salmon in the West Greenland Commission

5.1 Status of stocks/exploitation

ICES considers the stock complex at West Greenland to be below conservation limits and thus suffering reduced reproductive capacity.

North American stock

The North American stock complex of non-maturing salmon has declined to the lowest levels in the time-series (Figure 5.1.1). In 2006, the estimated overall spawning escapement was below the conservation limit for the stock complex. Specifically, 2SW spawners in the regions (Figure 4.1.1) are:

- **<u>Newfoundland</u>**: at risk of suffering reduced reproductive capacity (112% of 2SW CL);
- **Labrador:** suffering reduced reproductive capacity (40% of 2SW CL);
- **Québec:** suffering reduced reproductive capacity (65% of 2SW CL);
- <u>Gulf of St. Lawrence:</u> suffering reduced reproductive capacity (81% of 2SW CL);
- <u>Scotia–Fundy:</u> suffering reduced reproductive capacity (10% of 2SW CL);
- <u>United States:</u> suffering reduced reproductive capacity (6% of 2SW CL).

The exploitation rate for North American non-maturing 1SW fish at West Greenland has averaged around 3% in the last four years (Figure 5.1.2).

European stocks

Estimates of pre-fishery abundance suggest a downward trend in southern European MSW adult salmon over the last 10 years (Figure 5.1.1). The midpoint of spawners has been close to or below conservation limits in recent years (Figure 3.1.1). Specifically:

• <u>Southern European stock complex:</u> suffering reduced reproductive capacity (82% of 2SW CL).

Status of stocks in the NEAC and NAC areas are presented in the relevant Commission sections (Sections 3 and 4).

5.2 Management objectives

For management advice for the West Greenland fishery, NASCO has adopted a precautionary management plan requiring at least a 75% probability of achieving three management objectives:

- Meeting the conservation limits simultaneously in the four northern regions of North America: Labrador, Newfoundland, Quebec, and Gulf;
- Achieving increases in returns to the Scotia–Fundy and USA regions relative to the base years 1992–1996. Improvements of greater than 25% and 10% relative to base year returns are presented although, to achieve a 25% increase, by definition the 10% increase is also achieved;
- Meeting the conservation limit for the southern NEAC MSW complex.

Although not a formal management objective, ICES also provides the probability of returns to North America being less than the previous five-year average.

5.3 **Reference points**

The reference points for West Greenland catch options are the conservation limits (CLs) for North American and southern European stock complexes. Region-specific conservation limits are derived in three ways:

• In many regions of North America, the CLs are calculated as the number of spawners required to fully seed the wetted area of the river;

- In some regions of Europe, pseudo stock-recruitment observations are used to calculate a hockey stick relationship, with the inflection point defining the CLs;
- In the remaining regions, the CLs are calculated as the 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 region-specific CLs (NASCO, 1998). These regional CLs are limit reference points; having populations fall below these limits should be avoided with high probability.

CLs for the West Greenland fishery for North America are limited to 2SW salmon and for southern European stocks are limited to MSW fish, because fish at West Greenland are primarily (> 90%) 1SW non-maturing salmon destined to mature as either 2SW or 3SW salmon.

The North America 2SW CL is 152 548 fish, with 123 349 required in Canadian rivers and 29 199 in USA rivers (see Section 4.3). The CL for the southern European MSW stocks is 269 000 fish (Section 3.3). There is still considerable uncertainty in the CLs for European stocks and estimates may change from year to year due to new data in the pseudo stock–recruitment relationship.

5.4 Management advice

None of the stated management objectives would allow a fishery at West Greenland to take place in 2007, 2008, or 2009. There should be no catch on the stocks at West Greenland in 2007, 2008, or 2009.

Risk analyses for these years illustrate that attaining CLs for the NAC stock complex is sensitive to the magnitude of catches at West Greenland (Table 5.4.1). Therefore, where catches are allowed, it is imperative that fishing is closely monitored and full details are provided to ICES.

In the absence of a fishery, the probability that returns in all regions of North America will be less than the 2002–2006 average is 36% for 2008, 30% for 2009, and 34% for 2010 (Table 5.4.2).

5.5 Relevant factors to be considered in management

The salmon caught in the West Greenland fishery are mostly (> 90%) non-maturing 1SW salmon, most of which are destined to return to home waters in Europe or North America as 2SW fish. The primary MSW European stocks contributing to the fishery in West Greenland are thought to originate from the southern stock complex, although low numbers may originate from other stock complexes. Most MSW stocks in North America are thought to contribute to the fishery at West Greenland. Previous spawners, including salmon that spawned first as 1SW and 2SW salmon also contribute to the fishery.

For all fisheries, 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 Pre-fishery abundance forecasts 2007, 2008, and 2009

The PFA forecasts for the West Greenland stock complex are among the lowest in time-series (Figure 5.1.1).

5.6.1 North American stock complex

Two temporal phases of salmon production in the Northwest Atlantic have been previously described (ICES, 2003). Lower recruitment rates are evident throughout eastern Canada and USA. The North American pre-fishery abundance (PFA_{NA}) forecasts for 2007–2009 have median values of 113 100, 118 000, and 114 200, respectively. These forecasts are among the

lowest in the time-series and are highly unlikely to meet the 2SW spawner escapement reserves of 212 189 salmon to North America in each year.

5.6.2 Southern European MSW stock complex

The spawning escapement for the southern NEAC MSW stock complex has not exceeded its conservation limit throughout most of the time period. The PFA forecasts for the southern NEAC non-maturing 1SW stock complex for 2007–2009 have median values of 455 415, 434 060, and 413 701, respectively. These forecasts are among the lowest in the time-series and are highly unlikely to meet the spawner escapement reserve of 455 413, except for 2007.

5.7 Comparison with previous assessment and advice

The management advice and catch options for the West Greenland fishery have been the same since 2003. The current modelling approach has provided stable comparisons of the previous year's predictions and updated PFA_{NA} in the last two years. For 2006, the median value of the updated analysis for NAC has decreased to 117 431 fish from the 119 000 predicted in the previous year's analysis. The revised forecast of the southern NEAC MSW PFA for 2006 provides a PFA midpoint of 483 700. This is close to the value forecast last year at this time of 489 000.

5.8 NASCO has requested ICES to describe the events of the 2006 fishery and status of the stocks

At its annual meeting in June 2006 NASCO agreed to restrict the fishery at West Greenland *to that amount used for internal subsistence consumption in Greenland*. Consequently, the Greenlandic authorities set the commercial quota to nil, i.e. landings to fish plants, resale in grocery shops/markets, and commercial export of salmon from Greenland was forbidden. Licensed fishers 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 Organization for Fishermen and Hunters in Greenland the fishery for salmon was allowed from August 1 to October 31.

5.8.1 Catch and effort in 2006

By the end of the season a total of 20.7 t of landed salmon were reported. In total, 236 reports were received, a 61% increase from the 145 received last year. Catches were distributed among the six NAFO divisions on the western coast of Greenland (Figure 5.8.1.1), with catches in 1A, 1D, and 1F higher than the other three divisions (Table 5.8.1.1). In 2006, catch was reported from week 32 to week 44, with 44% of the catch by weight reported in week 44 and no more than 10% in any of the remaining weeks. Since 2003, the proportion of the catch reported in week 44 or later has ranged from 2% to 20%. In late October 2006, the Greenland Home Rule License Office broadcast TV requests that catch reports be submitted for the season. Thus, it is possible that the temporal distribution of reported catch in 2006 reflects changes in reporting practice.

In 2006 a total of 136 people landed salmon, with five reporting landings in more than one NAFO Division. The number of fishers reporting catches has steadily increased from approximately 40 to 136 over the last 5 years, but is below the 400 to 600 people reporting landings in the commercial fishery 1987 to 1991. There is presently no quantitative approach for estimating the unreported catch. However, in 2006 it is likely to have been at the same level proposed in recent years (10 t).

5.8.2 Biological characteristics of the catches

The international sampling program for landings at West Greenland initiated by NASCO in 2001 was continued in 2006. Temporal coverage was adequate to assess the fishery. Tissue and biological samples were collected from five landing sites: Qaqortoq (NAFO Div. 1F),

Paamiut (NAFO Div. 1E), Nuuk (NAFO Div. 1D), Maniitsoq (NAFO Div. 1C), and Ilulissat (NAFO Div. 1A) (Figure 5.8.1.1). In total 1253 salmon were inspected for the presence of tags, representing 25% by weight of the reported landings. Of these, 1104 were measured for fork length and weight, and scales were collected from 1118. Unlike in previous years, there was no need to adjust the total landings by replacing the reported catch with the weight of fish sampled for use in assessment calculations.

The average weight of a fish from the 2006 catch was 3.24 kg across all ages, with North American 1SW fish averaging 65.3 cm and 3.10 kg whole weight and European 1SW salmon averaging 65.3 cm and 3.25 kg (Table 5.8.1.1).

North American salmon up to river-age 6 were caught at West Greenland in 2006 (Table 5.8.1.1), with approximately 44% being river-age 3 and 27% being river-age 4. The river ages of European salmon ranged from 1 to 5 (Table 5.8.1.1). Over half (54%) of the European fish in the catch were river-age 2 and 23.6% were river-age 3. The proportion of the European origin river-age 1 salmon in the catch has ranged been between 9% and 19% since 2001.

In 2006, 98.8% of the European samples were 1SW salmon, with previous spawners 1.2% of the samples. 1SW salmon dominated (93%) the North American component, with previous spawners decreasing to 5.6% from 6.4% of the samples last year (Table 5.8.1.1).

Tissue for disease testing was obtained from 119 whole fish in Nuuk. These samples were tested for the presence of ISAv by RT-PCR assay only and all test results were negative. The sex was determined by examining gonads for 121 salmon (119 whole and 3 viscera); of these 23 (18%) were males and 98 (82%) females.

Of the 1193 samples collected for genetic characterization, most (1042) were genotyped at four microsatellites (Ssa202, Ssa289, SSOSL438, and SSOSL311). Two samples were removed from the analysis and the remainder were genotyped at 2 (n=3) or 3 (n=146) loci. A database of approximately 5000 Atlantic salmon genotypes of known origin was used as a baseline to assign these salmon to continent of origin. In total, 72% of the salmon sampled from the 2006 fishery were of North American origin and 28% fish were of European origin.

Applying the continental percentages for the NAFO division catches resulted in estimates of 14.3 t of North American origin and 6.4 t of European origin fish (4000 and 1800 rounded to the nearest 100 fish, respectively) landed in West Greenland in 2006 (Table 5.8.2.1).

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

There were no changes to the models used to provide catch options.

5.9.1 Run-reconstruction models

The run-reconstruction models to estimate pre-fishery abundance of 1SW non-maturing and maturing 2SW fish adjusted by natural mortality to the time prior to the West Greenland fishery are the same as those used since 2003 (ICES, 2003).

5.9.2 Forecast models for pre-fishery abundance of 2SW salmon

The forecast models used to estimate pre-fishery abundance of non-maturing 1SW salmon (potential MSW) for North America were the same as those used since 2004 (ICES, 2004). The overall approach is to model the natural log transformed PFA_{NA} and LS_{NA} using linear regression and the Monte Carlo method to derive the probability density for the PFA_{NA} forecast.

The forecast models used to estimate pre-fishery abundance of non-maturing 1SW salmon (potential MSW) from the southern European stock group were the same as those used since 2002 (ICES, 2002). The overall approach is to select the best model by adding variables (eg. spawners, habitat, PFA of maturing 1SW salmon, and year) until addition of any other parameter was not significant.

5.9.3 Development and risk assessment of catch options

The 2007–2009 PFA estimates were used to develop the risk analysis and catch options presented in Section 5.4. The risk assessment for the two stock complexes in the West Greenland fishery is developed in parallel and then combined at the end of the process into a single summary plot or catch options table. The primary inputs to the risk analysis for the complex at West Greenland are:

- PFA forecast for the year of the fishery; PFA_{NA} and PFA_{NEAC} ;
- Harvest level being considered (t of salmon);
- Conservation spawning limits.

The final step in the risk analysis of the catch options involves combining the conservation requirement with the probability distribution of the returns to North America for different catch options. The returns to North America are partitioned into regional returns based on the regional proportions of 2SW returns of the last five years, 2002 to 2006. Estimated returns to each region are compared to the conservation objectives of Labrador, Newfoundland, Quebec, and Gulf. Estimated returns for Scotia–Fundy and USA are compared to the objective of achieving an increase of 10% and 25% relative to average returns of the base period, 1992–1996.

There were no changes to the risk assessment of catch options model.

5.10 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

NASCO management is directed at reducing exploitation to allow river-specific conservation limits to be achieved. Although spawning escapement is influenced by measures taken in homewaters, it is possible to evaluate the extent to which management at West Greenland successfully achieved the objectives (Table 5.10.1):

- Reduction of exploitation at West Greenland has been achieved;
- The simultaneous attainment of conservation limits in Labrador, Newfoundland, Quebec, and the Gulf of St Lawrence has not been achieved;
- There has not been a 10% or 25% increase in spawners to either Scotia–Fundy or the USA;
- The objective of consistently meeting the conservation limits for the southern NEAC MSW complex has not been achieved.

2007						
WEST GREENLAND HARVEST	SIMULTANEOUS CONSERVATION	IMPROVEMENT OF RETU	CONSERVATION MSW SALMON			
(T)	(LAB, NF, QUEB, GULF)	>10%	> 25%	SOUTHERN NEAC		
0	0.016	0.002	0.001	0.635		
5	0.015	0.002	0.001	0.629		
10	0.015	0.002	0.001	0.624		
15	0.014	0.002	0.001	0.618		
20	0.013	0.002	0.001	0.612		
25	0.012	0.002	0.001	0.606		
30	0.012	0.002	0.001	0.603		
35	0.011	0.002	0.001	0.597		
40	0.011	0.002	0.001	0.592		
45	0.011	0.002	0.001	0.587		
50	0.010	0.002	0.001	0.582		
100	0.007	0.001	0.001	0.525		

Table 5.4.1. Catch options (t) for West Greenland harvest in 2007, 2008, and 2009 with the probability of meeting management objectives: meeting the 2SW conservation limits simultaneously in the four northern areas of North America; achieving increases in returns from base year average (1992–1996) in the two southern areas; and meeting the MSW conservation limit of the southern European stock complex relative to quota options.

WEST GREENLAND HARVEST	Simultaneous Conservation	IMPROVEMENT (SF, USA) OF RETURNS		CONSERVATION MSW SALMON
(T)	(LAB, NF, QUEB, GULF)	>10%	> 25%	SOUTHERN NEAC
0	0.025	0.007	0.005	0.559
5	0.024	0.007	0.005	0.552
10	0.023	0.007	0.004	0.546
15	0.022	0.007	0.004	0.540
20	0.021	0.007	0.004	0.535
25	0.021	0.006	0.004	0.529
30	0.020	0.006	0.004	0.523
35	0.020	0.006	0.004	0.516
40	0.019	0.006	0.004	0.509
45	0.018	0.006	0.004	0.503
50	0.018	0.006	0.004	0.497
100	0.015	0.005	0.003	0.441

Table 5.4.1. Continued. Catch options (t) for West Greenland harvest in 2007, 2008, and 2009 with
the probability of meeting management objectives: meeting the 2SW conservation limits
simultaneously in the four northern areas of North America; achieving increases in returns from
base year average (1992-1996) in the two southern areas; and meeting the MSW conservation
limit of the southern European stock complex relative to quota options.

2009					
WEST GREENLAND HARVEST	SIMULTANEOUS CONSERVATION	IMPROVEMENT OF RETU	r (SF, USA) JRNS	CONSERVATION MSW SALMON	
(T)	(LAB, NF, QUEB, GULF)	>10%	> 25%	SOUTHERN NEAC	
0	0.024	0.006	0.003	0.470	
5	0.023	0.005	0.003	0.464	
10	0.022	0.005	0.003	0.457	
15	0.021	0.005	0.003	0.452	
20	0.021	0.005	0.003	0.445	
25	0.020	0.005	0.003	0.440	
30	0.019	0.005	0.003	0.434	
35	0.018	0.004	0.003	0.430	
40	0.018	0.004	0.002	0.424	
45	0.017	0.004	0.002	0.418	
50	0.017	0.004	0.002	0.413	
100	0.012	0.003	0.002	0.358	

 $(Lab,\,NF,\,Queb,\,Gulf)=Labrador,\,Newfoundland,\,Quebec,\,Gulf$

(SF, USA) = Scotia–Fundy and USA

A sharing arrangement of 40:60 (Fna) was assumed.

Table 5.4.2. Probability of 2SW returns in 2008, 2009, and 2010 being less than the previous five-
year average (2002-2006) returns to regions of North America, relative to catch options at West
Greenland.

West Greenland Harvest	2008	2009	2010
TONS	PROBABILITY	PROBABILITY	PROBABILITY
0	0.359	0.304	0.340
5	0.385	0.331	0.367
10	0.411	0.360	0.394
15	0.436	0.390	0.421
20	0.463	0.416	0.448
25	0.486	0.442	0.473
30	0.510	0.467	0.500
35	0.537	0.491	0.527
40	0.559	0.517	0.554
45	0.582	0.541	0.578
50	0.605	0.563	0.598
100	0.784	0.760	0.784

Table 5.8.1.1. Nominal catches and biological characteristics of the West Greenland catch, 2006. NA = North American salmon, E= European salmon.

Distribution of 2006 nominal catch (metric tons) among NAFO Divisions.						
Total			NAFO D	ivision		
Totul	1A	1B	1C	1D	1E	1F
20	5	2	3	4	2	4

River age di	istribution (%)	by origin						
	1	2	3	4	5	6	7	8
NA	0.6	13.9	44.6	27.6	12.3	1.0	0	0
E	17.7	54.0	23.6	3.7	0.9	0	0	0

Length and weight by origin and sea age.								
	1 S	SW	2 8	SW	Previ	ious spawner	s All se	a ages
	Fork	Whole	Fork	Whole	Fork	Whole	Fork	Whole
	length (cm)	weight (kg)	length (cm)	weight (kg)	length (cm)	weight (kg)	length (cm)	weight (kg)
NA	65.3	3.10	90.0	9.72	76.8	5.05	66.0	3.25
E	65.3	3.25			69.5	3.67	65.4	3.26

Biological Characteristics of Atlantic salmon sampled from the 2006 West Greenland food fishery.

Continent of Origin (%)

North America	Europe
72.0	28.0
12.0	20:0

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

Sea-age composition (%)					
	1SW	2SW	Previous Spawners		
NA	93.0	0.8	5.6		
Е	98.8	0.0	1.2		

	Numbers of			
Year	Salmon caught			
_	NA	Е		
1995	22 100	10 400		
1996	23 400	8700		
1997	17 200	4300		
1998	3200	900		
1999	5600	700		
2000	5800	2500		
2001	9900	4500		
2002	2300	1100		
2003	2800	1300		
2004	4000	1500		
2005	3700	1200		
2006	4000	1800		

Table 5.8.2.1. The catch weighted numbers of North American (NA) and European (E) Atlantic salmon caught at West Greenland 1995-2006. Numbers are rounded to the nearest hundred fish.

OBJECTIVE	ASSESSMENT	OUTCOME/EXTENT ACHIEVED	FURTHER CONSIDERATION
Reduce exploitation.	Assessment, reported and unreported landings compared to negotiated catch quotas for the fishery.	There is no commercial fishery (quota set at nil). The internal consumption fishery has no quota.	Reporting rate for the internal consumption fishery and reported catch increased in 2006. Estimates of unreported catch are unchanged.
75% chance of meeting the conservation limits simultaneously in the four northern regions of North America.	Assessment of returns to North America. Run reconstruction to estimate overall returns (Sec. 4.9) related to estimated spawning escapement reserve at West Greenland.	This objective has not yet been achieved.	Restrict fisheries on mixed stocks and stocks below Conservation Limits. Examine other limiting factors such as causes of increased marine mortality, habitat quality, predators, etc.
75% chance of achieving increases in returns relative to previous years, with the hope that this leads to the rebuilding of Scotia–Fundy and USA stocks.	Assessment of returns to North America. Run reconstruction to estimate overall returns (Sec. 4.9). Improvements of greater than 10% and greater than 25% relative to returns are evaluated (Sec 4.9)	This objective has not been achieved.	Restrict fisheries on mixed stocks and stocks below Conservation Limits. Examine other limiting factors such as causes of increased marine mortality, habitat quality, predators, etc. Recovery plans developed for the stocks listed as endangered/ at risk.
75% chance of meeting spawner escapement requirement for the southern NEAC MSW complex.	Assessment of returns to southern NEAC. Run reconstruction to estimate overall returns (Sec. 3.3) related to estimated spawning escapement reserve at West Greenland.	This objective has not been achieved.	Restrict fisheries on mixed stocks and stocks below Conservation Limits. Examine other biologically limiting factors such as causes of increased or high marine mortality, habitat quality, bycatch, predators, etc.

Table 5.10.1. Assessing the objectives of NASCO management of the West Greenland fishery.



Figure 5.1.1. PFA estimated for North American (NA) and European (E) non-maturing 1SW salmon contributing to the stock complex at West Greenland. Open symbols are forecast estimates.



Figure 5.1.2. Exploitation rate for non-maturing 1SW Atlantic salmon at West Greenland, estimated from harvest and PFA of North American non-maturing 1SW salmon.


Figure 5.8.1.1. Location of NAFO divisions along the coast of West Greenland.

List of Participants

List of Participants

* Denotes Head of Delegation

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