REPORT OF THE TWENTY-SECOND ANNUAL MEETING OF THE COUNCIL

VICHY, FRANCE

6-10 JUNE 2005

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Vice-President: Mr Arni Isaksson (Iceland)

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CNL(05)50

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

1. Opening Session

1.1 The President, Dr Ken Whelan, opened the meeting. M. Pascal Berteaud, Directeur de l'Eau du Ministère de l'Écologie et du Développement Durable, welcomed delegates to Vichy (Annex 1). The President thanked M. Berteaud for his welcoming address and then made an opening statement on the work of the Organization (Annex 2).

1.2 The representatives of Canada, Denmark (in respect of the Faroe Islands and Greenland), the European Union, Iceland, Norway, the Russian Federation and the United States of America made opening statements (Annex 3).

1.3 Opening statements were made by the International Baltic Sea Fishery Commission (IBSFC), the North Atlantic Marine Mammal Commission (NAMMCO) and the North Pacific Anadromous Fish Commission (NPAFC) (Annex 4).

1.4 Opening statements were made on behalf of all the 15 Non-Government Organizations (NGOs) attending the Annual Meeting and jointly by Fondation Saumon, WWF (France), the European Anglers Alliance (France) and AIDSA (Annex 5).

1.5 The President expressed appreciation to the Parties and to the observer organizations for their statements and closed the Opening Session.

1.6 A list of participants is contained in Annex 6.

2. Adoption of Agenda

2.1 The Council adopted its agenda, CNL(05)36 (Annex 7).

3. Administrative Issues

3.1 Secretary's Report

The Secretary made a report to the Council, CNL(05)5, on: the status of ratifications of, and accessions to, the Convention; membership of the regional Commissions; observers at NASCO's meetings; a meeting of Regional Fishery Bodies held at FAO Headquarters in Rome; the Liaison Group Workshop entitled 'Wild and Farmed Salmon – Working Together' to be held in Trondheim, Norway on 9 August; the ICES/NASCO Symposium entitled 'Interactions between aquaculture and wild stocks of Atlantic salmon and other diadromous fish species: Science and Management, Challenges and Solutions' to be held in Bergen, Norway during 18-21 October 2005; fishing for salmon in international waters; the Tag Return Incentive Scheme; a review

of international salmon-related literature published in 2004; the Organization's financial affairs and the Headquarters Property.

In accordance with Financial Rule 5.5, the Secretary reported on the receipt of contributions for 2005. All contributions had been received and there were no arrears.

3.2 **Report of the Finance and Administration Committee**

The Chairman of the Finance and Administration Committee, Mr Steinar Hermansen (Norway), presented the report of the Committee, CNL(05)6. He indicated that elections had been held and Mr Andrew Thomson (European Union) had been appointed as Chairman and Dr Boris Prischepa (Russian Federation) was appointed as Vice-Chairman. On the recommendation of the Committee the Council took the following decisions:

(i) to accept the audited 2004 annual financial statement, FAC(05)2;

(ii) to adopt a budget for 2006 and to note a forecast budget for 2007, CNL(05)53 (Annex 8);

(iii) to increase the ceiling level of the Working Capital Fund to £200,000 and to amend Financial Rule 6.3 to reflect this change;

(iv) to appoint PricewaterhouseCoopers (PWC) of Edinburgh as auditors for the 2005 accounts, or such other company as may be agreed by the Secretary following consultation with the Chairman of the Finance and Administration Committee;

(v) to adopt the report of the Finance and Administration Committee.

The President thanked Mr Hermansen for his valuable work and for that of the Committee.

3.3 **Report on the Activities of the Organization in 2004**

In accordance with Article 5, paragraph 6 of the Convention, the Council adopted a report to the Parties on the Activities of the Organization in 2004, CNL(05)7.

The Council agreed to publish a report on its activities over the last twenty years. The Secretary was asked to prepare the report which would be agreed by correspondence with Heads of Delegations.

3.4 **Announcement of the Tag Return Incentive Scheme Grand Prize**

The President announced that the winner of the $2,500 Grand Prize was Mr Ilya Scherbovich, Moscow, Russia. The Council offered its congratulations to the winner.

4. Scientific, Technical, Legal and Other Information

4.1 Scientific Advice from ICES

The representative of ICES presented the report of the Advisory Committee on Fishery Management (ACFM) to the Council, CNL(05)8 (Annex 9).

A presentation was made by Mr Vincent Vauclin of the Conseil Supérieur de la Pêche, France, on the restoration and management of Atlantic salmon in France, CNL(05)37.

4.2 Catch Statistics and their Analysis

The Secretary tabled a statistical paper presenting the official catch returns by the Parties for 2004, CNL(05)9 (Annex 10), and historical data for the period 1960-2004, CNL(05)10**.** Additional information on catch statistics for the European Union is presented in documents CNL(05)29 and CNL(05)33. The statistics for 2004 are provisional.

4.3 Scientific Research Fishing in the Convention Area

Reports on scientific research fishing conducted since the last Annual Meeting were made by Denmark (in respect of the Faroe Islands and Greenland), EU (UK – Scotland) and Norway. A report on gear trials of a novel pelagic trawl for use in Atlantic salmon post-smolt surveys was tabled by the European Union, CNL(05)38 (Annex 11).

4.4 Report of the International Atlantic Salmon Research Board

The report of the Fourth Meeting of the Board, CNL(05)11 (Annex 12), was presented by the Chairman of the Board, Mr Jacque Robichaud. He reported that the Board had updated its inventory of research related to salmon mortality in the sea and had received advice from its Scientific Advisory Group. Expenditure on the 54 on-going projects in the inventory amounts to approximately £5.7 million (an increase of 24% compared to reported expenditure in 2004). No costings were available for 7 of the projects.

In October 2004, the Board had organised a Workshop in Dublin to develop a major proposal for a programme of research on salmon at sea, the SALSEA programme. The Chairman indicated that SALSEA contains a comprehensive mix of freshwater, estuarine, coastal and offshore elements ensuring a comprehensive overview of factors which may affect the marine mortality of Atlantic salmon. It is an ambitious programme that will take many years to complete but it encompasses all of the key areas where additional scientific knowledge is required. It is structured into four work packages to address key hypotheses and it differentiates between those tasks which can be achieved through enhanced coordination of existing on-going research and those where funding will be required. A major fund-raising exercise would be necessary to support the proposed research on oceanic distribution and migration and the further development of supporting technologies for the proposed research cruises (genetic stock identification, evolution of sampling equipment and scale analysis of marine growth). The total cost of this research programme is estimated to be

approximately £7.8 million assuming two years of marine surveys. The Board had, therefore, employed a firm of fund-raising consultants, Brakeley Consultants, to develop a strategy for raising these very substantial sums from the private sector. They had indicated to the Board that they believed it had a good case but that there would need to be a significant commitment from Board funds if an effective fund-raising campaign was to be conducted as it would normally take at least 2 years (and possibly up to 5 years) before significant funds might be found. They had also suggested increasing the partnership with NGOs. The Board fully endorsed the SALSEA programme and agreed on the next steps for its implementation. The Chairman indicated that the Board had noted that funds could either be raised from the NASCO Parties or through fund-raising but either way it will need a substantial commitment by the Parties. The Board noted that some of its present funds could only be spent on research work while others could be spent on fund-raising activities. The Board agreed on its next steps with regard to fund-raising.

The Council supported the SALSEA initiative and recognised the importance of moving forward with the programme in cooperation with stakeholders. The Council recognised that it would be important to publicise the SALSEA programme and one effective way to raise its profile would be through presentations on the programme to fisheries ministers.

The President encouraged the Parties to consider how the SALSEA programme could be supported, either through provision of ship time or by direct financial contributions to the Board.

4.5 **Report of the Standing Scientific Committee**

The Chairman of the Standing Scientific Committee presented a draft request to ICES for scientific advice. Upon the recommendation of the Committee, the Council adopted a request for scientific advice from ICES, CNL(05)12 (Annex 13).

He referred to initial work that had been carried out by the Committee in developing options for amending the form and nature of the request for scientific advice in the event that multi-annual regulatory measures are established. The Council asked that the Standing Scientific Committee continue this work and develop a discussion document which should be made available to the Parties in advance of the next Annual Meeting.

5. Next Steps for NASCO

5.1 Last year, in order to mark NASCO's Twentieth Anniversary, the Heads of Delegations had asked the Secretary to produce a review with ideas on NASCO's Working Methods and Structures. The United States had tabled a report entitled 'NASCO – the Past, Present and Future'. A Vision Statement for NASCO, which had been written by four authors, including the Chairman of NASCO's accredited NGOs, had also been presented. In the light of the many valuable suggestions made, the Council had decided to establish a Working Group on the Next Steps for NASCO with the aim of developing and strengthening the Organization to ensure that it continues to be a world-class regional fisheries organization over the next twenty years. As part of the Working Group's deliberations the Council had asked that it undertake consultation meetings with stakeholders. Two such consultation meetings

had been held, one in London, England, UK on 19 January 2005 and another in Portland, Maine, USA on 25 January 2005. The report of the consultation meetings is presented in document CNL(05)13 (Annex 14) and the feedback received had been fully taken into account by the Working Group in developing its recommendations.

(a) Discussion on the Report of the 'Next Steps for NASCO' Working Group

In order to allow participation in the discussion of the Working Group's report the Council held an Open Session to which all who had participated in the consultation meetings had been invited, so as to allow for further feedback on the Working Group's recommendation on the Next Steps for NASCO.

Mr Steinar Hermansen (Norway), Chairman of the Next Steps for NASCO Working Group, introduced the Group's report, CNL(05)14 (Annex 15). He indicated that the Working Group had held two productive meetings and two consultation meetings and had received valuable input from the NGOs at both the Working Group and consultation meetings. He thanked all who had contributed to the Working Group's deliberations. He asked the co-chairs of the consultation meetings to briefly report to the Open Session on the outcome of the meetings.

Mr Andrew Thomson (EU) and Mr Bjornulf Kristiansen (Norges Bondelag) who Co-Chaired the London consultation meeting, and Ms Patricia Kurkul (USA) and Mr Scott Burns (WWF-US) who Co-Chaired the Portland consultation meeting, presented a brief overview of these meetings. In short, the main messages arising from the consultation meetings were:

- there is considerable goodwill and support among stakeholders for what NASCO has achieved;

- NASCO is not well known to its stakeholders and needs to better promote and publicise its work since many stakeholders were unaware of what had been achieved;

- the Parties have developed good agreements in NASCO but there needs to be more urgency on implementation and improved reporting;

- NASCO's NGOs wish to be more involved in the Organization's work;

- the options developed by the Working Group at its first meeting for consolidating the progress made by NASCO to date, and to better ensure NASCO can meet its objectives in the future, were well received;

- there was considerable support for the work of NASCO's International Atlantic Salmon Research Board and widespread support for the focus areas for future NASCO work identified by the Working Group.

The Secretary then presented an overview of the Group's recommendations. The Working Group had identified a number of challenges for international cooperation on Atlantic salmon conservation and management. While the Group had recognised the progress made by NASCO in the past 20 years it felt that the Organization's objectives and achievements could be more strategically organised and presented so

as to better achieve NASCO's mandate. The Group had recommended the adoption of a vision for NASCO which will more clearly demonstrate its overall goal, and had suggested that the future activities of NASCO should be framed in the form of a Strategic Approach highlighting the actions required for realising the vision under the headings of:

- Commitments;
- Effectiveness and Efficiency;
- Transparency and Inclusivity;
- Raising NASCO's Profile.

During the Open Session a paper was tabled by WWF (US) reviewing compliance and accountability approaches used in other international organizations, CNL(05)35.

(b) Decisions by the Council

The Council recognised that the Working Group report contains an extensive range of recommendations. The Council adopted a Strategic Approach for NASCO's Next Steps, CNL(05)49 (Annex 16), which contains decisions by the Council in response to the recommendations from the Next Steps for NASCO Working Group and the associated consultation process. The Strategic Approach contains some decisions for immediate implementation and others which require further consideration to effect implementation.

The Council appointed Mr Gudmundur Helgason (Iceland) to Chair the Task Force referred to in document CNL(05)49. The date and place of the first meeting of the Task Force will be agreed by correspondence.

The President invited the representative of the accredited NGOs to comment on the decisions taken by the Council. Mr Poupard, Chairman of NASCO's NGOs, expressed the NGOs' support for the Next Steps process and applauded its outcome so far. He stressed the need for continuing transparency and inclusiveness and emphasised the commitment of the NGOs to working in partnership with NASCO to create a more effective Organization.

The President read out the following statement from the Atlantic Salmon Federation and the World Wildlife Fund:

"ASF and WWF thank NASCO and all Parties for the transparent and inclusive manner in which this year's Annual Meeting has been conducted. We also note that NASCO's Next Steps Working Group has proposed a number of new measures that would further enhance tansparency and provide new opportunities for stakeholder participation in NASCO's work. ASF and WWF strongly support these proposed changes, which the Parties have committed to further develop intersessionally. We also applaud NASCO for its serious treatment of the recommendations contained in 'NASCO's future: A Vision Statement', commissioned by ASF and WWF in 2004. In recognition of these steps by NASCO, and in keeping with the spirit and cooperation that they reflect, WWF and ASF intend to apply for accredited NGO status in advance of next year's Annual Meeting."

The Council asked the Secretariat to prepare a report of the Open Session based on the format of the report of the consultation meetings.

6. Conservation, Restoration, Enhancement and Rational Management of Salmon Stocks

The President invited the Parties to present brief reports highlighting the key areas of their returns under agenda items 6.2, 6.3(a), 6.4(c), 6.7 and 6.8(a). Canada, CNL(05)51 (Annex 17), the European Union, CNL(05)43 (Annex 18), and the Russian Federation, CNL(05)32 (Annex 19), tabled summary papers on the actions taken in relation to the conservation and management of salmon stocks and the application of the Precautionary Approach. Additional returns to those detailed below were made by the European Union, CNL(05)29 (Annex 20) and CNL(05)33 (Annex 21). The Council noted that reporting in future on these items would be in accordance with the decisions on the Next Steps (see paragraph 5.1(b)).

6.1 Measures Taken in Accordance with Articles 14 and 15 of the Convention

The Secretary presented a report on the returns made under Articles 14 and 15 of the Convention, CNL(05)15 (Annex 22).

6.2 Application of the Decision Structure for Management of North Atlantic Salmon Fisheries - Returns by the Parties

To assist NASCO, its Contracting Parties and their relevant jurisdictions in applying the Precautionary Approach to the management of North Atlantic salmon fisheries, a Decision Structure was adopted in 2000 and after further development and evaluation it was revised in 2002. The Decision Structure provides a basis for more consistent approaches to the management of exploitation of salmon throughout the North Atlantic region. A reporting format had been developed and amended in 2003.

A report prepared by the Secretariat on the returns made by the Parties on progress in applying the Decision Structure, CNL(05)16 (Annex 23), had been circulated. An additional return in relation to application of the Decision Structure was made by the Russian Federation, CNL(05)42 (Annex 24).

At its last Annual Meeting the Council had held a Special Session on the Management of Homewater Fisheries in which there had been presentations by two EU Member States (Ireland and the UK) and by Norway. The presentations from this Special Session were made available to the Council on CD and a report, CNL(04)53, will be distributed to all delegates.

6.3 Development and Implementation of Habitat Protection and Restoration Plans

(a) Returns by the Parties

The NASCO Plan of Action for Application of the Precaution Approach to the Protection and Restoration of Atlantic Salmon Habitat, adopted by the Council in 2001, aims to maintain and where possible increase the current productive capacity of Atlantic salmon through the establishment and implementation by the Parties and their relevant jurisdictions of comprehensive salmon habitat protection and restoration

plans. In order to measure and improve progress in meeting this objective the Plan of Action proposes the establishment of inventories of salmon rivers.

A report prepared by the Secretariat on the returns made by the Parties on the development and implementation of habitat protection and restoration plans and inventories, CNL(05)17 (Annex 25) had been circulated.

(b) Database of Salmon Rivers

Last year the Council was advised that US scientists had developed a database drawing on the existing rivers listing held by the Secretariat but based on the more detailed inventory format proposed in the Plan of Action. This database had been made available through a website www.wildAtlanticSalmon.com. The Council had agreed that the Parties should:

- update the original salmon rivers database annually;
- consider using the database to report basic salmon habitat and habitat impacts information so as to establish the baseline level of salmon production potential against which changes may be assessed;
- enter generalised juvenile and adult salmon production data as data and resources permit.

The Council had also agreed that the database should be transferred to the Secretariat. A progress report on the database, CNL(05)18, was presented. During the year each Party had appointed a coordinator(s) responsible for updating the database and Mr Ed Baum (US), who had steered the initiative since its inception, had agreed to host and maintain the database until the end of June so as to deal with any technical issues that might arise as the Parties start to work with it. Thereafter, the database will be transferred to the NASCO Secretariat. The Council thanked Mr Baum for his excellent work for the Organization and the US for facilitating the development of the database and recognised the importance of moving forward on the tasks identified above with regard to data input by the Parties.

A report on development of the database with regard to Irish rivers was presented by the European Union, CNL(05)45.

6.4 **Aquaculture, Introductions and Transfers, and Transgenics**

(a) Report of the Workshop on Mass Marking of Farmed Salmon

Under the Williamsburg Resolution it is stated that tagging or marking could be used in order to facilitate the identification of farmed salmon in the wild and their separation from wild fish, to determine the source of escapes and to assess the interactions of escaped farmed salmon with the wild stocks. The need to evaluate the effectiveness of marking methods, their feasibility for large-scale marking and their costs was recognized. Last year the Council accepted an invitation from the European Union on behalf of the Scottish Executive to host a Workshop to assess the current and developing methods of marking farmed Atlantic salmon. This Workshop was held in Edinburgh during 6-8 December 2004**.** In the absence of the Workshop Chairman, Mr Gordon Brown, Mr David Dunkley (EU) presented the report of the Workshop, CNL(05)19, (Annex 26).

In short, the Workshop came to the view that while many possible methods are available for marking fish, some methods are not suitable for mass marking, some require further development and others can provide very limited discriminating power. Of the methods evaluated, CWTs and otolith marking are most suitable for mass marking while PIT tags, at their present costs, are more suitable for smaller-scale trials. Genetic identification methods have potential for marking farmed salmon but further development is needed. All methods involve significant costs and the greater the discrimination power that is required the higher the cost. The Workshop recommended that further investigations should be carried out to improve the accuracy of estimates of the number of fish in cages and the extent of trickle losses during routine operations, and that the NASCO Parties cooperate so as to plan and undertake such assessments. The Workshop suggests that progress in relation to these further assessments should be reviewed through the reporting procedures under the Williamsburg Resolution at NASCO's Annual Meetings and at the Liaison Group meetings. The report of the Workshop had been presented to the Liaison Group at its meeting in April (see paragraph 6.4(d)) and the comments from the industry with regard to marking or tagging farmed salmon are contained in section 7 of the Liaison Group's report, CNL(05)21.

The Council noted that with regard to the AutoFish system described in paragraph 5.2 of the report, Northwest Marine Technology had advised that while this system is capable of sorting, tagging and vaccinating fish, they have not manufactured a machine that can do this nor do they have any plans to do so unless a major market is assured.

The representative of Canada indicated that Canada will not support actions that lead to increased costs to its salmon farming industry and noted that a requirement to tag farmed salmon would lead to prohibitive costs for the industry although genetic marking might be feasible.

The representative of Iceland indicated that 10% of all salmon placed in sea cages are microtagged and this measure was considered useful although it had initially been opposed in Iceland by the industry.

(b) The Williamsburg Resolution

At its 2003 Annual Meeting the Council adopted the Resolution by the Parties to the Convention for the Conservation of Salmon in the North Atlantic Ocean to Minimise Impacts from Aquaculture, Introductions and Transfers and Transgenics on the Wild Salmon Stocks, the Williamsburg Resolution, CNL(03)57. In adopting the Williamsburg Resolution the Council had recognized that it was a "living document" that could evolve in future in the light of experience with its implementation, consultations, improved scientific understanding of the impacts of aquaculture, introductions and transfers and transgenics on the wild stocks and developments in measures to minimise them. In 2004 the Council had adopted a new definition of "transgenic" and had amended the Guidelines for Action on Transgenic Salmon. The Council had also adopted Guidelines for Stocking Atlantic Salmon. The Williamsburg Resolution, amended to reflect these changes, is contained in document CNL(04)54.

Following adoption of the Williamsburg Resolution concerns had been raised by the salmon farming industry that due process had not been followed in its development. In accordance with a Statement of Commitment agreed last year and intended to put the Liaison Group (see paragraph 6.4(d)) back on a firmer footing with a higher level of commitment, the industry had agreed to provide comments on the Williamsburg Resolution. At the Liaison Group meeting the industry agreed to provide proposals for changes to the Resolution, with an explanation of the reason for the proposed change, prior to the Twenty-Second Annual Meeting of NASCO. The comments received from the International Salmon Farmers' Association (ISFA) were tabled, CNL(05)30 (Annex 27). No response had been received from the salmon farming industry in Scotland or Russia which are not members of ISFA. The Council asked that the Secretary develop a response to these comments in consultation with the Parties and transmit it to the President of ISFA. It was agreed that any changes to be made to the Williamsburg Resolution should be agreed inter-sessionally by correspondence among the Heads of Delegations. The Council agreed that the Memorandum of Understanding between the US and Canada, which is intended to reconcile differences between the methods used by these countries to authorize introductions and transfers, should be appended to the Williamsburg Resolution.

(c) Returns made in accordance with the Williamsburg Resolution

The Parties made reports on their returns made in accordance with the Williamsburg Resolution, CNL(05)20 (Annex 28).

(d) Liaison with the Salmon Farming Industry

The Chairman of the Liaison Group, Ms Mary Colligan (US), introduced the report of the meeting of the Liaison Group with the North Atlantic salmon farming industry, CNL(05)21 (Annex 29), which had been held in Leuven, Belgium on 26 April 2005. At the meeting the industry had agreed to provide comments on the Williamsburg Resolution (see paragraph 6.4(b)). Reports on progress in developing and implementing action plans on containment of farmed salmon were presented. While some reports still lacked some of the detail requested in the reporting format previously agreed by the Liaison Group, the reports for 2004 were seen as a considerable step forward compared to previous years. A report had also been made on arrangements for the Liaison Group's Workshop 'Wild and Farmed Salmon – Working Together' to be held in Trondheim on 9 August 2005, which was welcomed by the Liaison Group. The industry also provided comments on the report of the Workshop on Marking of Farmed Salmon (see paragraph 6.4(a)). She indicated that the industry remains opposed to NGO participation in the Liaison Group.

The Council expressed its disappointment at the salmon farming industry's continuing unwillingness to admit NGOs to the Liaison Group. The President agreed to write to the President of ISFA drawing attention to the Next Steps for NASCO and encouraging the industry to reconsider its position with regard to NGO participation. One possibility might be for the NGOs to attend part of the Liaison Group designated as a Special Session.

6.5 **Unreported Catches**

The Secretary introduced document CNL(05)22 (Annex 30) summarising the returns by the Parties. These returns indicate that in 2004 unreported catches were estimated to be between 593 and 761 tonnes. The Council welcomed the information contained in this document which presented data on unreported catches in a transparent manner and the measures being taken by the Parties to further reduce the level of unreported catches.

The representative of Norway made a proposal to hold a Working Group meeting or Special Session on unreported catches at the Council's next Annual Meeting, CNL(05)39. The Council asked that the Secretary liaise with Norway on this issue since in the event that a Special Session is held on application of the Decision Structure for Management of Salmon Fisheries this might be an opportunity for a more detailed consideration of the approaches used to assess unreported catches, the source of the problems and the measures being taken to minimise them.

6.6 **By-Catch of Atlantic Salmon**

Concern had previously been raised within the Council about the possible by-catch of salmon post-smolts in fisheries for pelagic species of fish, particularly mackerel, in the North-East Atlantic. In 2003, the Council had decided that, consistent with the Precautionary Approach, it would encourage and seek appropriate funding for research on the distribution of salmon at sea, and the overlap between salmon at sea and pelagic fisheries; encourage pilot studies on technical adjustments to the deployment of gear in pelagic fisheries so as to minimise by-catch of salmon; review the results of this research at its 2005 Annual Meeting or at a Special Session; in the light of the findings of this research, request that the Parties, non-Parties and other Fisheries Commissions make adjustments (if appropriate) to fishing methods so as to minimise the by-catch of salmon; continue to ask ICES to provide information on by-catch.

The Russian Federation reported that studies into the by-catch of salmon in pelagic fisheries had continued in 2004 but that, in contrast with previous years, there had been no surveys and only 5 observers had been placed on pelagic trawls during weeks 22-36. There had been no reports of post-smolts in the catch of pelagic fish.

6.7 **Guidelines on Stock Rebuilding Programmes – Returns by the Parties**

A stock rebuilding programme has been defined by the Council as an array of management measures, including habitat improvement, exploitation control and stocking, designed to restore a stock to above its conservation limit. These management measures are being addressed by the Council in application of the Precautionary Approach. A report on the returns made by the Parties in accordance with the agreed reporting format was provided, CNL(05)23 (Annex 31).

6.8 **Social and Economic Values of Atlantic salmon**

(a) Reporting by the Parties on Application of the Guidelines

Last year the Council had adopted Guidelines for Incorporating Social and Economic Factors in Decisions under the Precautionary Approach, CNL(04)57, for use on a trial

basis. These guidelines provide a logical framework to support and inform decision-making and are intended to be used by those with responsibility for managing the wild Atlantic salmon and its environments and for communicating concerns to other sectors whose proposals could impact on the wild salmon and its environments. The President had asked that the Parties select one area of the application of the Precautionary Approach (management of fisheries; habitat protection and restoration; aquaculture, introductions and transfers and transgenics; by-catch and stock rebuilding programmes), and report to the Council in 2005 on an example of the use of the guidelines in relation to the area chosen. A report on the use of the guidelines by the Parties was presented, CNL(05)24 (Annex 32).

(b) Report of the Working Group on Bio-economic Modelling

Last year the Council had decided to set up a small Technical Working Group, led by the USA, to develop a bio-economic modelling approach that would allow social and economic factors to be integrated into a management model for Atlantic salmon. The representative of the US indicated that the meeting was originally scheduled to take place in early February 2005 but has been re-scheduled for the late summer or early fall. The results of the meeting will be presented to the Council at its 2006 Annual Meeting. She referred to the recommendations of the Next Steps for NASCO Working Group which stated that the Council should continue and expand as necessary existing efforts to incorporate social and economic factors into its work. She indicated that the bio-economic modelling work to be undertaken represents a first step in implementing this recommendation and that the Council should consider the appropriate next steps in relation to social and economic values of Atlantic salmon at that stage.

6.9 **Future Actions in Relation to Application of the Precautionary Approach**

The Council considered possible future actions in relation to application of the Precautionary Approach, CNL(05)25. After a period of sustained activity in developing agreements on application of the Precautionary Approach, the emphasis should now be on implementation of the agreements by the Contracting Parties with detailed and transparent reporting and amendment of the agreements as necessary in the light of experience gained with their implementation. In this regard the recommendations in relation to the next steps for NASCO are relevant (see paragraph 5.1(b)).

7. Predator-related Mortality

In 2003 the Council had agreed that it would seek to gather together all available information on predator-related mortality of Atlantic salmon so that a compendium of information could be prepared. Each Party had been requested to appoint a coordinator for this work and the coordinators had been requested by the Secretary to provide the following: information on the impact on salmon populations of predation by piscivorous birds, fish and mammals; details of measures implemented in relation to management of these predators of salmon and any assessment of the effectiveness of these measures; details of on-going research in relation to predator-related mortality.

The information provided by the Parties had been presented to the Council at its Twenty-First Annual Meeting, but no decision had been taken on the role for NASCO with regard to this issue. It is clear from the feedback from the consultation meetings that NASCO's stakeholders believe that the Organization should be giving greater focus to this issue. A paper describing possible options for NASCO with regard to predator-related mortality was presented, CNL(05)26. The issue of predator-related mortality had not been identified as one of the challenges in the Strategic Approach and the view was expressed that it might be removed from the Council agenda but could be reinstated at the request of a Party. The President noted that assessment of the impacts of predation on salmon was a major element of the SALSEA programme and that the Next Steps process could lead to improved reporting on this issue.

8. St Pierre and Miquelon Salmon Fishery

A report of the sampling programme at St Pierre and Miquelon in 2004 was made available to the Council, CNL(05)28 (Annex 33), together with information on the regulatory framework for managing the fishery and details of licences issued and catches. The French authorities have indicated a willingness to continue gathering scientific information at St Pierre and Miquelon and that they seek to contribute to sustainable management of the fishery which they consider a traditional activity with a strong cultural dimension. The Council welcomed the continuing cooperation from France (in respect of St Pierre and Miquelon) and asked that the Secretary convey appreciation to the French authorities for their continuing cooperation and continue to invite them to participate in future NASCO meetings.

9. Impacts of Acid Rain on Atlantic Salmon

9.1 Last year the North American Commission had requested that this item be included on the Council's agenda for its Twenty-Second Annual Meeting and in future years, given the general interest in this issue and the wide-ranging expertise among NASCO Parties. The Council recognised that acid rain is a major habitat threat to wild Atlantic salmon and wishes to revisit this important issue at next year's Annual Meeting. This will ensure that information on efforts to address the impacts of acid rain are shared among the countries affected.

9.2 The representative of the US noted that over the past 3 years, an international relationship has been established between the US, Canada and Scandinavian countries in an effort to work together on liming projects. Norway and Sweden have over 25 years of experience of liming to mitigate the effects of acid rain on rivers and streams and have been a very important resource in the development of the proposed liming project in Eastern Maine and the West River Liming Project in Nova Scotia. Since the 2004 NASCO Annual Meeting, the United States has continued with ongoing assessments for its proposed liming project in Eastern Maine to determine the extent to which acidity may be impacting salmon survival in eastern Maine. Streamside studies have been conducted to further assess the extent to which river water is impacting smolt health and survival. Ongoing sampling of water chemistry is being conducted to determine the magnitude and duration of episodic events of low pH and high aluminium as well as to make correlations to rainfall, streamflow, seasonal variations, etc. Assessments of invertebrate and plant communities are being conducted to determine species richness, an indicator of watershed health. Migration studies using rotary screw traps, telemetry arrays and post-smolt trawls are continuing

to assess population, migration and behaviour patterns. The administrative issues associated with implementing this liming project, including environmental impact review and permitting, are being considered.

9.3 Reports in relation to acid rain were tabled by Canada, CNL(05)47 (Annex 34), the European Union, CNL(05)43 (see Annex 18) and Norway, CNL(05)34 (Annex 35).

10. Reports on the Work of the Three Regional Commissions

10.1 The Chairman of each of the three regional Commissions reported to the Council on the activities of their Commission.

11. Other Business

11.1 There was no other business.

12. Date and Place of Next Meeting

12.1 The Council accepted an invitation from the European Union on behalf of Finland to hold its Twenty-Third Annual Meeting in Ivalo, Finland during 5 – 9 June 2006.

12.2 The Council decided to hold its Twenty-Fourth Annual Meeting during 4 – 8 June 2007 in Edinburgh or elsewhere at the invitation of a Party.

13. Report of the Meeting

13.1 The Council agreed the report of the meeting, CNL(05)50.

14. Press Release

14.1 The Council adopted a press release, CNL(05)52 (Annex 36).

Note: A list of all Council papers is contained in Annex 37. The annexes mentioned above begin on page 31, following the French translation of the report of the meeting.

CNL(05)50

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

1. Séance d'ouverture

1.1 Le Président, Dr Ken Whelan, a ouvert la réunion. M. Pascal Berteaud, Directeur de l'Eau du Ministère de l'Écologie et du Développement Durable, a souhaité aux délégués la bienvenue à Vichy (annexe 1). Le Président a remercié M. Berteaud pour son allocution de bienvenue et a ensuite prononcé une déclaration d'ouverture portant sur le travail de l'Organisation (annexe 2).

1.2 Les représentants du Canada, du Danemark (pour les Iles Féroé et le Groenland), de l'Union européenne, de l'Islande, de la Norvège, de la Fédération de Russie et des Etats-Unis d'Amérique ont prononcé leur déclaration d'ouverture (annexe 3).

1.3 La Commission Internationale des Pêches de la Mer Baltique (CIPMB), la Commission des Mammifères Marins de l'Atlantique Nord (CMMAN), et la Commission des Poissons Anadromes du Pacifique Nord (CPAPN) et ont chacune prononcé une déclaration d'ouverture (annexe 4).

1.4 Des déclarations d'ouverture ont été prononcées conjointement, au nom des 15 organisations non gouvernementales (ONG) présentes à la Réunion annuelle, par la Fondation Saumon, le WWF (France), l'Alliance européenne des pêcheurs à la ligne (France) et AIDSA (annexe 5).

1.5 Le Président a exprimé sa reconnaissance aux Parties et aux organisations, présentes à titre d'observateur, pour leurs déclarations et a clos la séance d'ouverture.

1.6 Une liste des participants figure à l'annexe 6.

2. Adoption de l'ordre du jour

2.1 Le Conseil a adopté l'ordre du jour CNL(05)36 (annexe 7).

3. Questions administratives

3.1 Rapport du Secrétaire

Le Secrétaire a rendu compte au Conseil, de par son rapport CNL(05)5, des questions suivantes : état d'avancement des ratifications et des adhésions à la Convention ; nombre d'adhérents aux Commissions régionales ; observateurs aux réunions de l'OCSAN ; réunion des organismes régionaux de pêche tenue au siège social de la FAO à Rome ; atelier du Groupe de liaison intitulé « Saumon sauvage et Saumon d'élevage – un travail de coopération » prévu pour le 9 août à Trondheim en Norvège ; symposium CIEM/OCSAN intitulé « Interactions entre les stocks de saumons atlantiques sauvages et d'aquaculture et d'autres espèces de poissons

diadromes : Science et Gestion, Défis et Solutions » qui se tiendra à Bergen, en Norvège entre le 18 et 21 octobre 2005 ; pêche au saumon dans les eaux internationales ; programme d'encouragement au renvoi des marques ; examen des publications internationales portant sur le saumon parues en 2004 ; affaires financières de l'Organisation et propriété du siège social.

Conformément au règlement financier 5.5, le Secrétaire a dressé un rapport sur les contributions reçues pour 2005. Les contributions avaient toutes été reçues. Il n'y avait donc aucun arriéré.

3.2 **Rapport de la Commission financière et administrative**

Le Président de la Commission financière et administrative, M. Steinar Hermansen (Norvège), a présenté le rapport de la Commission, CNL(05)6. Il a indiqué que des élections avaient eu lieu. M. Andrew Thomson (Union européenne) avait été nommé Président et Dr Boris Prischepa (Fédération de la Russie),Vice-Président. Suite aux recommandations de la Commission, le Conseil a pris les décisions suivantes :

(i) accepter la déclaration financière révisée de 2004, FAC(05)2 ;

(ii) adopter un budget pour 2006 et prendre acte du budget prévisionnel pour 2007, CNL(05)53 (annexe 8) ;

(iii) augmenter le plafond du Capital d'exploitation jusqu'à 200 000 livres sterling et modifier, en fonction de ceci, le point 6.3 du Règlement financier ;

(iv) nommer soit PricewaterhouseCoopers (PWC) d'Edimbourg, vérificateurs des comptes pour l'an 2005, ou toute autre société recevant l'approbation du Secrétaire après consultation avec le Président de la Commission financière administrative ;

(v) adopter le rapport de la Commission financière et administrative.

Le Président a remercié la Commission et M. Hermansen pour leur précieux travail.

3.3 **Rapport sur les activités de l'Organisation de 2004**

Le Conseil a adopté le rapport d'activités de 2004 de l'Organisation, CNL(05)7, adressé aux Parties conformément à l'article 5, paragraphe 6, de la Convention.

Le Conseil a également convenu de publier un rapport portant sur les activités entreprises au cours des vingt dernières années. Une fois rédigé par le Secrétaire, auquel revenait cette tâche, le rapport serait ensuite envoyé aux Chefs de délégation pour leur approbation par correspondance.

3.4 **Annonce du gagnant du Grand Prix du Programme d'encouragement au renvoi des marques**

Le Président a annoncé que le gagnant du Grand Prix de 2 500 $ était M. Ilya Scherbovich, de Moscou, Russie. Le Conseil a offert ses félicitations aux gagnant.

4. Questions scientifiques, techniques, juridiques et autres

4.1 Recommandations scientifiques du CIEM

Le représentant du CIEM a présenté au Conseil le rapport du Comité Consultatif sur la Gestion des Pêcheries (CCGP)**,** CNL(05)8 (annexe 9).

M Vincent Vauclin du Conseil Supérieur de la Pêche, France, a donné une présentation sur la restauration et gestion du saumon atlantique en France, CNL(05)37.

4.2 Statistiques de capture et analyse

Le Secrétaire a soumis un document statistique portant sur les déclarations de captures officielles effectuées par les Parties en 2004, CNL(05)9 (annexe 10), et sur les données historiques pour la période 1960-2004, CNL(05)10**.** Les documents CNL(05)29 et CNL(05)33 contiennent des renseignements supplémentaires sur les statistiques de captures de l'Union Européenne. Les statistiques de 2004 sont provisoires.

4.3 Pêche menée à des fins de recherche scientifique dans la zone de la Convention

Le Danemark (pour les Iles Féroé et le Groenland), l'UE (Royaume-Uni – Ecosse) et la Norvège ont rendu compte, de par leurs rapports, des activités de pêche menées à des fins de recherche scientifique depuis la dernière Réunion annuelle. L'Union Européenne a par ailleurs présenté un rapport concernant les essais d'un nouveau chalut pélagique. Ce nouvel engin était destiné aux études des post-smolts de saumons atlantiques, CNL(05)38 (annexe 11).

4.4 Rapport de la Commission internationale de recherche sur le saumon atlantique

M. Jacque Robichaud, Président de la Commission, a présenté le rapport de la Quatrième réunion de la Commission, CNL(05)11 (annexe 12). Il a indiqué que la Commission avait mis à jour l'inventaire des recherches portant sur la mortalité du saumon en mer. Le Groupe, qu'elle avait chargé de fournir des recommandations scientifiques, avait par ailleurs offert un certain nombre de conseils. Les 54 projets en cours qui figurent sur l'inventaire représentaient un coût d'environ 5,7 millions de livres sterling (soit une augmentation de 24% par rapport aux dépenses officielles de 2004). Il n'y avait toutefois aucune comptabilité de disponible pour 7 de ces projets.

En octobre 2004, la Commission avait organisé un atelier à Dublin pour mettre au point le programme « SALSEA ». Ce programme consistait en une proposition majeure de recherche sur le saumon en milieu marin. Le Président a indiqué que SALSEA comportait plusieurs volets d'étude (en eau douce, dans les estuaires, le long des côtes, ainsi qu'en haute mer) afin d'assurer une étude complète des facteurs qui pourraient jouer sur la mortalité du saumon atlantique en mer. Il s'agissait là d'un programme ambitieux qui prendrait des années à finir mais qui regroupait tous les points clés sur lesquels on avait besoin de plus amples connaissances scientifiques. Le programme était organisé autour de quatre ensembles d'activités qui étudieraient des hypothèses clés. Il séparait également les tâches à accomplir par une meilleure

coordination des recherches en cours de celles qui requéraient un financement à part. Un exercice important de collecte de fonds serait ainsi nécessaire pour non seulement soutenir la proposition de recherche sur la distribution et migration océaniques, mais pour faciliter également le développement supplémentaire de techniques qui assisteraient les voyages de recherche prévus (identification génétique des stocks, amélioration de l'équipement d'échantillonnage, analyse d'écaille permettant de déterminer la croissance en mer). On estimait le coût total de ce programme de recherche, basé sur deux années d'études marines, à environ 7,8 millions de livres sterling. La Commission a, par conséquent embauché Brakeley Consultants, une firme de consultants en collecte de fonds, pour mettre au point une stratégie permettant de réunir cette très importante somme auprès du secteur privé. Selon Brakeley Consultants, la Commission présentait une cause sure. Ils étaient toutefois d'avis que, pour mener une campagne de collecte de fonds efficace, il serait tout d'abord nécessaire d'y attribuer une somme importante des propres fonds de la Commission. Il fallait en effet compter au moins deux ans (si ce n'est cinq ans) pour collecter une somme substantielle. Ils avaient également suggéré un plus grand partenariat avec les ONG. La Commission approuvait entièrement le programme SALSEA et a convenu des prochaines étapes de son exécution. Le Président a indiqué que, d'après ce que la Commission avait compris, les fonds pouvaient être réunis de deux façons : soit auprès des Parties de l'OCSAN, soit en ayant recours à une collecte de fonds. D'une façon comme d'une autre, ceci nécessitait un engagement ferme des Parties. La Commission a noté que certains de ses fonds actuels ne pouvaient être utilisés qu'à des fins de recherche, tandis que d'autres pouvaient être employés pour soutenir une collecte de fonds. La Commission a ainsi convenu des prochaines mesures à prendre en ce qui concernait la collecte de fonds.

Le Conseil soutenait l'initiative SALSEA et reconnaissait l'importance de la coopération des organismes intéressés dans l'avancement du programme. Le Conseil convenait qu'il était important de promouvoir le programme SALSEA. Une façon efficace de mieux le faire connaître serait de le présenter aux ministres chargés des pêches.

Le Président a encouragé les Parties à réfléchir à la manière dont le programme SALSEA pouvait être soutenu, soit par exemple une offre de mise à disposition de bateaux pendant un temps donné ou directement par le versement d'une contribution financière à la Commission.

4.5 Compte rendu du Comité scientifique permanent

Le Président du Comité scientifique permanent a présenté une demande provisoire de recommandations scientifiques au CIEM. Fort de l'avis de ce dernier, le Conseil a adopté une demande de recommandations scientifiques au CIEM, CNL(05)12 (annexe 13).

Le Président du Comité scientifique permanent a également mentionné que le Comité préparait des suggestions de différentes options d'amendement de la demande de recommandations scientifiques (dans sa forme et son caractère), au cas où l'on établirait des mesures de réglementation sur plusieurs années. Le Conseil a demandé au Comité scientifique permanent de continuer ce travail et de rédiger un avant projet à mettre à la disposition des Parties avant la prochaine Réunion annuelle.

5. Décisions à prendre à l'avenir par l'OCSAN

5.1 L'année dernière, les Chefs de délégation avaient demandé au Secrétaire de produire, pour marquer les vingt ans de l'OCSAN, une analyse des méthodes et structures de travail de l'Organisation. Les Etats-Unis avaient présenté un rapport, intitulé « L'OCSAN – passé, présent et avenir ». Une déclaration de Vision rédigée pour l'OCSAN par quatre auteurs, dont le Président des ONG accréditées de l'OCSAN, avait également été offerte. A la lumière des nombreuses et précieuses suggestions faites, le Conseil avait décidé de former un Groupe de travail chargé de la question des décisions à prendre à l'avenir par l'OCSAN en vue de renforcer et de développer la sphère d'activités de l'Organisation et d'assurer ainsi qu'elle continue à être un organisme de pêcheries régionales de premier ordre au cours des vingt prochaines années. Le Conseil avait demandé au Groupe de travail d'inclure dans ses délibérations des réunions consultatives avec les différentes parties intéressées. Deux réunions eurent lieu, une à Londres en Angleterre (Royaume-Uni), le 19 janvier 2005, l'autre à Portland, au Maine aux Etats-Unis le 25 janvier 2005. Le document CNL(05)13 (annexe 14) contient le rapport de ces consultations. Le feedback reçu avait été pris en considération par le Groupe de travail lors de l'élaboration de leurs recommandations.

(a) Débat concernant le rapport du Groupe de Travail sur les « décisions à prendre à l'avenir par l'OCSAN »

Afin de faciliter la participation au débat sur le rapport du Groupe de travail, le Conseil a organisé une Séance Ouverte à laquelle avaient été invités tous ceux qui avaient participé aux réunions consultatives ; ceci avait pour but de permettre un plus grand feedback sur les recommandations offertes par le Groupe de travail quant aux décisions à prendre à l'avenir par l'OCSAN.

M. Steinar Hermansen (Norvège), Président du Groupe de travail, a présenté le rapport, CNL(05)14 (annexe 15). Il a indiqué que le Groupe de Travail s'était réuni deux fois et avait tenu deux réunions consultatives. Ces réunions s'étaient avérées productives. Il a ajouté que les ONG avait offert, lors des réunions du Groupe de Travail ainsi qu'au cours des réunions consultatives, une contribution précieuse. Il a remercié tous ceux qui avaient contribué aux délibérations du Groupe de travail. Il a prié les co-Présidents des réunions consultatives de dresser un bref compte rendu des résultats des réunions lors de la Séance ouverte.

M. Andrew Thomson (UE) et M. Bjornulf Kristiansen (Norges Bondelag), co-Présidents de la réunion consultative de Londres, et Ms Patricia Kurkul (Etats-Unis) et M. Scott Burns (WWF-US), co-Présidents de la réunion consultative de Portland, ont présenté un court résumé de ces réunions respectives. En bref, les messages principaux ressortant des réunions consultatives étaient les suivants :

- Il existait, parmi les personnes/organismes intéressés, un soutien et une bonne volonté considérable pour ce que l'OCSAN a accompli ;

- L'OCSAN est mal connu des personnes/organismes partageant le même enjeu en ce qui concernait le saumon. L'Organisation devrait par conséquent mieux

promouvoir son activité car nombreux étaient les personnes/organismes intéressés qui ignoraient ce qui avait été accompli ;

- Les Parties avaient conclu de bons accords au sein de l'OCSAN, mais il importait d'en accélérer la mise en oeuvre et d'améliorer la méthode de compte rendu ;

- Les ONG de l'OCSAN désiraient participer plus pleinement au travail de l'Organisation ;

- Les options définies par le Groupe de travail lors de sa première réunion pour consolider les progrès réalisés par l'OCSAN jusqu'à ce jour, et pour garantir que l'OCSAN remplit ses objectifs à l'avenir, avaient été bien accueillies ;

- La Commission internationale de l'OCSAN chargée de la Recherche sur le saumon atlantique a attiré un soutien considérable. L'identification par le Groupe de travail des domaines particuliers où l'OCSAN devait concentrer son attention à l'avenir avait également été bien accueillie.

Le Secrétaire a donné une présentation générale des recommandations du Groupe. Le Groupe de travail avait identifié plusieurs défis pour ce qui était de la conservation et de la gestion du saumon dans le domaine de la coopération internationale. Ainsi, même si le groupe reconnaissait les progrès réalisés par l'OCSAN ces vingt dernières années, il était d'avis que les objectifs et accomplissements de l'Organisation pouvaient être organisés d'une façon plus stratégique et présentés de façon à mieux remplir le mandat de l'OCSAN. Le Groupe avait recommandé l'adoption d'une « Vision » pour l'OCSAN qui démontrerait plus clairement son objectif principal et avait suggéré que les activités futures de l'OCSAN soient exécutées dans le cadre d'une approche stratégique qui mettrait en avant les actions nécessaires à la réalisation de cette vision sous les rubriques suivantes :

- Engagements ;
- Efficacité;
- Transparence et Inclusion;
- Promotion de l'OCSAN.

Au cours de la Séance ouverte, le WWF (Etats-Unis) a présenté un document qui passait en revue les différentes approches employées par d'autres organismes internationaux dans le cadre de la conformité et de la responsabilité, CNL(05)35.

(b) Décisions par le Conseil

Le Conseil a reconnu que le rapport du Groupe de Travail contenait un large éventail de recommandations. Le Conseil a adopté une Approche stratégique concernant les mesures à prendre à l'avenir par l'OCSAN, CNL(05)49 (annexe 16). Ce document reflétait les décisions prises par le Conseil en fonction des recommandations formulées par le Groupe de travail (chargé des mesures à prendre à l'avenir par l'OCSAN) et du processus connexe de consultation. L'Approche stratégique indiquait les décisions à prendre immédiatement ainsi que d'autres décisions qui nécessitaient un examen plus approfondi avant d'être prises.

Le Conseil a nommé M. Gudmundur Helgason (Islande) Président de la Task Force, telle qu'elle mentionnée dans le document CNL(05)49. Les date et lieux de la première réunion de la Task Force seront convenus par correspondance.

Le Président a invité les représentants des ONG accréditées à donner leurs commentaires sur les décisions prises par le Conseil. M. Poupard, Président des ONG de l'OCSAN, a indiqué que les ONG soutenaient le processus appliqué aux mesures à prendre à l'avenir et a applaudi les résultats obtenus à ce jour. Il a insisté combien il était nécessaire de maintenir la transparence et l'inclusion et a souligné l'engagement des ONG à coopérer avec l'OCSAN pour créer une organisation plus efficace.

Le Président a lu à haute voix la déclaration suivante provenant de la Fédération du saumon atlantique et du World Wildlife Fund :

« La Fédération du saumon atlantique et le WWF remercient l'OCSAN et toutes les Parties pour la façon dont la Réunion annuelle de cette année avait été menée avec transparence et avec un souci d'inclusion. Nous avons également noté que le Groupe de travail de l'OCSAN, chargé d'étudier les mesures à prendre à l'avenir par l'OCSAN, avait proposé plusieurs nouvelles mesures qui amélioreraient encore plus la transparence et faciliteraient la participation des personnes/organismes intéressés au travail de l'OCSAN. L'ASF et le WWF soutiennent fermement ces propositions de transformation, propositions que les Parties s'étaient engagées à développer plus profondément entre réunions. Nous félicitons également l'OCSAN pour le sérieux avec lequel elle avait traité les recommandations contenues dans « l'Avenir de l'OCSAN : Une déclaration de Vision », organisée par l'ASF et le WWF en 2004. En reconnaissance de ces mesures prises par l'OCSAN, et dans l'esprit de coopération qu'elles reflètent, le WWF et l'ASF ont l'intention de faire une demande d'obtention du statut d'ONG accréditée avant la Réunion annuelle de l'année prochaine. »

Le Conseil a prié le Secrétariat de préparer un compte rendu de la Séance ouverte, basé sur le format utilisé pour les rapports des réunions consultatives.

6. Conservation, restauration, mise en valeur et gestion rationnelle des stocks de saumons

Le Président a convié les Parties à donner un bref aperçu des points clés de leur renvois d'informations sous les points 6.2, 6.3(a), 6.4(c), 6.7 et 6.8(a) de l'ordre du jour. Le Canada, CNL(05)51 (annexe 17), l'Union européenne, CNL(05)43 (annexe 18), et la Fédération de Russie, CNL(05)32 (annexe 19), ont chacun soumis un résumé des mesures prises dans le cadre de la conservation et gestion des stocks de saumons et de l'application de l'approche préventive. L'Union européenne avait contribué des renvois d'informations supplémentaires, CNL(05)29 (annexe 20) et CNL(05)33 (annexe 21). Le Conseil a indiqué que les comptes rendus sur ces sujets s'effectueraient désormais conformément aux décisions prises sur les mesures à prendre à l'avenir (voir paragraphe 5.1(b).

6.1 Mesures prises au titre des articles 14 et 15 de la Convention

Le Secrétaire a présenté un compte rendu sur les renvois effectués au terme des articles 14 et 15 de la Convention, CNL(05)15 (annexe 22).

6.2 **Application du cahier des charges à la gestion des pêcheries de saumon nord atlantique - Renvois d'information effectués par les Parties**

En vue de faciliter la tâche de l'OCSAN, des Parties signataires et des juridictions appropriées dans l'application de l'approche préventive à la gestion des pêcheries de saumons nord atlantiques, un cahier des charges a été adopté en 2000, puis révisé en 2002 à la suite d'une réévaluation et amélioration. Le cahier des charges servait de base à l'adoption d'une approche plus cohérente en ce qui concernait la gestion de l'exploitation du saumon dans toute la région du Nord Atlantique. Un format de compte rendu a été conçu, puis amendé en 2003.

Un rapport préparé par le Secrétariat portant sur les renvois d'informations effectués par les Parties et plus précisément sur les progrès réalisés dans l'application du Cahier des charges, CNL(05)16 (annexe 23), avait déjà été circulé. A ceci, la Fédération de Russie a ajouté un renvoi d'informations supplémentaires, CNL(05)42 (annexe 24).

Lors de sa dernière Réunion annuelle, le Conseil avait organisé une Séance spéciale dédiée à la Gestion des pêcheries en eaux territoriales. Au cours de cette Séance, des présentations avaient été faites par deux Etats Membres de l'UE (l'Irlande et le Royaume-Uni) ainsi que par la Norvège. Ces présentations avaient été mises à la disposition du Conseil sur CD. Les délégués en recevront tous un compte rendu, CNL(04)53.

6.3 **Elaboration et mise en œuvre de programmes de protection et de restauration de l'habitat**

(a) Renvois effectués par les Parties

Le Plan d'actions de l'OCSAN visant à appliquer l'approche préventive à la protection et restauration de l'habitat du saumon atlantique, adopté par le Conseil en 2001, a pour objectif de maintenir et, dans la mesure du possible, d'accroître la capacité de reproduction actuelle du saumon atlantique. Pour ce faire, les Parties et juridictions appropriées sont censées définir et mettre sur pied des programmes étendus de protection et de restauration de l'habitat du saumon. Le plan d'actions propose par ailleurs la création d'inventaires de rivières à saumons afin de mesurer et d'accélérer les progrès réalisés pour atteindre cet objectif.

Le Secrétariat avait compilé un rapport sur l'élaboration et l'exécution des programmes et inventaires de protection et restauration d'habitat à partir des renvois effectués par les Parties CNL(05)17 (annexe 25). Ce rapport avait été distribué au préalable.

(b) Base de données des rivières à saumons

L'année dernière, le Conseil avait appris que des scientifiques américains avaient conçu une base de données à partir des listes existantes de rivières que le Secrétariat tenait en sa disposition. Cette base de données empruntait toutefois un format d'inventaire plus détaillé, tel qu'il est suggéré dans le Plan d'actions. Elle est désormais disponible à partir du site web www.wildAtlanticSalmon.com. Le Conseil avait convenu que les Parties :

- mettraient, chaque année, la base de données originelle des rivières à saumons à jour ;
- envisageraient l'utilisation de la base de données pour recueillir des informations générales concernant l'habitat du saumon et les effets nuisibles sur cet habitat. Ceci permettrait en effet de définir le niveau de base du potentiel de reproduction des saumons à partir duquel on pourrait mesurer les évolutions ;
- saisiraient les données générales concernant la production de saumons juvéniles et adultes en fonction des données et des ressources disponibles.

Le Conseil avait également convenu de transférer l'administration de la base de données au Secrétariat. Un rapport sur l'évolution de la base de données, CNL(05)18, a été présenté. Au cours de l'année, chaque Partie avait nommé un/des coordinateur(s) responsable(s) de la mise à jour de la base de données. M. Ed Baum (Etats-Unis), qui avait dirigé l'initiative depuis le début, avait également convenu d'en avoir la responsabilité et d'en assurer la maintenance jusqu'à la fin de juin afin de résoudre toutes les questions techniques qui pourraient survenir au fur et à mesure que les Parties commençaient à s'en servir. L'idée étant que, par la suite, la responsabilité de la base de données serait transférée au Secrétariat de l'OCSAN. Le Conseil a remercié M. Baum pour l'excellent travail qu'il avait fourni au nom de l'Organisation et des Etats-Unis et qui avait permis de mettre au point la base de données. Le Conseil a par ailleurs reconnu l'importance de faire avancer les tâches mentionnées ci-dessus concernant la saisie des données par les Parties.

L'Union européenne a présenté un rapport concernant l'ajout à la base de données d'informations concernant les cours d'eau d'Irlande, CNL(05)45.

6.4 **Aquaculture, introductions et transferts, et transgéniques**

(a) Compte rendu de l'atelier traitant du marquage en masse du saumon d'élevage

La Résolution de Williamsburg stipulait qu'il était possible de se servir du marquage pour faciliter l'identification du saumon d'élevage dans la nature, pour aider à les différencier des poissons sauvages, pour déterminer d'où proviennent les poissons échappés d'élevage et pour mesurer les interactions entre saumons échappés d'élevage et les stocks sauvages. Il a toutefois été reconnu qu'il était nécessaire d'évaluer l'efficacité des méthodes de marquage, leur faisabilité dans le cadre d'un marquage de grande envergure et les coûts associés. L'année dernière, le Conseil avait accepté l'invitation de l'Union européenne (Pouvoir exécutif d'Ecosse) à organiser un atelier qui évaluerait les méthodes actuelles, et en cours de développement, employées pour marquer le saumon atlantique d'élevage. Cet atelier a eut lieu à Edimbourg du 6 au 8 décembre 2004. En l'absence de M. Gordon Brown, Président de l'atelier, M. David Dunkley (UE) en a présenté le compte rendu, CNL(05)19, (annexe 26).

En bref, les conclusions de l'atelier étaient que, même s'il existait plusieurs façons de marquer les poissons, certaines de ces méthodes n'étaient pas adaptées au marquage en masse, certaines nécessitaient un plus grand perfectionnement et d'autres ne pouvaient fournir qu'une capacité discriminatrice très limitée. Parmi les méthodes examinées, les marques fanions (CWT) et le marquage otolithe étaient les plus

adaptées pour un marquage en masse, tandis qu'au coût actuel, les marques PIT représentaient le choix le plus approprié pour des essais à plus petites échelles. Les méthodes qui reposaient sur l'identification génétique pouvaient potentiellement être utiles dans le contexte du marquage du saumon d'élevage, mais elles nécessitaient d'être améliorées. Toutes ces méthodes impliquaient des dépenses importantes et, plus la capacité discriminatrice nécessaire était importante, plus élevés étaient les frais également. L'atelier a recommandé de mener des investigations supplémentaires afin d'estimer avec plus d'exactitude le nombre de poissons en cages et l'étendue des pertes (même si minimes) qui ont lieu au cours des opérations de routine. Il a également été recommandé que la planification et l'exécution de ces évaluations soient entreprises par les Parties de l'OCSAN, en coopération. L'atelier suggérait d'examiner les progrès réalisés au cours de ces études supplémentaires, conformément aux procédures de compte rendu établies par la Résolution de Williamsburg, lors des Réunions annuelles de l'OCSAN et des réunions du Groupe de Liaison. Le rapport de l'atelier avait été présenté au Groupe de liaison, lors de sa réunion en avril (voir paragraphe 6.4(d)). Les commentaires émanant du secteur salmonicole sur la question de marquage du saumon d'élevage figurent à la section 7 du rapport du Groupe de Liaison, CNL(05)21.

Quant au système AutoFish, tel qu'il était décrit au paragraphe 5.2 du rapport, le Conseil avait noté que Northwest Marine Technology n'avait pas encore fabriqué une machine qui puisse l'exécuter. En outre, ils n'avaient aucune intention d'en construire une à moins d'être surs qu'un marché étendu existait pour ce produit, même si ce système était capable de trier, marquer et vacciner les poissons.

Le représentant du Canada a indiqué que le Canada ne soutiendrait pas des initiatives qui entraîneraient des frais supplémentaires pour l'industrie salmonicole du pays. Il a noté que le marquage du saumon d'élevage aboutirait à des coûts prohibitifs pour ce secteur quoique l'on pourrait envisager le marquage génétique.

Le représentant de l'Islande a indiqué que 10% de l'ensemble des saumons se trouvant en cages marines portaient une micromarque et que cette mesure était considérée utile même si, au départ, le secteur salmonicole s'y était opposé.

(b) La Résolution de Williamsburg

Lors de sa Réunion annuelle de 2003, le Conseil avait adopté la Résolution prise par les Parties, dans le cadre de la Convention pour la conservation du saumon de l'Atlantique nord, afin de minimiser les effets nuisibles de l'aquaculture, des introductions et transferts et des transgéniques sur les stocks de saumons sauvages, à savoir la Résolution de Williamsburg, CNL(03)57. En adoptant cette Résolution, le Conseil avait reconnu qu'il s'agissait d' « un document vivant ». En effet, celui-ci aurait sans doute à évoluer de manière à tenir compte des expériences faites lors de son exécution ; des différentes consultations ; de l'amélioration des connaissances scientifiques concernant les répercussions de l'aquaculture, des introductions et transferts et des transgéniques sur les stocks sauvages et de l'évolution des mesures prises pour les minimiser. En 2004, le Conseil avait adopté une nouvelle définition du terme « transgénique » et avait par conséquent amendé les Orientations recommandant l'application de mesures concernant le saumon transgénique. De même, le Conseil avait adopté les Orientations sur le repeuplement des stocks de

saumons atlantiques. La Résolution de Williamsburg, amendée en fonction de ces changements, figure dans le document CNL(04)54.

A la suite de l'adoption de la Résolution de Williamsburg, le secteur salmonicole avait exprimé son inquiétude quant au non respect de la marche à suivre pour le développement de ladite Résolution. Conformément à une Déclaration d'engagement, adoptée l'année dernière, et qui avait pour but de renforcer le Groupe de liaison (voir paragraphe 6.4(d)) en encourageant un plus grand engagement, le secteur salmonicole avait convenu de fournir des commentaires sur la Résolution de Williamsburg. Au cours de la réunion du Groupe de liaison, l'industrie avait accepté de contribuer des propositions d'amendement de la Résolution, accompagnées d'explications justificatives, et ce avant la Vingt-deuxième réunion annuelle de l'OCSAN. Les commentaires reçus de l'Association Internationale des Eleveurs de Saumons (AIES) ont été présentés, CNL(05)30 (annexe 27). L'industrie salmonicole d'Ecosse et de la Fédération de Russie, n'étant pas membres de l'AIES, n'avaient offert aucune suggestion. Le Conseil avait prié le Secrétaire de rédiger, en consultation avec les Parties, une réponse à ces commentaires puis de la transmettre au Président de l'AIES. Il a été convenu que les Chefs de délégation conviendraient de tout amendement de la Résolution de Williamsburg par correspondance entre réunions. Le Conseil a convenu d'annexer, à la Résolution de Williamsburg, le Protocole d'accord adopté par les Etats-Unis et le Canada, afin de réconcilier leurs différences quant aux méthodes employées par chacun de ces pays pour autoriser les introductions et transferts.

(c) Renvois effectués conformément à la Résolution de Williamsburg

Les Parties ont présenté leurs renvois effectués conformément à la Résolution de Williamsburg, CNL(05)20 (annexe 28).

(d) Liaison avec l'industrie salmonicole

La Présidente du Groupe de liaison, Ms Mary Colligan (Etats-Unis), a présenté le rapport de la réunion du Groupe de liaison avec les éleveurs de saumons nord atlantiques, CNL(05)21 (annexe 29), qui avait eu lieu à Leuven, en Belgique le 26 avril 2005. Lors de la réunion, le secteur salmonicole avait convenu d'apporter ses commentaires sur la Résolution de Williamsburg (voir paragraphe 6.4(b)). Une présentation fut faite des progrès réalisés dans la définition et l'exécution de programme d'initiatives portant sur le confinement du saumon. Même s'il manquait toujours certains des détails requis par le format de compte rendu, tel qu'il avait déjà été accepté par le Groupe de liaison, les comptes rendus de 2004 représentaient dans l'ensemble un pas en avant considérable, comparés aux années précédentes. Un rapport sur les dispositifs de l'atelier du Groupe de liaison intitulé « Saumon sauvage et saumon d'élevage – un travail de coopération » a également été soumis. L'atelier, qui a été accueilli favorablement par le Groupe de travail, devait avoir lieu à Trondheim, le 9 août 2005. L'industrie salmonicole a également contribué ses commentaires sur le rapport de l'atelier qui traitait du marquage du saumon d'élevage (voir paragraphe 6.4(a)). La Présidente a indiqué que l'industrie demeurait opposée à la participation des ONG au Groupe de Liaison.

Le Conseil a exprimé son désappointement quant au refus continu du secteur salmonicole à admettre les ONG au Groupe de liaison. Le Président a convenu

d'écrire au Président de l'AIES pour attirer leur attention sur les Mesures à prendre à l'avenir par l'OCSAN et inciter l'industrie à reconsidérer sa position en ce qui concernait la participation des ONG. Une possibilité serait de permettre aux ONG de participer à une partie des réunions du Groupe de liaison, à savoir la séance spéciale.

6.5 Captures non déclarées

Le Secrétaire a présenté le document CNL(05)22 (annexe 30) résumant les renvois effectués par les Parties. Ces renvois indiquaient qu'en 2004, l'estimation des captures non déclarées était de l'ordre de 593 à 761 tonnes. Le Conseil a accueilli favorablement les informations contenues dans ce document qui énonçait les données avec transparence et présentait les mesures prises par les Parties pour réduire encore plus le niveau des captures non déclarées.

Le représentant de la Norvège a proposé d'organiser une réunion du Groupe de travail ou une séance spéciale sur les captures non déclarées lors de la prochaine Réunion annuelle du Conseil, CNL(05)39. Le Conseil a prié le Secrétaire de rester en contact avec la Norvège sur cette question. En effet, si une Séance spéciale était organisée sur l'application du Cahier des charges dans le cadre de la Gestion des pêcheries de saumons, ceci pourrait permettre d'étudier, en plus de détails, les approches utilisées pour évaluer les captures non déclarées, la source des problèmes et les mesures prises pour les minimiser.

6.6 Captures accidentelles de saumons atlantiques

La possibilité de prises accidentelles de post-smolts de saumons dans les pêcheries de poissons pélagiques, tel que le maquereau, dans l'Atlantique du Nord-est avait déjà suscité des inquiétudes au sein du Conseil. En 2003, le Conseil avait décidé que, conformément à l'approche préventive, il encouragerait et chercherait à obtenir les fonds appropriés et nécessaires à la recherche portant sur les sujets suivants : distribution du saumon en mer et chevauchement spatio-temporel entre le saumon en mer et les pêcheries pélagiques ; études pilotes sur les ajustements techniques à apporter au déploiement des engins employés dans les pêcheries pélagiques afin de minimiser les prises accidentelles de saumons. Il était ensuite prévu de passer en revue les résultats de cette recherche lors de la Réunion annuelle de 2005 ou au cours d'une séance spéciale. A la lumière des résultats, le Conseil demanderait alors aux Parties, aux non-Parties et autres Commissions de Pêcheries d'ajuster (si besoin est) leurs méthodes de pêche afin de minimiser les prises accidentelles de saumons. Il continuerait également de demander au CIEM de fournir des renseignements sur les prises accidentelles.

La Fédération de Russie a indiqué que les études sur les prises accidentelles de saumons dans les pêcheries pélagiques s'étaient poursuivies en 2004 mais, qu'en contraste avec les années précédentes, aucune étude sur le terrain n'avait eu lieu. On n'avait placé que 5 observateurs sur les chalutiers pélagiques pendant les semaines 22 à 36. On n'avait toutefois observé aucun post-smolt dans les captures de poissons pélagiques.

6.7 Orientations sur les programmes de repeuplement – Renvois par les Parties

Un programme de repeuplement des stocks consistait, selon la définition du Conseil, en un ensemble de mesures de gestion, dont une amélioration de l'habitat, un contrôle

de l'exploitation et un exercice de repeuplement, mesures conçues pour restaurer les stocks au-dessus de leur limite de conservation. C'est au Conseil qu'incombe de prendre ces mesures de gestion dans le cadre de l'application de l'approche préventive. Un rapport sur les renvois effectués par les Parties, conformément au format de compte rendu défini, a été proposé, CNL(05)23 (annexe 31).

6.8 **Valeurs socio-économiques du saumon atlantique**

(a) Comptes rendus offerts par les Parties sur l'application des Orientations

L'année dernière, le Conseil avait adopté, à titre d'essai, des Orientations visant à incorporer les facteurs socio-économiques dans les décisions prises dans le cadre de l'approche préventive, CNL(04)57. Ces orientations fournissent un cadre logique pour soutenir et guider la prise de décision. Elles sont censées être employées par les personnes chargées de la gestion du saumon atlantique sauvage et de son milieu. Elles pourraient également être utilisées pour communiquer toutes inquiétudes aux autres secteurs dont les propositions d'activité pourraient avoir un effet nuisible sur le saumon sauvage et son milieu. Le Président avait demandé aux Parties de sélectionner un domaine de l'application de l'approche préventive (gestion des pêcheries ; protection et restauration de l'habitat ; aquaculture, introductions et transferts et transgéniques ; captures accidentelles et programmes de repeuplement des stocks) et de présenter, en 2005, au Conseil un exemple d'emploi de ces Orientations dans le domaine d'application sélectionné. Une présentation a été faite du rapport CNL(05)24 (annexe 32) rendant compte de l'utilisation des Orientations par les Parties.

(b) Rapport du Groupe de Travail chargé de la modélisation bioéconomique

L'année dernière, le Conseil avait décidé de former un petit Groupe de travail technique, dirigé par les Etats-Unis et qui avait pour objectif de mettre au point une méthode de modélisation bioéconomique permettant d'intégrer les facteurs socio-économiques dans un modèle de gestion du saumon atlantique. La représentante des Etats-Unis a indiqué que la réunion avait tout d'abord été prévue pour début février 2005 mais qu'il avait fallu la remettre à la fin de l'été si ce n'était au début de l'automne. Les résultats de la réunion seraient présentés au Conseil lors de sa Réunion annuelle de 2006. La représentante des Etats-Unis s'est ensuite reportée aux recommandations du Groupe de travail chargé des Mesures à prendre à l'avenir par l'OCSAN, à savoir le fait que le Conseil devait continuer à essayer d'intégrer les facteurs socio-économiques dans son travail, et le cas échéant, redoubler ses efforts dans ce domaine. Elle a indiqué que le travail de modélisation bioéconomique à entreprendre représentait un premier pas dans la mise en œuvre de cette recommandation et que le Conseil devait par conséquent étudier, à ce stade, les mesures appropriées à prendre à l'avenir dans le cadre des valeurs socio-économiques du saumon.

6.9 **Mesures à prendre à l'avenir dans le cadre de l'application de l'approche préventive**

Le Conseil a examiné un choix de mesures à prendre à l'avenir dans le cadre de l'application de l'approche préventive, CNL(05)25. Après une période d'activité soutenue à définir des accords sur l'application de l'approche préventive, il était désormais temps de se pencher sur la mise en application de ces accords par les

Parties signataires. Cette mise en application devait s'accompagner d'un système de comptes rendus détaillés transparents et, le cas échéant, d'un amendement des accords à la lumière de l'expérience gagnée au cours de la mise en application. A ce propos, les recommandations concernant les mesures à prendre à l'avenir par l'OCSAN sont idoines (voir paragraphe 5.1(b)).

7. Mortalité liée à la prédation

En 2003, le Conseil avait convenu de s'efforcer à rassembler toutes les informations disponibles portant sur la mortalité du saumon atlantique causée par la prédation, et ce, afin de préparer un compendium d'informations sur ce sujet. On avait invité chaque Partie à nommer un coordinateur pour ce travail. Le Secrétaire avait par ailleurs demandé à chacun de ces coordinateurs de fournir les renseignements suivants : information sur les effets nuisibles de la prédation effectuée sur les populations de saumons par les oiseaux, poissons et mammifères ichtyophages ; détails des mesures mises en place pour gérer ces prédateurs de saumons et évaluation de l'efficacité de ces mesures ; détails de toute recherche courante ayant trait à la mortalité du saumon causée par la prédation.

L'information fournie par les Parties avait été présentée au Conseil lors de sa Vingt-et-unième Réunion annuelle, mais aucune décision n'avait été prise quant au rôle de l'OCSAN à propos de cette question. Il était clair d'après le feedback émanant des réunions consultatives que les personnes/organismes intéressés étaient d'avis que l'Organisation devait mettre davantage l'accent sur cette question. Un document qui passait en revue les différentes options s'offrant à l'OCSAN sur cette question de mortalité due à la prédation a été présenté, CNL(05)26. Etant donné toutefois que ce sujet n'avait pas été identifié comme représentant un des défis de l'Approche stratégique, on avait envisagé de le supprimer de l'ordre du jour du Conseil. A la demande d'une Partie, il pourrait toutefois y être rétabli. Le Président a pris acte du fait que l'évaluation des effets nuisibles de la prédation sur le saumon était un élément important du programme SALSEA et que la procédure des Mesures à prendre à l'avenir pourrait améliorer les comptes rendus sur cette question.

8. Pêcherie de saumon à St Pierre et Miquelon

Un compte rendu du programme d'échantillonnage effectué en 2004 à St Pierre et Miquelon a été mis à la disposition du Conseil, CNL(05)28 (annexe 33). A ce document avaient été joints des renseignements concernant la réglementation qui encadrait la gestion de la pêcherie ainsi que les détails des permis octroyés et des captures effectuées. Les autorités françaises avaient annoncé leur volonté de continuer à rassembler des données scientifiques à St Pierre et Miquelon. Elles cherchaient en effet à contribuer à la gestion durable de la pêcherie qu'elles considéraient comme tradition à forte dimension culturelle. Le Conseil a accueilli favorablement la continuité de la coopération de la part de la France (pour St Pierre et Miquelon) et a demandé au Secrétaire d'exprimer auprès des autorités françaises combien ils appréciaient la persistance de leur coopération et de continuer à les inviter à participer aux réunions futures de l'OCSAN.

9. Effets nuisibles des pluies acides sur le saumon atlantique

9.1 L'année dernière, la Commission Nord Américaine avait demandé que ce point soit inclus à l'ordre du jour de la Vingt-deuxième (et futures) réunion(s) annuelle(s) du Conseil, étant donné la grande expertise disponible parmi les Parties de l'OCSAN et l'intérêt général que soulevait cette question. Le Conseil a reconnu que les pluies acides représentaient une menace majeure à l'habitat du saumon atlantique et souhaitait revoir cette importante question lors de la prochaine Réunion annuelle. Ceci permettrait en effet de garantir que l'information concernant les efforts réalisés pour contrecarrer les effets nuisibles des pluies acides est partagée entre les parties concernées.

9.2 La représentante des Etats-Unis a fait remarquer qu'une liaison internationale avait été forgée au cours des trois dernières années entre les Etats-Unis, le Canada et les pays scandinaves. Cette association avait pour but de travailler ensemble sur des projets de chaulage. La Norvège et la Suède avaient plus de 25 ans d'expérience dans ce domaine, ce qui leur permettait de réduire les effets des pluies acides sur les rivières et cours d'eau. Ces pays avaient ainsi été une ressource très importante lors de l'élaboration de la proposition de chaulage dans l'est du Maine et du projet de chaulage de la West River en Nouvelle Ecosse. Depuis la Réunion annuelle de 2004 de l'OCSAN, les Etats-Unis n'avaient pas relâché leur activité d'évaluation en vue de la proposition de projet de chaulage dans l'est du Maine et pour déterminer l'étendue de l'effet de l'acidité sur la survie du saumon dans cette région. Des recherches avaient également été menées le long de ruisseaux pour mesurer plus correctement l'étendue de l'impact de l'eau de rivière sur la santé et survie des smolts. Un contrôle de la composition chimique de l'eau (par échantillonnage) avait lieu régulièrement afin de déterminer la durée des périodes épisodiques de bas pH et de haut niveau d'aluminium ainsi que pour comparer ces informations avec le niveau de précipitations, le flux du ruisseau et les variations saisonnières, etc. On menait par ailleurs des études sur les communautés d'invertébrés et de plantes. Ceci précisait la richesse des espèces, indicateur de la santé de la ligne de partage des eaux. Des études sur la migration s'appuyant sur les pièges rotatifs à vis, toute une gamme d'équipements de télémétrie et les chaluts de post-smolts continuaient de mesurer les modes de comportements, les modèles de migration et de population. Les questions administratives associées à l'exécution de ce projet de chaulage, dont notamment son autorisation et une revue de l'impact sur l'environnement sont en cours d'examen.

9.3 Le Canada, l'Union européenne et la Norvège ont chacun présenté des rapports portant sur les pluies acides - CNL(05)47 (annexe 34), CNL(05)43 (voir annexe 18) et CNL(05)34 (annexe 35) respectivement.

10. Comptes rendus sur les activités des trois Commissions régionales

10.1 Les Présidents de chacune des trois Commissions régionales ont soumis au Conseil un compte rendu des activités de leur Commission respective.

11. Divers

11.1 Aucune autre question n'a été abordée.

12. Date et lieu de la prochaine réunion

12.1 Le Conseil a accepté l'invitation offerte par L'Union européenne au nom de la Finlande de tenir sa Vingt-troisième réunion annuelle à Ivalo, en Finlande, du 5 au 9 Juin 2006.

12.2 Le Conseil a décidé d'organiser sa Vingt-quatrième réunion annuelle du 4 au 8 juin 2007, soit dans un lieu suggéré par invitation, soit à Edimbourg.

13. Compte rendu de la réunion

13.1 Le Conseil a adopté le compte rendu de la réunion CNL(05)50.

14. Communiqué de presse

14.1 Le Conseil a approuvé le communiqué de presse CNL(05)52 (annexe 36).

Note: La liste intégrale des documents du Conseil figure à l'annexe 37.

ANNEX 1

Welcoming Address made by Mr P Berteaud, Directeur de l'Eau du Ministère de l'Écologie et du Développement Durable

Mr. Chairman, Foreign Delegates, Ladies and Gentlemen:

France is honoured and pleased to host the general assembly of the international organisation NASCO which for more than twenty years has contributed to the conservation of salmon at sea. There is a huge amount at stake in conserving the diversity of our oceans' biological and ecological heritage. It is our common concern: the concern of governments, Europe, associations and public authorities.

At national level, I would like to salute the work carried out by associations in France: AIDSA (International Association for the Defence of Atlantic Salmon) of course, but also TOS (Trout, Grayling, Salmon Association), the fishing federations and LOGRAMI (Loire Long-distance Migratory Fish), the Fondation Saumon, the WWF and all those who have, actively and with conviction, defended the salmon. Their energy and involvement in numerous associations working to manage migratory species have led to dynamic and courageous management in the interests of the salmon. We should take this occasion to thank them and pay tribute to their work.

Public authorities, at every level, have been seen to mobilise financial resources on a par with the issues at stake - a fact confirmed by the facilities that you will perhaps be able to visit at Vichy or in the Loire basin.

Finally, I should not forget the French Fisheries Board. This public institute, dedicated to the conservation of fish populations, monitors and polices fishing and water bodies across the territory and takes charge of collecting useful data and expertise to support fisheries management or advise management structures in the large river basins and for more local operations.

High in the list of subjects that interest your organisation, is the question of monitoring the salmon stock in the Saint Pierre et Miquelon islands. For some years now, France has provided statistical information concerning the real situation in the fishing ground of this overseas territory.

Another step forward was made last year when our country joined your organisation as an observer.

In doing so, we were concerned to set out in total transparency the regulatory aspects affecting the management of this traditional fishing activity, which, because of the modest size of the catch and its very structure, is conducted essentially as a traditional activity without the aim of making a profit.

We are also committed to furthering the scientific knowledge of this stock, through biometric and genetic studies, the first results of which will be presented to you during this general assembly.

Naturally, our country intends to continue the effort in this field, as it already does in the more global perspective of the salmon's life-cycle. The Ministry of Ecology has also put

very considerable effort into supporting our salmon populations during their freshwater migration. It seems useful at this point to consider some general points concerning these populations.

More than 40 French rivers accommodate salmon from the north to the south of the French Atlantic coast. Between 3,000 and 4,000 salmon are currently caught by fishermen in France, which is infinitely less than historical figures recording nearly 45,000 salmon caught in 1890 in the Loire basin alone.

After much struggle, and, it has to be said, with varying success, the migratory routes along our major rivers such as the Garonne, Dordogne, Loire, Rhine and so on, have been conserved. However, economic expansion, the security of the population and national development have also diminished their potential and imposing catch reductions or equipping dams with fish-migration devices are sometimes insufficient for restoring this population of migratory fish living alternately in fresh water and in the sea.

Consequently, our present achievements must be seen as the fruit of decades of work by a very large number of people. French expertise on fish-passes has been developed through the combined contributions of research, the French Fisheries Board and technicians of the French Electricity Company (EDF) to continuously improve the facilities. Although salmon are most often mentioned as the reason behind all this work, we must not forget that shad and lamprey are also concerned. This is proof that we have now mastered the technique. In the future it will be much easier to include these facilities at the preliminary design phase of new structures.

Since the first survey conducted in 1888 to assess the effects of the first fishing bans imposed between 1863 and 1865, there have been numerous other surveys to gather knowledge about the species and abundance data to guide management measures. Continuing in this vein, the French Fisheries Board organises national monitoring of gear fishing and obtains data from professional and amateur freshwater fishermen, as well as sea fishermen and anglers. We consider data management to be an essential aspect of any realistic management policy.

The most effective investments for protecting salmon concern the management or removal of obstacles to migration. This problem is especially prevalent in France. Considerable financing has been granted since 1992 through the so-called “return to sources” contracts aiming to assist migrating fish in large river basins. For the Loire, the government has also adopted a “Life-Size Loire Plan” which includes management operations as well as operations to conserve natural species or spaces.

However, the most marked developments concerning the current fish stock in France are of a legislative nature. Following a wide national debate during 2003, it emerged that the most suitable path would be to continue the development begun in 1984 providing better protection of fish and their habitat, and with the measures passed in 1992 under the first “water law”.

These regulatory measures have provided effective protection of salmon and other migratory species; they have also led to the development of the basin logic with genuine decentralisation of the management of species living alternately in fresh water and the sea. The creation of the Master Plan for Water Development and Management (SDAGE) was accompanied by the “COGEPOMI” management committees for migratory species, allowing greater consistency and efficiency.

However, a large pile of texts has built up, to the point where they are becoming counter-productive for the very protection of fish, and harmonisation and clarification of the various systems of law is now a necessity.

To this end, the water bill, together with an order to simplify the law, provides for very considerable harmonisation and simplification of water and fishing laws. In addition, it reinforces the means for conserving environments, for example by providing the possibility of opposing small projects to defend the most sensitive sites, or by requiring that from 2013 all structures comply with the rule restricting the flow rate to one tenth of the modulus.

The national representation of fishermen and their means of action will also be reinforced, and the means for combating salmon or eel poaching will be improved.

Finally, the French Fisheries Board will become a full-blown Office of Water and Aquatic Environments with wider missions and ambitions.

These are only a few points of a much broader law providing the foundation for a new water policy in France. As you will have seen, France took measures a long time ago to conserve long-distance migratory fish; it remains mobilised to ensure that the exceptional migratory path connecting our French rivers to the vast sea space of the Atlantic Ocean continues to exist. It seems to me that our presence at VICHY, united to protect the salmon, and so close to the valleys that form the cradle of the great Allier salmon, is quite symbolic. It bears witness that the efforts made at sea are reciprocated in the streams and torrents of rural areas very far from the coast. So we have before us a vast field in which to apply our skills and motivation in the effort to conserve fish, but above all our ability to work together to construct a future for the wild salmon. We are taking measures to ensure that the mission of sustainable development that my ministry has set itself meets this challenge.

ANNEX 2

Opening Statement made by the President of NASCO

Monsieur le Ministre, Mesdames et Messieurs, J'ai le plaisir et l'honneur de vous acceuillir aux vingt-deuxiemes rencontres annuelles de l'Organisation pour la Conservation du Saumon de l'Atlantique Nord.

A Cháirde Uilligh, Fáilte roibh go leir chuig on fiche is a do crinniu don Aontas an Atlantaigh Thuaidh um Chaomhnu an Bhradai.

Ladies and gentlemen, Welcome to NASCO's Twenty-Second Annual Meeting here in this beautiful city of Vichy. It is a pleasure and an honour for me to serve as your new President during this, my first Annual Meeting. I spent some four ***vendanges*** or grape picking seasons working in a small village called St Laurent d'Oingt not too far from Vichy and it is really a great pleasure to back in this beautiful area, which holds so many fond memories for me. It is also a great pleasure to be in the beautiful city of Vichy, on the Allier River, one of the most important spawning rives in mainland Europe. France has been blessed with beautiful rivers and these have been eulogised by poets and lovingly depicted by the Impressionist painters. Always aware of gastronomic delights, I am told that in the Middle Ages salmon was a dietary staple of the French nobility and along the Loire valley the knights, celebrating a jousting victory, often called for a dish of salmon as a special way of celebrating a victory.

This is the first time NASCO has met in France, indeed it is the very first meeting of any kind we have held in France and I must thank you very much, the EU and France, for inviting us to meet here, but particularly I want to express thanks to Mr Patrick Martin of Fondation Saumon. Fondation Saumon is one of our accredited NGOs and I know that Patrick has worked very hard indeed with our Secretary to achieve this first meeting in France. Not only are we in the middle of France, ladies and gentlemen, but we are, as we always like to be, very close to the salmon. The River Allier lies only a few metres away from us and Mr Martin and his colleagues are doing excellent work in rebuilding the salmon stocks in this river. When we realise that we are nearly 1,000km from the Bay of Biscay or, as it is better known in France, the Golfe de Gascogne, the mouth of the Loire Allier system, it tells us that we have close to us here in Vichy, a very precious and ancient race of salmon, that is not inclined to give up when confronted with problems. I believe this spirit and determination is also evident in the work of NASCO. I would also like to thank the City of Vichy. The Secretary tells me that the officials here have done everything possible to help us hold our meeting here and have provided us with these splendid surroundings. I believe they are among the most magnificent that we have used. I know that this beautiful building, in this city which wild salmon migrate through, will inspire us all.

Ladies and gentlemen, we have a lot to do. Of course, we have all of our usual tasks, to agree regulatory measures, to receive reports on progress in implementing our agreements on the Precautionary Approach and to further our conservation work in many different directions. But there are two areas that I would like to stress. The first, I am sure you will agree, is to make decisions on the ***Next Steps for NASCO***. I am a relative newcomer to NASCO; I have only attended Annual Meetings since 1999 when NASCO met on my doorstep in Westport. I must say that when you look at this Organization's list of accomplishments in its first 20 years it is quite amazing what has been achieved by international cooperation and agreement. Of course, we cannot relax our efforts, because the situation facing the stocks is grave, for reasons we do not fully understand and the merging projections for stock rebuilding are

decadal in length and emphasise even more the need for pro-active conservation. We took the brave step of asking all our stakeholders where they thought we should be going in the future. This has been a great success and we have before us many ideas, developed in cooperation with our stakeholders, as to how to improve the effectiveness of our future work. So far as we know, this is the first time that any International Fisheries Commission has undertaken such an external review, and I know that we will emerge from this exercise stronger, more effective and more inclusive. We shall spend all of this afternoon on this matter. Second, and this is rather a matter initially for the Research Board rather than the Council, we now have a valuable external consultants' report on our ***Salmon at Sea*** or ***SALSEA*** project. This offers us major choices for the future and I do hope you will all consider very carefully how we can take this important work forward.

Lastly, but not least, I want to thank our previous President, Jacque Robichaud, who served us exceedingly well for four years. As I mentioned in Reykjavik last year, he is a hard act to follow but I was delighted when he agreed last year to serve as Special Adviser and he has been assisting the Secretary and I with his valuable international experience and wisdom. We are very glad to have you with us again, Jacque. You will also hear directly from him when he gives his report as Chairman of the Board.

Ladies and gentlemen, it has been well remarked that in NASCO we have a special spirit. I believe that this is terribly important and that good spirit, friendship and trust have helped us through sometimes difficult times. I know that this spirit will prevail here and look forward very much to the next few days.

ANNEX 3

Opening Statements made by the Parties

Opening Statement made by Canada

Thank you.

Mr. President, Distinguished Delegates, Observers, Ladies and Gentlemen:

M. le president, j'aimerais d'abord, comme vous, remercier les autorités françaises de nous avoir invité à Vichy pour cette 22ième réunion annuelle de l'OCSAN. C'est vraiment une ville invitante et chaleureuse et nous sommes heureux de nous y retrouver.

From the start, I would like to introduce two new Commissioners for Canada. To my left, Mr. Serge Tremblay, who many of you already know. He has been part of the Canadian delegation for a number of years representing the Province of Quebec in his capacity as Chief of Inland Fisheries. He brings a long experience in policy development and management of salmon rivers in Quebec. To my right, and very new to NASCO, is Mr. Bud Bird. He was the previous Minister of Natural Resources for the Province of New Brunswick and is currently a director with the Atlantic Salmon Federation, so he brings a wealth of knowledge and experience on salmon and habitat issues in Atlantic Canada.

This year Canada has embarked on some significant initiatives concerning Atlantic salmon. First, a $30 million federal government contribution was announced in the government's budget for an Atlantic Salmon Endowment Fund, and work is underway to establish the fund. The income earned on the fund will be used to help community groups on a range of habitat-enhancement, monitoring and conservation initiatives to strengthen watershed planning and to enhance partnerships in Atlantic Canada.

Work has also begun on the development of a broad policy framework for the conservation of wild salmon on Canada's Atlantic coast. The Atlantic Wild Salmon Policy will provide guidance on major elements of salmon management with a view to better support diverse salmon populations and their habitats. These two will benefit from experience acquired under similar programs that are underway for Pacific salmon on Canada's west coast.

Mr. President, this last year has shown strong interest in what lies ahead for NASCO: the consultative review process we have put in place at our last Annual Meeting, partly in response to proposals from the Atlantic Salmon Federation and World Wildlife Fund, has been most useful. This week we will have the opportunity to review recommendations and take decisions on next steps. Canada is looking forward to these discussions. I personally think NASCO has shown leadership and foresight in this initiative as there is now a movement developing in Regional Fisheries Management Organizations to review their performance and adjust to become more effective, and responsive to new environments.

In the last few years, NASCO has directed some of its efforts on developing a Precautionary Approach on aquaculture. This has brought added focus on the potential impacts of aquaculture on wild salmon stocks. This was, and remains, a very important initiative, and Canada hopes to fully report under the Williamsburg Resolution framework next year. In particular we hope to finalize this week an agreement with the United States that would recognize the use of Canada's National Code on Introductions and Transfers and the need to consult mutually when required.

As you know, Mr. President, Canada is fully committed to protecting wild salmon stocks. Canada is also committed to ensuring responsible and sustainable development of the aquaculture industry.

Canada has recently implemented a National Aquatic Animal Health Program that provides direction concerning surveillance, monitoring, and disease responses. By year-end we will have in place a third-party audited certification program for salmon farms that will address product quality, food safety and environmental stewardship among other things. Canada has also initiated new research on the potential environmental effects of aquaculture such as waste management and chemicals used.

Canada is sensitive to ensuring an inclusive and transparent process in managing wild salmon in a way that does not impede the development of aquaculture and is also committed to manage aquaculture in a way that does not impede the development of wild salmon. It is most important that NASCO and all interested groups contribute to a constructive approach in this perspective.

Finally Mr. President, during the Next Steps consultations along with the comments from the scientific community, marine environmental conditions have been cited as the likely key factor in persistent low marine mortality. This is occurring in the estuarine, coastal or open ocean areas and it is a complex issue. It is something Canada has been dealing with concerning Pacific salmon for a number of years and, in particular, when irregular phenomena such as El Nino occur. I am pleased that the International Atlantic Salmon Research Board is continuing its focus in this area and that this problem has been included in some of the Next Steps recommendations.

We had organized to have Dr. Richard Beamish to give a talk on the research that has been going on for some time on this. Unfortunately, Dr. Beamish was sick at the last moment. I hope we can renew this initiative at a later point.

In closing, the Canadian delegation is looking forward to a very productive week under your leadership.

Opening Statement made by Denmark (in respect of the Faroe Islands and Greenland)

Mr President, Distinguished Delegates and Observers:

The Faroe Islands and Greenland are very pleased to participate in the 22nd Annual Meeting of NASCO, which has brought us to Vichy in France this year. It is always a great pleasure to take part in the NASCO Annual Meetings, which are organised so efficiently by the Organisation's small Secretariat, and indulge in their pleasant combination of the useful and the agreeable in the form of, among other things, serious discussions on the future of the salmon and of NASCO as an organization, and enjoyable excursions and reunions with fellow delegates and colleagues from NASCO's member countries.

The salmon fishery was once very important to Greenland and the Faroe Islands. Unfortunately, this is now a long bygone past. Today a salmon fishery in the Faroe Islands only exists in the form of farmed salmon, which is nevertheless very important to the country. As regards Greenland, since 2002 the fishery has been restricted to the amount used for internal subsistence consumption, i.e. we no longer even have a quota for salmon. Greenland still, however, retains the right to fix a quota.

Greenland and the Faroe Islands were very pleased with the decision which the Council of NASCO made at last year's Annual Meeting to establish a Working Group on the Next Steps for NASCO. We very much look forward to discussing the recommendations of the Working Group at this Annual Meeting; recommendations for addressing the many-faceted challenges which NASCO faces. One issue on which Greenland and the Faroe Islands continue to place great importance is the inclusion of homewater fisheries in the NASCO Convention. We stressed this in our opening statement last year, in our contribution to the Next Steps Working Group, and we reiterate this again now. The Special Session on the management of homewater fisheries at the NASCO Annual Meeting last year was very informative, and further confirmed our view on this matter.

NASCO has responsibilities for developing management measures for mixed-stock fisheries in Faroese and Greenlandic waters, but it recognises the need to review the balance and fairness between management of distant-water and homewater fisheries. There is a need to share information on management measures to ensure that they are equitable also in regard to balance and fairness.

Last year - at the 20th anniversary of NASCO - it was time for reflection on past achievements and future challenges in NASCO. Now it is time to get to work and produce some tangible results. Hopefully, this Annual Meeting, and especially the Next Steps on which this Council will decide, will lead to some fruitful new initiatives whose results will soon be reflected in the Atlantic and in the salmon rivers, in future ICES reports, and, of course, in the fishery. With this in mind, Greenland and the Faroe Islands are ready to get started at this 22nd Annual Meeting of NASCO.

Opening Statement made by the European Union

Mr. President, Monsieur le Directeur, Distinguished Delegates and Observers,

I am delighted, on behalf of the European Union, to welcome you all here to Vichy. This is the Twenty-Second Annual Meeting of the North Atlantic Salmon Conservation Organization and is the very first time that NASCO has met in France. Nevertheless, we are still at the heart of the wild salmon community, an extensive community which spans the whole North Atlantic Ocean.

I would like to thank the Government of France, which is represented by Monsieur Pascal Berteaud, the Director for Water at the French Ministry of Ecology and Sustainable Development, for hosting this meeting in this beautiful city of Vichy. I would also like to acknowledge all the efforts made by Mr. Patrick Martin from the Fondation Saumon, who is based in this region of Auvergne and who has been a regular participant at NASCO meetings for some years. I am very pleased by the arrangements made for us by his organisation in the very centre of this interesting and historic city.

Let's look at the state of the wild salmon stocks in the North Atlantic – where are we at this stage? Well, having reached one of the worst levels of catch on record in 2003, we have now managed to see the very lowest catches on record in 2004. What does that say about the salmon stocks? To me the alarm bells are ringing louder than ever. I know that all the European Union Member States are alarmed by these developments.

We know that coastal fisheries still account for a substantial portion of the catches taken in the North-East Atlantic. The European Union and Norway addressed this situation at last year's Annual Meeting in a Special Session. It remains clear that all the relevant Parties have to take further and appropriate management measures for the homewater fisheries. These fisheries are now coming under control in the Member States of the European Union. However, acknowledging the problems that there are, we have commissioned a report to examine these fisheries in the European Union and see what else needs to be done. Should it prove to be necessary, we are fully committed to taking measures to reduce these fisheries or to even consider whether these fisheries should be brought to a complete end. Obviously, such measures will require a thorough debate within the European Union. However, if we do not get our act together, the police might soon be arriving.

We would also wish to see management measures taken for the fisheries at the Faroe Islands in accordance with both the ICES advice and with the spirit of the NASCO Convention. We would like to see a full commitment from the Faroe Islands to this effect.

I must also draw the attention of the Parties to the situation at West Greenland, where ICES are suggesting that there should be no fishery. I could imagine that a minimal subsistence fishery could be considered at West Greenland although the advice from ICES is that, even without a harvest at West Greenland, there is no probability of attaining conservation limits in the four northern regions of North America. This situation remains of grave concern to all my colleagues in the European Union.

Since the last NASCO Annual Meeting, the Parties have embarked upon a very ambitious project reviewing the working methods and structures of the Organization. We have held two meetings of the so-called "Next Steps Working Group" and we have endeavoured to consult with our stakeholders to see where we can bring about improvements. This whole process

has been a very important opportunity for the Parties to take NASCO forward into its second twenty-year period.

This afternoon, in an Open Session of the Organization, a first ever for NASCO, we have a unique opportunity for NASCO and all the relevant stakeholders to contribute towards the future direction of the Organization. A number of recommendations have come out of the last meeting of the Next Steps Working Group held in Virginia in April. Some of these recommendations are far-reaching, whilst others are aimed at improving current working methods.

We are a changing organization and we have to evolve in order to reflect the changes around us. My delegation will support any real and necessary evolution so that NASCO can meet all its challenges head on. We will need to ensure that any recommendations subsequently adopted by the Council will be useful to the Organization and can be implemented by the Parties using the resources available to them.

Mr. President, Ken, I am delighted to see you presiding over this week's proceedings for the first time. You have a difficult, but not impossible, week ahead and I will try not to make your job any more difficult. We have known one another for many years and I have every confidence in your presidency. I would like to thank you and the members of the NASCO Secretariat, particularly Malcolm Windsor, for all the work that has been done to prepare this meeting. Once again, I give special thanks to the organisers here in Vichy for all their efforts.

Mr. President, Monsieur le Directeur, Distinguished Representatives and Observers, on behalf of the European Union, I would like to express my desire to work with everyone in order to achieve real progress for NASCO this week. I look forward to a very successful meeting.

Opening Statement made by Iceland

Mr. President, Distinguished Delegates, Ladies and Gentlemen:

As this is the first Annual Meeting of the Council under your Presidency, allow me to begin by wishing you well in your ambitious undertaking and pledging our full support to you and your guidance as we seek to seize the opportunities and confront the challenges involved in determining a future course for NASCO. We also wish to thank the European Union, the French Government and not least the Fondation Saumon for this opportunity to visit the historic city of Vichy and for holding the 22nd Annual Meeting of NASCO in such beautiful and ornate surroundings.

This meeting indeed represents a milestone of sorts as we will be deciding on future directions and the next steps in the Organization's diverse activities. During the past year we have had a number of very positive meetings with NASCO's NGOs and other stakeholders in order to improve the working arrangements of the Organization and its relationship with those interested in salmon issues. We believe that the Next Steps Working Group has produced a very good and thoughtful report, which will provide valuable guidance towards what we hope will be a productive and fruitful era in the conservation of Atlantic salmon.

The International Atlantic Salmon Research Board has also assembled a monumental database on ongoing and planned research projects on the life history and migrations of salmon in the sea. This will facilitate the coordination of the Board and hopefully lead to a financial support program through the newly established Research Fund. Fundraising from private sources has posed its challenges, as was to be expected, but will certainly succeed if NASCO and its NGOs combine their efforts.

We are under no illusion that much needs to be done to improve the status of salmon stocks in the North Atlantic and attain the objectives of the NASCO Convention. To this we remain fully committed.

Turning to Icelandic salmon issues, we were fortunate enough to see positive developments in the course of 2004. There was a 25% increase in angling catches over 2003, marking a 15% increase over the previous 10-year average. The angling catches were dominated by grilse as the abundance of 2-sea-winter salmon is still precariously low. Anglers have thus been encouraged to release 2-sea-winter salmon, especially on the north coast, where large salmon tend to be a large part of the spawning component. The ICES Working Group has for the first time separated the Icelandic salmon stocks into a southern and northern component as it has been known for many years that some north-western and western Icelandic 2-sea-winter stocks tend to intermingle with North American and Southern European stocks at West Greenland. This can hopefully be confirmed through genetic analysis after those methods have been well established.

Development of salmonid aquaculture, which is only permitted in restricted localities in eastern and north-western Iceland against very stringent regulations, has been slower than anticipated and the production only amounted to 6,300 tonnes in 2004. These activities are being carefully monitored and inspected by the Icelandic authorities and we are confident that we are on the right track.

We are very much looking forward to our deliberations in the days ahead, not least the dialogue with various stakeholders on the Next Steps for NASCO. If we play our cards right, we should be in a position to make some genuine progress here.

By way of closing, Mr. President, allow me to thank you and the NASCO Secretariat for the efficient preparation of this meeting and reiterate our gratitude to our hosts for their generous hospitality.

Thank you, Mr. President.

Opening Statement made by Norway

Mr President, Distinguished Delegates, Observers, Ladies and Gentlemen:

Norway is very pleased to participate at this Twenty-Second Annual Meeting of NASCO, here in Vichy.

I have to say, this year the amount of paper has been so big, that I haven't really had the chance to prepare for any opening statement.

Despite this, it takes not much preparation to recognize that the "Next Steps" of NASCO are amongst the most important issues we are going to deal with during this year's meeting.

I have personally had the pleasure to chair the work on this issue and looking back there are some major experiences I would like to share with you:

- Once again I was surprised over the many highly competent, clever and dedicated people involved in the international cooperation on Atlantic salmon;
- The NASCO Secretariat has again demonstrated its high professionalism and openness to new ideas – may you stay forever young;
- And last, but not least, our NGOs have been constructive, realistic end very supportive throughout the whole process from the very start.

In my view all this gives reason for optimism for the future of this Organization. Unfortunately I am not certain whether I am equally optimistic about the future of the salmon stocks.

After a long period of decline, the abundance of salmon in Norway increased at the turn of the century. This promising development has now come to a halt, and last year proved to be a serious set-back. Estimates of pre-fishery abundance were at the second lowest in twenty years, mostly due to low abundance of grilse. Estimated sea-survival has been low over the last years, indicating that this might be the cause. The situation will be assessed again at the end of this year and, if found necessary, regulatory actions taken prior to the next fishing season.

There are, however, also some positive signs: salmon are on the increase on the South coast due to liming of acidified rivers, salmon lice infestations are greatly reduced on the West coast and escaped farmed salmon are less frequent.

At the same time we learn from the ICES report that about 1/3 of the remaining Atlantic salmon resource originates from Norwegian salmon rivers. This means Norway has a great responsibility for conserving and managing salmon stocks, and we are dedicated to do our best. Nevertheless, we have learned from experience, and let there be no doubt in your minds, if we are to succeed in this task, there is the need for further strong and international cooperation, and therefore I would argue that the future of Atlantic salmon relies on the effectiveness and success of this cooperation.

Finally, Mr President, I would like to thank you, our hosts and the Secretariat for the excellent preparations for this meeting here in beautiful Vichy.

Thank you.

Opening Statement made by the Russian Federation

Mr President, Distinguished Delegates, Observers, Ladies and Gentlemen:

I am glad that our delegation, despite some complexities due to restructuring of the state administrative system in Russia, is again attending this representative forum, and on behalf of the Russian delegation and the Russian Federal Agency for Fisheries, which we represent here, I am delighted to greet all participants of the 22nd Annual Meeting of NASCO.

From my introductory words it is clear that the past year was not easy for the fisheries sector in Russia. This was due to restructuring of a number of Ministries in the Russian Federation under the administrative reform which is currently underway as a result of which the fisheries management has been devolved to the Ministry of Agriculture. Major complexities during the last year and at the beginning of this year were related to implementation of a new administrative system.

However, despite these complexities the State Duma of the Russian Federation adopted the Federal Law on Fisheries and Conservation of Aquatic Biological Resources at the end of 2004, which clearly defined the responsibilities of organs of administrative power at all levels and created a regulatory framework for the fisheries. The other positive development was that the application of the Precautionary Approach to management of Atlantic salmon stocks was further expanded to include all three regions in Russia with Atlantic salmon interests. And lastly, at a regional level a Code of Practice for commercial aquaculture in the Murmansk region was adopted, which provided a regulatory framework for this activity in the region and defined responsibilities of executive bodies of state power and subjects engaged in aquaculture.

Of the issues in the focus of NASCO's attention we continue to be concerned about high mortality of salmon at sea. We are concerned about this because, in the first place, causes of this mortality still remain unknown. In this connection I would like to refer you to the status of Pacific salmon stocks, where the abundance of practically all species has considerably declined, which is, as many experts believe, linked to a poor survival of hatchery-reared fish, which constitute a larger part of many salmon populations. We have not yet reviewed the issue of increased Atlantic salmon mortality at sea from this angle.

The second issue which causes concern is that the level of implementation of agreements adopted by NASCO is not adequate, particularly where considerable funds are required to support this implementation or political decisions need to be taken.

Over the period since the last Annual Meeting NASCO addressed a number of important issues, of which the key issue was undoubtedly the Next Steps for NASCO. The Organization has undertaken a major effort and initiated the process of reviewing, together with its NGOs and other stakeholders, its past, present and future activities to make its work more effective, transparent and visible and thereby to enhance the importance of conservation of Atlantic salmon. This was a commendable and brave action that not many other international fisheries management organizations have ever taken. The process demanded much effort and time on behalf of NASCO's Contracting Parties, Secretariat, NGOs and its other participants; a number of meetings were held inter-sessionally. It produced a set of important recommendations for the Council. We are looking forward to discussing this product together with all other participants of the Next Steps for NASCO process and deciding jointly on how we shall live in NASCO in the future.

This year's Annual Meeting is hosted by a country whose history is tightly linked to global history. France is one of the most ancient states in Europe. A country of the first Republic. A country renowned for its culture. This is also a country with old wine-making traditions, which I hope we'll have a chance to test ourselves. Russia has much in common with France and the paths which the two countries followed often intersected in the course of their history. According to some references there was even a period in Russia's history in the first half of 1917 when a national anthem of France, the "Marseillaise" was a national anthem of Russia. French people have always been famed for their hospitality, and the excellent arrangements for this Annual Meeting and the cordial welcome by our hosts are proof of this.

Mr President, my delegation is looking forward to having important and fruitful discussions during this meeting.

Thank you.

Opening Statement made by the United States of America

Mr. President, Distinguished Delegates, Observers, Ladies and Gentlemen:

The United States is very pleased to be participating in the Twenty-Second Annual Meeting of NASCO. Vichy is a lovely city. I would like to thank you, Mr. President, our host, France and the EU, and the NASCO Secretariat for the excellent preparations for this meeting. This is a very important meeting for a number of reasons.

First, Mr. President, this is NASCO's first annual meeting with you to guide our work. With your excellent leadership skills, diplomacy, and vision, we are confident that NASCO will successfully address the challenges facing wild Atlantic salmon. The spirit of cooperation enjoyed here at NASCO is unmatched in international fisheries organizations, and it is sure to continue during your Presidency.

Secondly, this past year for NASCO has been unusual and monumental. By stepping back and reviewing its mission and structure, the Organization has reaffirmed the unique and critical role it plays and should continue to play in international salmon management. This review has been enriched by the contributions made at the stakeholder meetings, which provided a valuable opportunity for NASCO to both give and receive information. I look forward to the Special Session today to obtain feedback on the recommendations from this extraordinary review process. We should be proud of how far we have come as an Organization, but we need to remember that we will be judged not by the words on paper but by the strength and commitment of our actions.

The Next Steps process provides NASCO with an opportunity to clearly articulate its vision and strategy to its partners in salmon conservation and management. Through this process, we can and should strengthen our commitment to the measures and agreements adopted by NASCO, increase our effectiveness and efficiency by seeking and using the best available knowledge, improve transparency in the work of the Organization, enhance the use of the knowledge and experience of NGOs and other stakeholders; and increase our visibility as an Organization. By doing these things we will be reinvigorating the Organization and better positioning ourselves to meet the significant challenges facing wild Atlantic salmon.

After reflecting on all of these positives, I wish I could bring my statement to an end. Yet I can't ignore other, not so positive, realities. Pre-fishery abundance estimates remain among the lowest on record. The North American stock complex has declined to record low levels and is in tenuous condition. ICES advises that, even in the absence of any marine-induced fishing mortality, there is essentially no chance that the returns to the United States will be greater than the returns in the 1992 to 1996 base period. Recovery of critically endangered populations remains elusive. The US is committed to this difficult task; however, our urgent and immediate goal is to prevent further declines and to stabilize populations.

Recovery of wild Atlantic salmon depends on the strong commitment of all Parties to address a wide variety of threats to the species and its habitat. It also requires a close partnership between managers and researchers so that information on threats to salmon is obtained and acted upon quickly and aggressively so that identified threats can be mitigated. International cooperation on salmon management and research is no longer just a wise thing to do – it is essential if we are to recover this species.

Mr. President, our delegation is looking forward to a very productive meeting and to working closely with you, all the Parties around the table, and the NASCO Secretariat this week as we work to set the course for this Organization.

Thank you.

ANNEX 4

Opening Statements made by Inter-Government Organizations

Opening Statement made by the International Baltic Sea Fishery Commission

Mr President, Mr Secretary, Distinguished Delegates and Observers, Ladies and Gentlemen:

It is a great pleasure to be with you here in the beautiful and historical city of Vichy to continue the close cooperation that exists between NASCO and IBSFC. I believe this cooperation has been of benefit to both Organizations and IBSFC has learned much from NASCO, a specialized salmon conservation organization. In 1997, the IBSFC agreed a Salmon Action Plan (SAP) covering the period 1997-2010, so there are still five years of this Plan to go, and I would like to report to you on where we are now.

In 2004/2005 the number of wild smolts in the Baltic has increased three-fold compared to 1997, which is a large step forward and is the result of the work of the IBSFC and favourable environmental conditions, including decline in the M74 syndrome. The SAP set the goal of achieving 50% wild smolts in Baltic salmon rivers by 2010. ICES has indicated that for the Bothnian Sea/Gulf of Bothnia region, the proportion of wild smolts is 73%, in the Main Basin this proportion is 39% and in the Baltic Sea as a whole the proportion is 52%.

There are, of course, some uncertainties in these assessments but they clearly indicate the progress being made. However, in the Gulf of Finland the situation is not favourable. While ICES has indicated that this situation is not due to the fishery there is concern about possible ecological changes in the region and the impact of seals.

In 2004 IBSFC started to analyse the status of the individual rivers in the light of the goal set for 2010.

Finally, Mr President, I should indicate that from 31 December 2005 the IBSFC will probably cease to exist following political changes around the Baltic Sea, in particular the accessions of 4 Contracting Parties of our Convention to the EU in 2004. Negotiations are ongoing between the EU and the Russian Federation with regard to taking over the responsibilities of the IBSFC and for taking forward the SAP so as to continue the progress in conservation and restoration of wild Atlantic salmon stocks.

I would like to thank NASCO for the cooperation between our organizations and wish you success in your important work.

Thank you, Mr President.

Opening Statement made on behalf of the North Atlantic Marine Mammal Commission (NAMMCO)

The North Atlantic Marine Mammal Commission (NAMMCO) is pleased to have the opportunity to be represented at the 22nd Annual Meeting of North Atlantic Salmon Conservation Organization (NASCO). The reciprocal observer relations between the organisations continue to provide a useful mechanism for open exchange of information and thus NAMMCO is pleased to provide NASCO member delegations, representatives of observer governments and international organisations attending this 22nd meeting of NASCO, with updated information on the work and activities carried out through NAMMCO.

ANNUAL MEETING OF NAMMCO COUNCIL

NAMMCO held its 14th meeting 1st-3rd March 2005 in Tromsø, Norway. The meeting was attended by delegations from the member countries - the Faroe Islands, Greenland, Iceland and Norway, as well as observers from the Governments of Canada, Japan and the Russian Federation, and representatives from a number of international organisations, including the International Council for the Exploration of the Sea and the International Whaling Commission. Among issues discussed and decisions taken at the 14th meeting were the following:

International cooperation on seals and sealing - Under the UN Convention on the Law of the Sea, States are obliged to cooperate on the management of all marine mammals. As an international body for cooperation on the conservation and management of marine mammals in the North Atlantic, NAMMCO's work in coordinating research, conservation and management measures for seal stocks is filling an important gap in international cooperation. Among the broad range of international instruments relevant to conservation and management of marine resources, there are in fact few, other than NAMMCO, that are dealing with management and sustainable utilisation of seal stocks.

In addition to ongoing assessments of stocks and the review of management measures for grey seals, harp seals, hooded seals, ringed seals and walruses across the North Atlantic, NAMMCO has now decided to look more closely at the status of harbour seals, also an important resource for many coastal communties.

Ecosystem-based management - Cooperation through NAMMCO is based firmly on the importance of considering the role of marine mammals in the marine ecosystem and developing multi-species approaches to management. The NAMMCO Scientific Committee is reviewing ongoing work to develop multi-species models suitable for use in management. NAMMCO plans to examine more closely the management objectives and experiences in applying ecosystem based management in countries across the North Atlantic where marine mammals are utilised.

Focus on hunting methods - NAMMCO provides a unique forum for the exchange of information and experiences in hunting methods used in marine mammal hunts across the North Atlantic. The NAMMCO Committee on Hunting Methods organised a workshop in 2004 focussing on hunting methods for seals and walruses. Recommendations from the workshop dealing with such issues as hunter training and safety and technical innovation were endorsed by NAMMCO. Future work will include a workshop on the issue of struck and lost animals in hunting, and the development of guidelines on the use of different weapons and ammunition on different marine mammal species.

International observation of whaling and sealing - NAMMCO has since 1998 had a fully operational international scheme, the Joint Control Scheme for the Hunting of Marine Mammals, for the observation of whaling and sealing activities in member countries. At this year's meeting NAMMCO reviewed the implementation of this scheme and noted the valuable experiences gained from having NAMMCO observers active in the field, both land-based and onboard vessels, observing a range of different hunts. One of the main focuses of NAMMCO observation activities in 2005 will be the Norwegian seal hunt.

Narwhal and beluga - Having previously expressed its grave concern on the apparent decline of stocks of narwhal and belugas in West Greenland, NAMMCO commended the recent measures taken by the Government of Greenland to reduce catches by implementing quotas for these stocks. There are, however, continuing concerns about the sustainability of the catch and the effects of the new management measures will be followed closely.

Fin whales - In order to complete the requested assessment of fin whale stocks in the North Atlantic, questions related to stock identity and historical catch data in particular still need to be resolved. The NAMMCO Scientific Committee will be taking steps to complete this work as soon as possible.

Humpback whales - NAMMCO has, in recent years, also focussed its attention on the status of humpback whales in the North Atlantic, which are increasing in some areas. This year the Scientific Committee has been requested to continue its assessment and in particular to assess the long-term effects of annual removals of from 0, 2, 5, 10 and 20 humpback whales in West Greenland, as well as providing estimates of sustainable yields for stocks in the Northeast Atlantic.

New General Secretary - NAMMCO welcomed the new General Secretary, Dr Christina Lockyer, who took up her official duties during the 14th Annual Meeting in Tromsø. Dr Lockyer joins existing staff members of the Secretariat, Mr Daniel Pike, Scientific Secretary and Ms Charlotte Winsnes, Administrative Coordinator.

Upcoming NAMMCO meetings - The 15th annual Meeting of the Council will be hosted by Iceland in the spring of 2006. The Working Group meeting on beluga and narwhals will be held jointly with the JCNB in Nuuk, Greenland, 11-14 October 2005, and the Working Group meeting on fin whales will be held in Oslo, Norway, 20 – 22 October 2005. The 13th Scientific Committee meeting will be held in Lofoten, Norway, 25 – 27 October 2005.

Opening Statement made by the North Pacific Anadromous Fish Commission

Mr President, Mr Secretary, Distinguished delegates, Ladies and Gentlemen:

Thank you for the invitation to attend your Twenty-Second Annual Meeting in such a beautiful and historical location. Now I understand why Atlantic salmon also likes this famous water and spa area, despite its location so far away from the sea.

Mr President, as you probably remember, three years ago NASCO, NPAFC and several other international organizations started the process of improved cooperation, when we held a Joint Meeting in Vancouver, Canada, on the subject of marine mortality of salmon. Over 140 scientists, industry representatives, and fisheries officials from 15 countries attended the Joint Meeting. The meeting demonstrated that progress is being made in understanding the factors affecting salmon at sea through ongoing research programmes in the three areas: the North Pacific and North Atlantic Oceans and the Baltic Sea. It was concluded that a priority for research is to increase understanding of the distribution and migration of salmon at sea using newly developed expertise and tools such as electronic tags.

I would like to inform you that in 2002 NPAFC, with support of the North Pacific Research Board, started the Salmon Tagging Project, which is part of an international cooperative research programme known as BASIS (Bering-Aleutian Salmon International Survey). The goal of this project is to gain a better understanding of the distribution patterns, habitat utilisation, and movements of salmon in the North Pacific Ocean using electronic tags. The project will be completed next year, but we already have interesting preliminary results. Of course we are considering some other research related to different issues, like the use of genetic stock identification to determine the distribution, migration, early marine survival and relative stock abundance of different species of Pacific salmon.

Mr President, a year and a half ago, at our Annual Meeting in Honolulu, the Secretary of NASCO proposed that we should organize a second international symposium on the subject of Salmon at Sea sometime between 2006 and 2008 in Europe. We at the NPAFC are ready to participate, if NASCO is still interested in organizing this symposium.

I would like to say a few words about the status of Pacific salmon stocks. I think we are lucky with the situation at the moment. Commercial catches for 2003 (the last data available) were 940,000 tonnes, the second largest catch since 1972. Despite relatively low returns in some areas, generally catches increased for all Pacific salmon species except coho salmon.

Mr President, we at NPAFC note with interest the work done so far by the Council of NASCO and the Secretariat in drawing up the Next Steps for NASCO, and we are looking forward to the presentation of the report and discussion on the subject this afternoon.

Mr President, I know that NASCO and ICES will co-convene an international symposium on a very interesting and important issue related to wild and farmed Atlantic salmon, in Norway in October this year, and I presume that your scientists and managers will be preoccupied with that event. Nevertheless, I would like to take the opportunity to invite all of you to another scientific forum. NPAFC and PICES will have a Joint Symposium entitled 'The status of Pacific salmon and their role in North Pacific marine ecosystems' which will take place in Jeju Island, Korea, during October 30 – November 1, 2005, immediately after our annual meeting. Of course we'll be glad to see the NASCO representatives at our Annual Meeting as well.

Mr President, we wish you a very successful meeting and look forward to our future cooperation.

Thank you.

ANNEX 5

Opening Statements made by Non-Government Organizations

1. Mr President, M Directeur, distinguished delegates,
Once again I have the pleasure of presenting the Joint Opening Statement on behalf of the NGOs.

2. Over the past 12 months NASCO has been engaged in an important Review of both its aims and organisation. The NGOs are pleased to have been closely involved with this process. We pay particular tribute to the initiative of WWF and ASF in commissioning an independent Review of NASCO and producing a Vision for the future of the Organization which we NGOs unanimously endorsed here last year. It was this Vision, we believe, which provided the main stimulus to NASCO undertaking the Next Steps process. NASCO was formed in 1984, largely as the result of an idea put forward by NGOs in 1979, so it was highly appropriate that, 25 years later, NGOs should again play a major role in a step change for the future of the Organization.

3. The NGOs wish to applaud NASCO, the Secretariat and the Parties, for the enthusiasm with which the Next Steps process has been adopted, and the open, transparent and inclusive way it has been conducted. Particular thanks are due to the Head of the Norwegian delegation in this regard. We believe it would have been difficult to improve on this process within the time (and cost) constraints imposed. NASCO is the first international fishery organisation to undertake such a process, and has set an example for others to follow.

4. The NGOs have thus been able to make a full contribution to the Next Steps process, and building on the WWF/ASF Vision, made 21 separate recommendations to the NASCO Working Party. That Working Party has, in turn, produced a new Vision for NASCO, and a new strategic approach with 20 detailed recommendations. The fact that, with one major exception, most of these recommendations overlap with our own, makes my job here this week more straightforward than usual.

5. Mr President, the NGOs are pleased to unanimously endorse the Working Party Vision and Strategy. We are well aware that at this stage they are only recommendations. We urge Council to accept them this week, and just as important, proceed to implement them without delay. We hope that many of the recommendations can be implemented during this meeting. While they may not gain formal approval for implementation until next year, we believe that the Parties can and should implement them as soon as possible, both as a matter of principle and good faith.

6. Mr President, so far I have concentrated on revision of the NASCO process. It is important to remember what we are actually here for, the conservation and improvement of wild Atlantic salmon stocks. In this connection, can I report some outstanding progress funded by NGOs: The buy-out of nets on the North Esk in Scotland at a cost of GBP 300,000, an extensive programme for buying out Norwegian coastal nets, funded by local river owners at a cost of NKR4 million, and finally the successful marine research project initiated by a GBP 100,000 donation from the Atlantic Salmon Trust, supported by the Scottish Executive Fisheries

Research Service and the Norwegian Institute of Marine Research. Can I now return to some of the important detail of the NASCO Review?

7. The major NGO recommendation to the Working Party was for mandate change. The threats to wild salmon have changed significantly since NASCO was formed in 1984, and we argued that the original mandate was no longer adequate for the Organization to meet the challenges now faced by the species. While NASCO had achieved much, progress in key areas had been disappointing due to a lack of "teeth" and we believe that the only effective solution was for changes to the Convention.

8. The Working Party have rejected this approach for the time being; while we understand the concerns about the need for unanimity, timescale and the dangers of unexpected consequences through change, this does make it even more important that the alternative suggested in recommendation 1, the concept of "action plans" developed by the Parties, must be introduced as soon as possible and be implemented with vigour.

9. "Action plans" should outline commitments by each Party to undertake management actions to meet the requirements of NASCO agreements, and will include commitments with timescales linked to new and more detailed reporting arrangements in Special Sessions every 3 – 4 years (recommendation 4). The NGOs support this concept, but believe it would convey more force if the management actions were designed to meet the objectives of NASCO agreements, rather than the requirements.

10. We have further important caveats:
The major test for the new concept will be what action NASCO takes if a Party fails to meet a published commitment. In recommendation 5 the Working Party suggest that NASCO should establish an *ad hoc* group to support the President in reviewing reports made by the Parties and their progress on implementation of NASCO agreements. This is a weak recommendation; the Parties have backed away from the idea of a compliance committee which is standard practice in other international organisations. The NGOs call for NASCO to re-consider this recommendation.

11. It is also important for the credibility of the compliance process that representatives of the NGOs should be members of the *ad hoc* group or compliance committee.

12. Mr President, we already have an example of a Party failing to meet a published commitment which provides a rebuff to NASCO in its existing format, and will certainly provide a first challenge for the post-Review NASCO. The Irish Government has long been under pressure in this forum, and elsewhere, to manage its drift net fishery according to the accepted norms of international salmon management, and had given public undertakings at NASCO that it would set a salmon TAC according to scientific advice in 2005. Unfortunately, it has again reneged on that decision, setting a quota of some 37,000 salmon in excess of the scientific advice, with a new promise to abide by that advice in 2007.

13. This decision has outraged stakeholders and disturbed governments across Europe. The latest evidence suggests that, in addition to inflicting continued serious damage to the recovery prospects of threatened stocks in Irish rivers, the Irish drift nets are intercepting 10-15% of salmon from rivers in Wales and southern England, many of which are also well below their conservation limit. Some of these rivers have

candidate SAC status, in theory protected by the EU Habitats Directive. These nets also intercept salmon from the recovering rivers of France, Spain and Germany.

14. The pressure to maintain these high and unacceptable levels of TAC arise directly from the failure of the Irish Government to take decisive political action. Given recommendation 6, aimed at fairness between management measures in home and distant water fisheries, we also imagine that the representatives of Denmark (in respect of the Faroes and Greenland), who have agreed to substantial reductions in their quotas over the past few years, will be equally interested in what action NASCO, and the EU in particular, propose to deal with this matter, and indeed to the lesser, but still significant, mixed stock fisheries off the coast of Scotland. While we welcome the comments of the EU in this regard, we suggest this situation has been dragging on for too long to delay taking decisive action.

15. To return to recommendation 4, reporting progress by Parties on action plans will require a significant improvement on the current standard of reporting, which at present varies from adequate to appalling. For example, on containment guidelines, one Party does not report according to the prescribed format, freshwater escapes and trickle losses are not covered at all, and on the Williamsburg Resolution, one Party does not report at all. In case observers think this is a minor problem, we understand that in one month (January) in Scotland alone, more than 600,000 farmed salmon escaped, and I can assure you that there are many other examples. Mr President, this is little short of a joke and the Parties need to make a really serious effort to rise to this challenge if the new process is to work. I can assure you that the NGOs will be watching this space very closely.

16. Finally, in relation to recommendation 1, the Working Party suggest that the new arrangements for implementing action plans and reporting arrangements should be operated for a trial period. If these arrangements do not work, it is proposed to revisit the language of the Convention (mandate change). The NGOs welcome this commitment, but invite Council to set a firm deadline for the trial period of 3 years.

17. Mr President, this would be a long statement if we commented on each recommendation in detail, but there are two further areas that we wish to highlight.

18. It is widely accepted that the work of NASCO is neither well-publicised nor well known outside a limited circle of stakeholders. The NGOs support the range of recommendations designed to address this, the idea of a Ministerial Conference (R3), an annual publication (R19), improved stakeholder participation and consultation (R11 and 12), and particularly the idea of NGO involvement in development of NASCO's media and public relations strategy (R15,16 and 17). It is also important, as part of this process, to resolve the current impasse over NASCO's communications policy.

19. Mr President, the Working Party have accepted the premise that many of us here have known for a long time, that the NGOs have a great deal to contribute to the NASCO process, and their recommendations reflect that. We are particularly pleased to welcome the idea of increased NGO involvement in the proceedings of meetings, on standing or *ad hoc* working groups (R10) and on the Liaison Group (R11).

20. We appreciate that acceptance of these recommendations by Council requires a commitment from the NGOs to continue to contribute to NASCO in an organised and responsible way. We have made it quite clear in our submissions to the Next Steps process just how much we believe we can contribute to the NASCO process, and the Working Party have responded by recommending that Council offers us that opportunity. Mr President, the NGOs are ready to accept this opportunity, and we look forward to working closely with NASCO to help conserve and improve salmon stocks across the North Atlantic.

21. This concludes our joint statement; can I draw your attention to the written statement of the Coomhola Salmon Trust; thank you for your attention.

22. Mr President, it will not have escaped your attention that we are meeting here in France for the first time. France has particular problems with its salmon stocks at home, and also, across the North Atlantic, responsibility for the fisheries of St Pierre and Miquelon. This is a unique opportunity to raise the profile of NASCO's work to a domestic audience, and so I call on Patrick Martin to present a short statement on behalf of our colleagues AIDSA and Fondation Saumon, and Atlantic salmon, in France.

Opening Statement on behalf of Fondation Saumon, AIDSA, WWF (France) and European Anglers Alliance (France)

Mr President, Secretary, Monsieur Le Directeur, Distinguished Delegates:

I would like to thank the President of NASCO for giving us this opportunity in recognition of the strong partnership between NASCO and its NGOs to address you. I would like to specifically thank Stephen Chase when he was with the Atlantic Salmon Federation for having encouraged and helped me 3 years ago to ask for accreditation to NASCO, 3 years later NASCO is meeting here in France.

We are delighted that the French government is hosting NASCO for its 22nd Annual Meeting on its territory. This is the first time since the creation of NASCO that it has met in France, and this clearly demonstrates a strong will for France to be more involved in international negotiations on salmon.

The Atlantic salmon is a great migrator and crosses international boundaries. Thus its management requires conservation measures to be taken along its entire migration route. It is appropriate that as we consider the Next Steps for NASCO, the salmon is migrating in the Allier beside us and this inspires our work. We expect that France will assume a greater role in NASCO from now on.

Why Should France do This?
Because salmon are of great cultural and historical significance to France.

French salmon stocks are under the responsibility of the French government and two of its ministries: Agriculture and Fisheries, and Ecology and Sustainable Development. Europe is also an actor at an intermediate level for the management of the stocks. NASCO has a role in international waters by providing a forum for all parties to cooperate.

On a national level:

We are aware that important efforts have been made in fresh water, with the implementation of TAC (Total allowable catch) on rivers where salmon fishing is permitted, and we are delighted today to have with us Mr Bernard Breton who is the President of the European Anglers Alliance. It shows a real will from fishermen to be responsible partners.

Important efforts have been made regarding habitat restoration and improving the quality of water, notably thanks to the so-called River Contracts put in place by Water Agencies and local jurisdictions. With the help of "SAGE" in the context of the "loi sur l'eau" from 1992, it should certainly allow all parties to be more involved.

We are here in Vichy, on the river Allier, in the Loire basin. May I remind you of the perfect example of the Loire Grandeur Nature Plan, which has enabled all parties to work together on a Basin which represents 1/5 of the national territory. This plan generated important measures to ensure the conservation of the Allier stock thanks to the Haut-Allier salmoniculture, and modification to, or removal of, obstacles to migration. This plan of action should continue and should be implemented in other French basins where we need to open new migration routes.

Suspending fishing for long enough to allow restoration of natural populations has been promoted by fishermen. This moratorium has been accepted to ensure the sustainable management of stocks. We need to develop and implement means which will enable a precise management of stocks and enhance a coherent national policy which would include all problems related to the salmon. We hope that the new law currently being written will be more in favour of migrators, that proper actions will be implemented to counteract difficulties and that the new body ONEMA (National Office for Water and Aquatic Environment) which should soon be up and running should be able to transform, maybe to "smoltify", and ensure a coherence between freshwater and marine parties. This, unfortunately, has not been the case so far in our country where it is still legal to catch salmon in the sea just near the estuaries.

We welcome the bilateral actions which the French government has taken to convince the Irish government of the necessity to end mixed stock fishing for salmon. We urge them to maintain this pressure and to extend the logic of their concern about Irish nets to the St Pierre et Miquelon mixed stock fishery which has a similarly severe effect on North American salmon stocks.

Concerning Europe, the (DCE) "Water Framework Directive" from January 2000, is a particularly new vision, that has fixed as a main objective to reach in 2015, a "good ecological status" of freshwater systems. Salmon play a major role as a bio-indicator. We urge a close cooperation between DG Fish and DG Environment on this subject to include a better coordination with different organizations who care about salmon.

A few years ago, the European Commission included the cormorant in the Bird Directive and this has resulted in a significant population increase to the point where there is now a need for control measures. If the EU can do this for the cormorant, perhaps they can do that for salmon.

It doesn't make sense that Europe allows fishing along the Irish coast when part of the population could come from France or other stocks and which benefit from important European subsidies destined to protect the species.

Great measures have been taken in Greenland and the Faroe Islands to protect the salmon and we appreciate them a lot. We hope that measures put in place by the European Commission will be able to limit the effect of Irish fishing from mixed stocks. It is essential.

NASCO enables Parties to meet and make vital decisions to save the salmon. Its global vision in cooperation with all Parties should be its strength. NASCO is the international organisation for salmon conservation but we would like individual countries to do even more and minimize their impact on their neighbours and we hope NASCO will have more power to secure the setting in place of cooperation and enforcement by each Pfarty.

The safeguarding of wild salmon is the business of all. Even if the participation of the NGOs seems limited at the time of this meeting, we are honoured and delighted to contribute our share. We also know that you will listen to us. Of course, our work will not be limited to the organization of this meeting. We wish that every one takes its responsibilities in the common interest, in the interest of this extraordinary animal which we respect and which we love, a symbol of a biodiversity that many want to protect and promote.

To conclude, we hope that this meeting in Vichy will remain engraved in the spirit of all participants, that you will feel welcome here, and that the atmosphere here will facilitate important agreements for the future of the salmon.

ANNEX 6

List of Participants

* Denotes Head of Delegation

CANADA

*Mr Guy Beaupré	Representative Department of Fisheries and Oceans, Ottawa, Ontario
Mr Bud Bird	Representative Fredericton, New Brunswick
Mr Serge Tremblay	Representative Ministére des Ressources Naturelles et de la Faune du Quebec, Québec
Mrs Julia Barrow	Department of Fisheries and Oceans, Ottawa, Ontario
Mr Willie Bruce	Department of Fisheries and Oceans, St John's, Newfoundland
Mr Stephen Chase	Fisheries and Oceans, Moncton, New Brunswick
Mr Peter Cronin	New Brunswick Department of Natural Resources and Energy, Fredericton, New Brunswick
Mr Murray Hill	Department of Fisheries, Pictou, Nova Scotia
Mr Maurice Mallet	Department of Fisheries and Oceans, Moncton, New Brunswick
Mr Brian Meaney	Department of Fisheries and Aquaculture, St John's, Newfoundland
Mr David Meerburg	Department of Fisheries and Oceans, Ottawa, Ontario
Ms Sue Scott	Atlantic Salmon Federation, St Andrews, New Brunswick
Mr William Taylor	Atlantic Salmon Federation, St Andrews, New Brunswick
Mr Tim Young	Department of Fisheries and Oceans, Ottawa, Ontario

DENMARK (IN RESPECT OF THE FAROE ISLANDS AND GREENLAND)

*Mr Emanuel Rosing	Representative Greenland Home Rule, Nuuk, Greenland
Mr Kaj P Mortensen	Representative Ministry of Foreign Affairs, Faroe Islands

Mr Arni Olafsson	Representative Ministry of Foreign Affairs, Copenhagen, Denmark
Dr Jan Arge Jacobsen	Faroese Fisheries Laboratory, Torshavn, Faroe Islands
Ms Mira Ann Kalsi	Department of Fisheries and Hunting, Nuuk, Greenland
Mr Andras Kristiansen	Ministry of Fisheries and Maritime Affairs, Torshavn, Faroe Islands

EUROPEAN UNION

*Mr Ole Tougaard	Representative European Commission, Brussels, Belgium
Mr Andrew Thomson	Representative European Commission, Brussels, Belgium
Dr Ken Whelan	President of NASCO Marine Institute, Newport, Ireland
Mr Rolf Åkesson	Ministry of Agriculture, Food and Fisheries, Stockholm, Sweden
Ms Carmen Beraldi	Secretaria General de Pesca, Madrid, Spain
Mr Pascal Berteaud	Ministère de l'Écologie et du Développement Durable, Paris, France
Dr Malcolm Beveridge	Fisheries Research Services, Pitlochry, UK
Mr Gordon Brown	SEERAD, Edinburgh, UK
Mr Henri Carmie	Conseil Supérieur de la Pêche, Lempdes, France
Mr Richard Cowan	DEFRA, London, UK
Mr David Dunkley	SEERAD, Edinburgh, UK
Dr Jaakko Erkinaro	Finnish Game and Fisheries Research Institute, Oulu, Finland
Mr Lal Faherty	Western Regional Fisheries Board, Galway, Ireland
Dr Ulrich Fassbender	Federal Ministry of Consumer Protection, Food and Agriculture, Bonn, Germany
Mr Peter Funegard	National Board of Fisheries, Gothenburg, Sweden
Dr Paddy Gargan	Central Fisheries Board, Dublin, Ireland

Ms Fiona Grant	Central Fisheries Board, Dublin, Ireland
Mr Michel Guery	Ministère de l'Écologie et du Développement Durable, Paris, France
Dr Detlev Ingendahl	State Inland Agency of Ecology NRW, Kirchhundem, Germany
Ms Eija Kirjavainen	Ministry of Agriculture and Forestry, Department of Fisheries and Game, Helsinki, Finland
Mrs Alison McQueen	Department of Culture, Art and Leisure, Belfast, Northern Ireland
Dr Ursula Monnerjahn	Information Centre for Biological Diversity (IBV)/ZADI, Bonn, Germany
Mr Pentti Munne	Ministry of Agriculture and Forestry, Department of Fisheries and Game, Helsinki, Finland
Mr George O'Doherty	Department of Communications, Marine and Natural Resources, Dublin, Ireland
Dr Niall Ó Maoileidigh	Marine Institute, Dublin, Ireland
Mr Ted Potter	Centre for Environment, Fisheries and Aquaculture Science, Lowestoft, UK
Mr Frank Sheridan	Department of Communications, Marine and Natural Resources, Dublin, Ireland
Mr Vincent Vauclin	Conseil Supérieure de la Pêche, Marly, France
Mr Andrew Wallace	Association of Salmon Fishery Boards, Edinburgh, UK
Mr Godfrey Williams	Environment Agency, Darlington, UK

ICELAND

*Mr Guðmundur B Helgason	Representative Ministry of Agriculture, Reykjavik
Mr Arni Isaksson	Representative Directorate of Freshwater Fisheries, Reykjavik

NORWAY

*Mr Steinar Hermansen	Representative The Royal Ministry of Environment, Oslo

Mr Arne Eggereide	Representative Directorate for Nature Management, Trondheim
Mr Raoul Bierach	Representative Directorate for Nature Management, Trondheim
Dr Lars Petter Hansen	Norwegian Institute for Nature Research, Oslo

RUSSIAN FEDERATION

Dr Boris Prischepa	Representative Murmanrybvod, Murmansk
Dr Svetlana Krylova	Representative Murmanrybvod, Murmansk
Mr Alexej Grushko	State Committee for Fisheries, Moscow
Ms Elena Samoylova	PINRO, Murmansk
Dr Igor Studenov	SevPINRO, Archangel
Dr Alexander Zubchenko	PINRO, Murmansk

USA

*Ms Patricia Kurkul	Representative NOAA Fisheries, Gloucester, Massachusetts
Mr Stephen Gephard	Representative Department of Environmental Protection, Inland Fisheries Division, Old Lyme, Connecticut
Ms Kimberly Blankenbeker	National Marine Fisheries Service, Silver Spring, Maryland
Mr Scott Burns	World Wildlife Fund (USA), Washington DC
Ms Mary Colligan	National Marine Fisheries Service, Gloucester, Massachusetts
Mr Patrick Keliher	Maine Atlantic Salmon Commission, Augusta, Maine
Ms Jessica Pruden	National Marine Fisheries Service, Gloucester, Massachusetts
Mr Pasquale Scida	National Marine Fisheries Service, Gloucester, Massachusetts
Mr Timothy Sheehan	NOAA Fisheries Service, Woods Hole, Massachusetts

Mr Stetson Tinkham	US Department of State, Washington DC

NEXT STEPS STAKEHOLDER

Dr Dennis Doherty	Electricity Supply Board, Limerick, Ireland

STATES NOT PARTIES TO THE CONVENTION

France (in respect of St Pierre and Miquelon)

Mr Christophe Lenormand	Ministère de l'Agriculture, de l'Alimentation, de la Pêche, Paris, France

INTER-GOVERNMENT ORGANIZATIONS

Dr Walter Ranke	International Baltic Sea Fishery Commission, Warsaw, Poland
Dr Walter Crozier	Chairman, ICES Working Group on North Atlantic Salmon, Bushmills, Northern Ireland
Mr Kaj P Mortensen Mr Andras Kristiansen	North Atlantic Marine Mammal Commission, Tromsø, Norway
Mr Vladimir Fedorenko	North Pacific Anadromous Fish Commission, Vancouver, Canada

NON-GOVERNMENT ORGANIZATIONS *

Major General Seymour Monro	Atlantic Salmon Trust, UK
Mr Jean-Pierre Tane Mme Sylvie Tissier Mr Christian Vernes	Association Internationale de Défense du Saumon, France
Mr Hugh Campbell-Adamson	Association of Salmon Fishery Boards, UK
Mr Gunnar Noren	Coalition Clean Baltic, Sweden
Mr Mark Boyden	Coomhola Salmon Trust Ltd, Ireland
Mr Bernard Breton Mr Chris Poupard	European Anglers Alliance
Mr Niall Greene	Federation of Irish Salmon and Sea-Trout Anglers, Ireland
Mr Patrick Martin Mr Jean Thomas	Fondation Saumon, France
Mr John Gregory	Institute of Fisheries Management, UK

Mr Patrick Byrne	National Anglers Representative Association, Ireland
Mr Bjornulf Kristiansen	Norges Bondelag (Norwegian Farmers Union), Norway
Mr Aage Wold	Norskelakseelver (Norwegian Salmon Rivers), Norway
Mr Paul Knight	Salmon and Trout Association, UK
Mr Ian Calcott	Scottish Anglers National Association, UK
Mr Martin Arnould	World Wide Fund for Nature, France

* Up to two representatives from Non-Government Organizations are allowed to attend the meetings of the Council and Commissions at any time.

SPECIAL ADVISOR

Mr Jacque Robichaud

SECRETARIAT

Dr Malcolm Windsor	Secretary
Dr Peter Hutchinson	Assistant Secretary
Miss Margaret Nicolson	PA to the Secretary
Mrs Sophie Ross	PA

Support Staff

Mr Jocelyn Rancon

Mr Samuel Dejan

ANNEX 7

CNL(05)36

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

Agenda

1. Opening Session

2. Adoption of Agenda

3. Administrative Issues

3.1 Secretary's Report

3.2 Report of the Finance and Administration Committee

3.3 Report on the Activities of the Organization in 2004

3.4 Announcement of the Tag Return Incentive Scheme Grand Prize

4. Scientific, Technical, Legal and Other Information

4.1 Scientific Advice from ICES

4.2 Catch Statistics and their Analysis

4.3 Scientific Research Fishing in the Convention Area

4.4 Report of the International Atlantic Salmon Research Board

4.5 Report of the Standing Scientific Committee

5. Next Steps for NASCO

5.1 *(a) Discussion on the Report of the 'Next Steps for NASCO' Working Group

(b) Decisions by the Council

6. Conservation, Restoration, Enhancement and Rational Management of Atlantic Salmon under the Precautionary Approach

6.1 Measures Taken in Accordance with Articles 14 and 15 of the Convention CNL(05)15

6.2 Application of the Decision Structure for Management of North Atlantic Salmon Fisheries - Returns by the Parties

6.3 Development and Implementation of Habitat Protection and Restoration Plans

(a) Returns by the Parties
(b) Database of Salmon Rivers

6.4 Aquaculture, Introductions and Transfers, and Transgenics

(a) Report of the Workshop on Mass Marking of Farmed Salmon
(b) The Williamsburg Resolution
(c) Returns made in accordance with the Williamsburg Resolution
(d) Liaison with the Salmon Farming Industry

6.5 Unreported Catches

6.6 By-catch of Atlantic Salmon

6.7 Guidelines on Stock Rebuilding Programmes – Returns by the Parties

6.8 Social and Economic Values of Atlantic Salmon

(a) Reports by the Parties on Application of the Guidelines
(b) Report of the Working Group on Bio-economic Modelling

6.9 Future Actions in relation to Application of the Precautionary Approach

7. Predator-related Mortality

8. St Pierre and Miquelon Salmon Fishery

9. Impacts of Acid Rain on Atlantic Salmon

10. Reports on the Work of the Three Regional Commissions

11. Other Business

12. Date and Place of Next Meeting

13. Report of the Meeting

14. Press Release

Note: The Council has decided that Agenda item 5.1(a) will be conducted as an Open Session, with all NGOs and other stakeholders who contributed to the 'Next Steps' Consultation Meetings being invited to participate.

ANNEX 8

Council

CNL(05)53

2006 Budget, 2007 Forecast Budget and Schedule of Contributions

North Atlantic Salmon Conservation Organization
2006 Budget and 2007 Forecast Budget (Pounds Sterling)

Section	Description	Expenditure	
		Budget 2006	Forecast 2007
1	Staff-related costs	320,640	330,240
2	Travel and subsistence	42,750	41,150
3	Research and advice	39,520	40,700
4	Contribution to Working Capital Fund	28,000	60,000
5	Meetings	9,000	9,270
6	Office supplies, printing and translation	21,000	26,990
7	Communications	41,500	42,730
8	Headquarters Property	-26,480	-25,510
9	Office furniture and equipment	6,500	6,690
10	Audit and other expenses	10,500	10,800
11	Tag Return Incentive Scheme	4,200	4,500
12	International Atlantic Salmon Research Fund	0	0
	Total	497,130	547,560

		Revenue	
		Budget 2006	Forecast 2007
13	Contributions - Contracting Parties	520,130	571,560
14	Miscellaneous Income - Interest	4,000	4,000
15	Stabilisation	-27,000	-28,000
16	Surplus or Deficit (-) from 2004	0	0
	Total	497,130	547,560

Adjustments to 2005 contributions (Pounds Sterling)
to take into account confirmed 2003 Catch Statistics

Party	2003 Provisional catch	2003 Confirmed catch	2005 Contribution based on provisional catch	2005 Contribution based on confirmed catch	Adjustment to 2005 contribution
Canada	137	141	38,556	39,253	+697
Denmark (Faroe Islands and Greenland)	9	9	21,437	21,447	+10
European Union	1,039	1,012	159,191	156,741	-2,451
Iceland	108	110	34,677	35,071	+394
Norway	1,071	1,071	163,471	164,699	+1,228
Russian Federation	107	107	34,544	34,666	+123
USA	0	0	20,233	20,233	0
TOTAL	2,471	2,450	472,110	472,110	0

Note: A positive adjustment represents an underpayment in 2005.

NASCO Budget Contributions for 2006 and Forecast
Budget Contributions for 2007 (Pounds Sterling)

Party	2004 Provisional catch (tonnes)	Contribution for 2006	Adjustment from 2005	Adjusted contribution for 2006	Forecast contribution for 2007
Canada	159	49,898	+697	50,594	54,831
Denmark (Faroe Islands and Greenland)	16	25,069	+10	25,080	27,548
European Union	926	183,068	-2,451	180,617	201,169
Iceland	130	44,862	+394	45,256	49,298
Norway	784	158,413	+1,228	159,641	174,077
Russian Federation	82	36,529	+123	36,651	40,140
USA	0	22,291	0	22,291	24,495
TOTAL	2,097	520,130	0	520,130	571,560

Contributions are based on the official catch returns supplied by the Parties. Column totals can be in error by a few pounds due to rounding.

ANNEX 9

Council

CNL(05)8

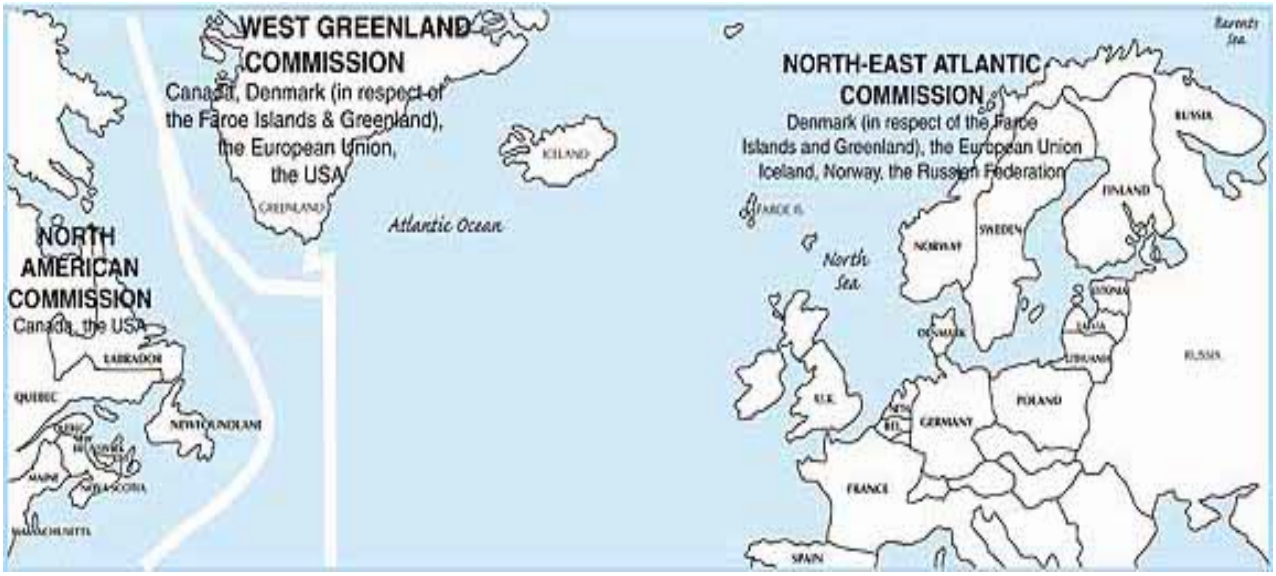
Report of the ICES Advisory Committee on Fishery Management
(Sections 1, 2 and 6 only)

Only the advice concerning general issues of relevance to the North Atlantic is given in this report. The detailed advice on a Commission area basis is annexed to the report of the Commissions.

1.2 Management framework for salmon in the North Atlantic

The advice generated by ICES is in response to terms of reference posed by the North Atlantic Salmon Conservation Organisation (NASCO), pursuant to its role in international management of salmon. NASCO was set up in 1984 by international convention (the Convention for the Conservation of Salmon in the North Atlantic Ocean), with a responsibility for the conservation, restoration, enhancement, and rational management of wild salmon in the North Atlantic. While sovereign states retain their role in the regulation of salmon fisheries for salmon originating from their own rivers, distant water salmon fisheries, such as those at Greenland and Faroes, which take salmon originating from rivers of another Party are regulated by NASCO under the terms of the Convention. NASCO now has seven Parties that are signatories to the Convention, including the EU which represents its Member States.

NASCO discharges these responsibilities via the three Commission areas shown below:



1.3 Management objectives

NASCO (NASCO CNL31.210) has identified the primary management objective of that organisation as:

"To contribute through consultation and co-operation to the conservation, restoration, enhancement and rational management of salmon stocks taking into account the best scientific advice available".

NASCO further stated that "the Agreement on the Adoption of a Precautionary Approach states that an objective for the management of salmon fisheries is to provide the diversity and abundance of salmon stocks" and NASCOs Standing Committee on the Precautionary Approach interpreted this as being "to maintain both the productive capacity and diversity of salmon stocks".

NASCO's Action Plan for Application of the Precautionary Approach (NASCO, 1999) provides interpretation of how this is to be achieved, as follows:

- "Management measures should be aimed at maintaining all stocks above their conservation limits…..by the use of management targets"
- Socio-economic factors could be taken into account in applying the Precautionary Approach to fisheries management issues":
- "The precautionary approach is an integrated approach that requires, inter alia, that stock rebuilding programmes (including as appropriate, habitat improvements, stock enhancement, and fishery management actions) be developed for stocks that are below conservation limits".

1.4 Reference points and application of precaution

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

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

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

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

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

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

2. ATLANTIC SALMON IN THE NORTH ATLANTIC AREA

2.1 Catches of North Atlantic Salmon

2.1.1 Nominal catches of salmon

Nominal catches of salmon reported for each salmon-producing country in the North Atlantic are given in Table 2.1.1.1 for the years 1960 to 2004. These catches (in tonnes) are illustrated in Figure 2.1.1.1 for four North Atlantic regions. Catch statistics in the North Atlantic also include fish farm escapees and, in some North-East Atlantic countries, also ranched fish. Reported catches for the three NASCO Commission Areas for 1996–2004 are provided below:

Area	1996	1997	1998	1999	2000	2001	2002	2003	2004
NEAC	2750	2074	2225	2073	2736	2876	2495	2303	1922
NAC	294	231	159	154	155	150	150	144	162
WGC	92	59	11	19	21	43	9	9	15
Total	3135	2364	2396	2246	2913	3069	2654	2456	2099

The catch data for 2004 are provisional, but the total nominal catch of 2099 t is the lowest on record. Catches for most countries were below the recent 5- and 10-year averages, and in three countries were the lowest in the time-series.

The nominal catch (in tonnes) of wild fish in 2004 was partitioned according to whether the catch was taken in coastal, estuarine, or riverine fisheries. These are shown below for the NEAC and NAC Commission Areas. It was not possible to apportion the small Danish catches in 2004 and these have

been excluded from the calculation. The percentages accounted for by each fishery varied considerably between countries. In total, however, coastal fisheries accounted for 50% of catches in North East Atlantic countries compared to 17% in North America, whereas in-river fisheries took 42% of catches in North East Atlantic countries compared to 66% in North America.

Area	Coast		Estuary		River		Total
	Weight	%	Weight	%	Weight	%	Weight
NEAC	967	50	137	7	815	42	1919
NAC	27	17	28	18	106	66	162

2.1.2 Catch and release

Catch and release data have been provided since the early 1990s by 6 countries. In 2004, the percentage of the total rod catch that was released ranged from 16% in Iceland to 76% in Russia. Catch and release rates have generally increased over the last decade. Overall, almost 144 000 salmon were reported to have been released in 2004, the highest in the time-series.

2.1.3 Unreported catches

The estimated unreported catch within the NASCO Commission Areas in 2004 was 686 t (Table 2.1.1.1), or 25% of the total catch (reported and unreported). Levels of unreported catch have declined over the past six years as a result of various measures. For example, the introduction of carcass tagging programmes in Ireland and UK (N. Ireland) has lead to reductions in unreported catches in these countries. After 1994 there are no available data on the extent of possible salmon catches in international waters. Limited surveillance flights, which were the basis of past estimates of catches in international waters, have not reported any such salmon fishing in recent years. Estimates (in tonnes) of unreported catches for the three Commission Areas for the period 1996–2004 are given below:

Area	1996	1997	1998	1999	2000	2001	2002	2003	2004
NEAC	947	732	1108	887	1135	1089	946	719	575
NAC	156	90	91	133	124	81	83	118	101
WGC	20	5	11	13	10	10	10	10	10
Int'l. waters	Not available								

Expressed as a percentage of the total North Atlantic catch, unreported catch estimates range from 0% to 12% for individual countries. However, it should be noted that methods of estimating unreported catch vary both within and among countries. The non-reporting rates range from 1% to 57% of the total national catch in individual countries. An allowance for unreported catch is included in the assessments and catch advice for each Commission area.

2.2 Production of farmed and ranched salmon

The provisional estimate of farmed Atlantic salmon production in the North Atlantic area was 796 839 t in 2004, broadly similar to that in 2003 and 13% above the average of the previous five years. Most of the production in the North Atlantic took place in Norway (64%) and UK (Scotland) (22%).

World-wide production of farmed Atlantic salmon has been in excess of one million tonnes since 2002. Total production in 2004 is provisionally estimated at over 1.1 million tonnes (Figure 2.2.1), similar to that in 2003. Production outside the North Atlantic is currently estimated to account for about 30% of the total farmed production, with Chile (261 000 t) contributing the largest proportion of the production in this area. World-wide production of farmed Atlantic salmon in 2004 was almost 550 times the reported nominal catch of Atlantic salmon in the North Atlantic. As a result, farmed salmon dominate world markets.

Catches of ranched salmon have declined substantially from a high of over 500 t in 1993 to around 12 t in 2004 (Figure 2.2.2). This is due to the cessation of salmon ranching in Iceland from 1999.

2.3 NASCO has asked ICES to report on significant developments which might assist NASCO with the management of salmon stocks

2.3.1 Update on the estimation of natural mortality at sea of Atlantic salmon

ICES examined further datasets for evidence of changes in M for NAC and NEAC Atlantic salmon stocks, particularly in the second year at sea. The reviews of natural mortality undertaken by ICES in 2002 to 2004 were motivated by concerns about whether the value for natural mortality (M) assumed in the run reconstruction models was appropriate (ICES, 2002, 2003, 2004a). In 2005, ICES reviewed further data from NAC and NEAC stocks to examine for trends in M over time and among stocks.

There was no evidence in the analyses presented that marine mortality had declined and in some stocks from both NAC and NEAC areas, there was an indication that mortality had increased (Figure 2.3.1). In the northern and southern NEAC areas, both wild and hatchery smolts show a constant decline in marine survival over the last two decades, with the sharpest decline in the wild smolts of the southern NEAC area. Similar declines in return rates of hatchery and wild salmon to the NAC area were also reported and return rates of recent years were low compared to historic levels. Return rates of maiden salmon to repeat spawning in some monitored stocks has increased over the last decade suggesting that the mortality factors affecting smolts and non-maturing salmon in the second year may be different from those interacting with the larger repeat spawning fish.

These analyses confirmed the previous conclusion that monthly mortality in the second year at sea was greater than 1% and distributed around 3% for the wild fish.

2.3.2 Progress in developing precautionary catch advice for Irish salmon fisheries

In 2004 and 2005, the precautionary catch advice for Irish fisheries was modified to take account of the risk of not achieving fisheries management objectives (conservation limits in all rivers within a district), uncertainty in biological reference points (i.e. sex ratio and required egg deposition), and the formulation of pre-agreed management actions in the form of procedures to be applied over a range of stock conditions (harvest guidelines). The harvest level corresponding to a desired probability of meeting the CL can be interpolated from risk plots.

The following harvest guidelines (illustrated using fishery districts) apply to the catch advice:

- Generally, the harvest option providing a 75% chance of meeting the CL in a given district is chosen as the precautionary catch advice (Figure 2.3.2.1).
- In following a precautionary approach, increases over the average catch for the period 2000 to 2004 should not be permitted even if the harvest option at the 75% probability of meeting the CL is higher. This is because each district fishery catches salmon destined for other districts and there is clearly a need to protect vulnerable stocks in these other districts. This advice will be reviewed annually to assess any improvement in the status of these vulnerable stocks (Figure 2.3.2.2).
- Where there is no harvest option which will provide a 75% chance of meeting the district CL, then the precautionary catch advice is that there is no surplus of fish to support a harvest (commercial or rod). This is illustrated in Figure 2.3.2.3.

This advice is predicated on wild fish only (i.e. estimated returns from hatchery-released smolts have been removed). It also relates to the total removal of fish by all means, and is not restricted to commercial fisheries. There are eight districts, mainly located on the east and south coasts, where the CL will probably not be met even in the absence of harvests of salmon. A further six districts reductions in the average catch in 2005 would be required if there is to be a 75% chance of meeting the CL. The remaining districts are meeting or exceeding their CLs. In this instance, the average catch is advised for 2005, even where the harvest option providing a 75% chance of meeting the CL is higher. This recognizes the fact that these fisheries intercept salmon destined for districts that are below their CL. The status of these districts will be assessed on an ongoing basis, and the advice will change in line with any significant and consistent improvement in stock size. The maximum harvest by all methods being recommended is 122 541 one-sea winter salmon for the 2005 season.

2.3.3 Catch and release

The practice of catch and release in salmon rod fisheries has become a common management/conservation measure. In some areas of Canada and USA, anglers have been required to practice catch and release since 1984. More recently it has also been widely used in many NEAC countries both as a regulation and a voluntary practice. In 2004, anglers reported releasing almost 144 000 salmon around the North Atlantic, the highest number in the time-series.

A probabilistic method to predict the risk of mortality for caught and released salmon from the Penobscot River USA was reviewed. Simulations drawing from a random binomial function for temperature dependent mortality (i.e. 0.05 to 0.30 for temperatures greater than 20^{o}C) were done to calculate the number of hooked and released fish that died. The resulting distribution described the mortality losses from reported numbers of caught and released salmon. The simulations suggest that mortality following capture can be low. A recent radio tracking study in northwest England found that upwards of 85% of released spring salmon can be expected to survive to spawning (UK Environment Agency, 2003).

The survivors of catch and release angling are vulnerable to being hooked again. Additional information from rod fisheries on four Icelandic rivers documented that 24.4% (range: 22.1-27.8%) of salmon were captured for a second time. Salmon captured a third time were rare (1.8%). Exploitation rates in these rivers range from 45% to 60%. These results provide a means for adjusting the catch and release statistics to account for multiple recapture in these rivers and potentially for Iceland as a whole.

2.3.4 Regional growth patterns

Systematic collection of salmon scales from anglers' catches has been carried out in seven rivers in Norway. Back-calculated growth of the first year at sea of 1SW fish was systematically lower than that of MSW fish of the same smolt year class in all rivers. For six of the seven river stocks, the first year growth of 1SW and MSW fish of the same smolt year class was significantly correlated.

Growth of salmon the first year at sea varied among years and stocks, with a systematic trend for slower growth in salmon originating from Northern latitudes. There were significant correlations in growth between salmon originating from nearby rivers, whereas growth in more distant stocks were less correlated.

The marine growth of the four most northerly salmon stocks was significantly correlated with the mean sea temperature at 50-m depth in the Norwegian Sea (66°N; 2°E) and mean temperature in the 0–50 m layer in the Barents Sea (70°30'N–72°30'N; 33°30'E) during July–December. However, the most northerly populations were more strongly correlated with temperatures in the north than with temperatures in the southern area. Growth of salmon from rivers in mid-Norway showed the highest correlation with temperatures in the Norwegian Sea. Salmon growth from the three most southern rivers was not correlated with temperatures at any of the two areas.

Further support to the regional grouping of rivers is provided by analyses from three subarctic rivers running to the Barents Sea within a small geographic area in northeastern Europe. Salmon from the rivers Teno/Tana (Finland and Norway), Näätämöjoki/Neidenelva (Finland and Norway), and Kola (Russia) showed significant temporal synchrony in marine growth and variation in abundance, and these variables were also significantly correlated with the sea water temperature in the Barents Sea.

These findings support the contention that PFA should be developed at a regional scale. In the case of Norwegian stocks, at least two regions should be established, divided by the Lofoten Islands at a latitude of 68°N.

2.3.5 Long-term projections for stock rebuilding

In 2004, ICES advised that further stock rebuilding projections should reflect declining stock trajectories and population viability given that the probability of rebuilding in the short term is low in most areas and that the main result of recent management measures may have been to reduce this rate of decline rather than lead to any significant stock rebuilding.

2.3.5.1 Long-term projections of PFA for North America

Seven different types of regression models have been used to relate lagged spawners (LS) and Pre-Fishery Abundance for North America ($PFA_{NA,}$ Section 5.10). Some of these allow for a "regime shift" in the relationship identified by ICES (ICES, 2003), whereby early years in the time-series demonstrate higher PFA per lagged spawner while the more recent years demonstrate lower PFA per lagged spawner. The LS value for the current year is used to predict a distribution of the expected PFA_{NA} in the current year which is used to provide catch advice for the upcoming fishing season in West Greenland. However, medium-term (up to 5 years) and long-term (up to 20 years) projections have not been developed to date. Therefore ICES has adapted and extended the analysis in Section 5.10 to complete the cycle over a longer time period to examine potential long-term trajectories in stock size. The only new assumption made is that the allocation by region of surviving fish after the West Greenland fishery in year t is proportional to the distribution of the lagged spawners by region that produced the predicted PFA_{NA} for that year. This additional assumption allows medium- and long-term predictions for PFA_{NA} to be made, demonstrating directly the implications of the different relationships between LS and PFA_{NA} and also providing a basis for comparison with the simple Population Viability Analysis (PVA) results presented to ICES in 2004 (ICES, 2004a).

PFA projections were made assuming either no fishing, or that a fishery occurs in West Greenland at 20, 50, or 100 t annually for the next 20 years, and that all home river fisheries are stopped (Figure 2.3.5.1). The harvest in tonnes was converted to numbers of fish and split between North America and Europe following the standard approach. In all three West Greenland harvests considered, PFAs from the high phase projections were essentially the same with large increases up to an *ad hoc* cap of five million fish. In contrast, PFA from the low phase projections showed a strong response to West Greenland harvest, with a continued harvest of 100 tonnes causing the median PFA to decline to zero by 2013 (Figure 2.3.5.1). The overlap of medians for the first five years of projections is due to the fact that the lagged spawners that produced these PFA values come from spawners that are already back in the river for most SFAs. Thus, there is no feedback from the cycling nor from forecast catches in West Greenland in this period.

These results demonstrate that medium- to long-term forecasts of PFA depend most on the phase used for projections. The PFA is much more resilient to fishing when in the high phase than when in the low phase. The ability to detect a switch from the current low phase to the high phase depends on future PFA estimates from observed returns that are much higher than expected from the low phase model. A single observation is not sufficient to claim that a change in phase has occurred, multiple years in the high phase will be required. There is a time lag between observing large PFA and the feedback through the cycle to generate higher returns, spawners, and PFA that needs to be considered when making management decisions.

2.3.5.2 Potential for rebuilding two multi-sea-winter salmon stocks of the Maritime Provinces

Catch advice for the management of the West Greenland fishery and the management of NAC homewater fisheries (ICES, 2003) has been provided on the basis of achieving conservation objectives of the four northern regions (Labrador, Newfoundland, Quebec, and Gulf) and an alternate objective for the southern regions of achieving at least a 10% increase or a 25% increase relative to the average returns to the regions during a specified time period (Chaput *et al.*, 2005). In this regard it is presumed that stocks in these areas have the potential to rebuild if adequate spawning occurs. The stock status and potential for rebuilding of two multi-sea-winter salmon stocks (Mirimichi and Saint John rivers) of the Maritime Provinces of eastern Canada were examined in this context.

For a population to replace itself, one egg in the recruitment is required for every egg spawned. For the Miramichi River, the wild salmon stock produced maiden fish recruitment surplus to spawners for most year classes between 1971 and 1989, but was consistently below replacement for the 1990 to 1997 year classes. The eggs in the maiden returns of the 1998 year class (the last year where an assessment was possible) are estimated to have been equivalent to the eggs which were spawned. For the Saint John River, wild salmon production had varied around the replacement line for the 1972 to 1988 year classes but decreased sharply and remained well below replacement for the 1989 to 1999 year classes.

There has been a decline in the proportion of the eggs produced in the lifetime of the year class by maiden MSW salmon of the Miramichi River. For the 1981 and subsequent year classes, the lifetime egg production from MSW maiden salmon amounts to about 50% of the lifetime production of the year

class. This is a decline from the previous time period and parallels a decline in 2SW maiden salmon abundance and an increase in the repeat spawner abundance. This contrasts with the Saint John River stock in which the MSW maiden salmon continue to contribute over 80% of the eggs in the lifetime of the year class, with a slight decline for the recent three year classes.

Calculations of replacement ratio indicate that the Miramichi River population had the potential historically to produce a surplus of maiden egg production. In the recent decade, maiden egg production (i.e. recruit egg production) has been well below replacement for a time period when spawner egg depositions exceeded the conservation requirements by 50% to 100%. With a decline in egg depositions, returns of maiden fish have resulted in at least the replacement of the parental stock and the potential for increased returns appear feasible. An examination of the spawners to recruits indicated that there was a greater chance that the recruitment will be less than the spawners when egg depositions exceed 150 million eggs (equivalent to 2.7 eggs m^{-2}) than when egg depositions were less than 150 million.

The prognosis for the Miramichi remains positive. Marine return rates of 1SW and 2SW maiden salmon appear sufficient to replace the eggs that produced them. Size-at-age has increased, such that every female now has the potential to produce more eggs, there is a high survival to second and third spawning, and the interstage survival of the juvenile stages have not changed over time.

In contrast, the Saint John River population has failed to achieve replacement ratio throughout the time-series. For the last ten year classes, the eggs from the returns of maiden salmon have been substantially below replacement. There are no positive changes in life history characteristics of this stock (e.g. increased size at age or proportion female, or increased survival of previous spawners) and it is likely that the stock will continue to decline.

The continued decline in the Saint John stock contrasted with the apparent rebuilding of the Miramichi stock suggests that the factors which contributed to the decline differ. The restriction in fisheries exploitation, both marine and freshwater, has not been sufficient to arrest the decline in salmon abundance in the Saint John River, whereas reductions in fisheries resulted in the Miramichi in increased spawning escapement and the production of juvenile salmon to record levels. Clearly, declines in stocks and sustained failures to achieve conservation limits may result from a number of factors which may be related or unrelated to insufficient stock abundance and exploitation patterns.

2.3.5.3 Catch advice and projected attainment of conservation limits for an Irish salmon fishing district

The theoretical recovery trajectories developed by ICES (2004a) were extended with a case study using data from an Irish district salmon fishery to examine the implications of current catch advice and other catch levels to the objective of meeting district conservation limits in subsequent years. Catch advice has been provided for this district based on 75% probability of achievement of the total conservation requirement for all 14 rivers in the district. Consequences of this catch level for individual rivers, along with the district as a whole were examined.

Obtaining recruits for seven years (the longest period required to obtain complete recruitment) initialized projections at the selected starting stock size before accumulating recruits for any trajectory. In the simulations, since the district is currently estimated to be at 63% of S_{opt}, (before exploitation in commercial and recreational fisheries) each river had its starting spawning stock sizes set to 63% of their S_{opt}. Although the 14 rivers had quite similar stock recruitment relationships on an eggs m^{-2} basis, they varied in size considerably. The CL for the individual rivers ranged from 67 to 13 646 fish, with three rivers accounting for 91% of the total of 39 164. Projections were run using either no catch or linear increases of catches from zero to 10 000, 20 000, or 50 000 fish. Forward simulations of 20 years were run 10 000 times in an @Risk© framework in Excel©. The current mean catch from the district (2000–2004) is just over 15 000 fish.

Forward simulations were applied, while maintaining the catch at 0, immediately resulting in a high probability (> 75%) of achieving the total district CL, which was maintained throughout the projected time-series (Figure 2.3.5.3.1). Linearly increasing catch from zero to 10 000 fish over 20 years produced a decrease in the probability of meeting the CL in the first few years, but this increased subsequently. Doubling this rate of increase initially caused a decrease in the probability of meeting the CL, followed by an increase, suggesting that this rate of increase could be sustained for a short period while rebuilding occurred. Within 10 years however, the probability of meeting the CL decreased significantly as the catch became too large relative to the available population. A catch option building

to 50 000 over 20 years caused an immediate and consistent decline in the probability of meeting the CL.

The probability for the alternative management objective of achieving CL simultaneously for all 14 rivers increased significantly in the projection at zero catch, however, it was never higher than 65% (Figure 2.3.5.3.2). None of the other catch options provided a high probability of meeting the CLs. The apparent difficulty in meeting the CL in each river is due to:

- Uncertainties in input data, including s/r parameters.
- Surpluses in some rivers, which allow the district CL to be met, despite some individual rivers being below CL.

While the probability of achieving the CL in every river is a much more difficult management objective to achieve than the total CL objective, it is clearly desirable from a precautionary perspective.

This analysis provides some information about the implications of being below CL. In this example the district was 63% of its CL. In these simulations, where stocks have been below CL and when catches have been kept at zero for an initial seven-year period, it is possible to increase the advised catch as the stocks improve. However, these simulations show that rates of increase must be carefully managed. Clearly, the attainment of CL in all rivers simultaneously may be difficult to achieve but is still a desirable objective. Following rebuilding, if exploitation is close to the optimum exploitation rate (h_{opt}) annual assessments and catch advice are warranted. However, when stock status is fully satisfactory, and when fishing below optimum exploitation rates, continual assessments and annual catch advice may not be required.

2.3.5.4 DST- tagging of salmon in the Norwegian Sea

In an inter-Nordic study in which Data Storage Tags (DST) were applied to 406 pre-adult and adult salmon in the Norwegian Sea, 4 fish have to date been recovered in mid-Norway, and 1 fish was recovered in SW Sweden. DSTs were set to log depth and temperature at intervals varying from 1–120 minutes and yielded 439 days of observations. After an initial period of inactivity of 14–20 days, the five fish exhibited varying periods of intense diving (up to 150 m) during migration, until they presumably arrived in shallower coastal waters and entered the home river (e.g. salmon recovered in Sweden, Fig. 2.3.5.4.1). Further tags might still be returned from the 2005 fishing season.

These tags provide new insights to the behaviour of salmon at sea. These data can be used for assessing mean swimming depths and specifically time spent at depths where the fish may risk interception by pelagic fishing gear.

2.4 Compilation of Tag Releases and Finclip Data by ICES Member Countries in 2004

Data on releases of tagged, fin-clipped, and otherwise marked salmon in 2004 were provided by ICES and are compiled as a separate report. In summary (see Table 2.4.1), about 4.95 million salmon were marked in 2004, an increase from the 3.94 million fish marked in 2003. The adipose clip was the most used primary mark (3.49 million), with microtags (0.9 million) the next most common primary mark. Most marks were applied to hatchery-origin juveniles (4.83 million), while 110 461 wild juveniles and 17 899 adults were marked. ICES also reports information on various types of tags including DST, radio and/or sonic transmitting tags (pingers).

ICES noted that a number of commercial fish farms are applying tags to fish placed in sea cages. Two jurisdictions, USA-Maine and Iceland, require that some or all of the sea-cage farmed fish reared in their area are marked. In Maine some producers have opted for genetic ‘marking’ procedure. In Iceland, coded wire tags are being applied to about 10% of sea-cage farm produced fish, and are included in the tag compilation.

Table 2.1.1.1 Nominal catch of salmon by country (in tonnes round fresh weight), 1960-2004. (2004 figures include provisional data).

	NAC Area			NEAC (N. Area)							NEAC (S. Area)						Faroes & Greenland				Total	Unreported catches	
Year	Canada (1)	USA	St. P&M	Norway (2)	Russia (3)	Iceland Wild	Iceland Ranch	Sweden (West)	Den.	Finland	Ireland (4,5)	UK (E & W)	UK (N.Irl.) (5,6)	UK (Scotl.)	France (7)	Spain (8)	Faroes (9)	East Grld.	West Grld. (10)	Other (11)	Reported Nominal Catch	NASCO Areas	International waters (12)
1960	1,636	1	-	1,659	1,100	100		40	-	-	743	283	139	1,443	-	33	-	-	60	-	7,237	-	-
1961	1,583	1	-	1,533	790	127		27	-	-	707	232	132	1,185	-	20	-	-	127	-	6,464	-	-
1962	1,719	1	-	1,935	710	125		45	-	-	1,459	318	356	1,738	-	23	-	-	244	-	8,673	-	-
1963	1,861	1	-	1,786	480	145		23	-	-	1,458	325	306	1,725	-	28	-	-	466	-	8,604	-	-
1964	2,069	1	-	2,147	590	135		36	-	-	1,617	307	377	1,907	-	34	-	-	1,539	-	10,759	-	-
1965	2,116	1	-	2,000	590	133		40	-	-	1,457	320	281	1,593	-	42	-	-	861	-	9,434	-	-
1966	2,369	1	-	1,791	570	104	2	36	-	-	1,238	387	287	1,595	-	42	-	-	1,370	-	9,792	-	-
1967	2,863	1	-	1,980	883	144	2	25	-	-	1,463	420	449	2,117	-	43	-	-	1,601	-	11,991	-	-
1968	2,111	1	-	1,514	827	161	1	20	-	-	1,413	282	312	1,578	-	38	5	-	1,127	403	9,793	-	-
1969	2,202	1	-	1,383	360	131	2	22	-	-	1,730	377	267	1,955	-	54	7	-	2,210	893	11,594	-	-
1970	2,323	1	-	1,171	448	182	13	20	-	-	1,787	527	297	1,392	-	45	12	-	2,146	922	11,286	-	-
1971	1,992	1	-	1,207	417	196	8	18	-	-	1,639	426	234	1,421	-	16	-	-	2,689	471	10,735	-	-
1972	1,759	1	-	1,578	462	245	5	18	-	32	1,804	442	210	1,727	34	40	9	-	2,113	486	10,965	-	-
1973	2,434	3	-	1,726	772	148	8	23	-	50	1,930	450	182	2,006	12	24	28	-	2,341	533	12,670	-	-
1974	2,539	1	-	1,633	709	215	10	32	-	76	2,128	383	184	1,628	13	16	20	-	1,917	373	11,877	-	-
1975	2,485	2	-	1,537	811	145	21	26	-	76	2,216	447	164	1,621	25	27	28	-	2,030	475	12,136	-	-
1976	2,506	1	3	1,530	542	216	9	20	-	66	1,561	208	113	1,019	9	21	40	<1	1,175	289	9,327	-	-
1977	2,545	2	-	1,488	497	123	7	10	-	59	1,372	345	110	1,160	19	19	40	6	1,420	192	9,414	-	-
1978	1,545	4	-	1,050	476	285	6	10	-	37	1,230	349	148	1,323	20	32	37	8	984	138	7,682	-	-
1979	1,287	3	-	1,831	455	219	6	12	-	26	1,097	261	99	1,076	10	29	119	<0,5	1,395	193	8,118	-	-
1980	2,680	6	-	1,830	664	241	8	17	-	34	947	360	122	1,134	30	47	536	<0,5	1,194	277	10,127	-	-
1981	2,437	6	-	1,656	463	147	16	26	-	44	685	493	101	1,233	20	25	1,025	<0,5	1,264	313	9,954	-	-
1982	1,798	6	-	1,348	364	130	17	25	-	54	993	286	132	1,092	20	10	606	<0,5	1,077	437	8,395	-	-
1983	1,424	1	3	1,550	507	166	32	28	-	58	1,656	429	187	1,221	16	23	678	<0,5	310	466	8,755	-	-
1984	1,112	2	3	1,623	593	139	20	40	-	46	829	345	78	1,013	25	18	628	<0,5	297	101	6,912	-	-
1985	1,133	2	3	1,561	659	162	55	45	-	49	1,595	361	98	913	22	13	566	7	864	-	8,108	-	-
1986	1,559	2	3	1,598	608	232	59	54	-	37	1,730	430	109	1,271	28	27	530	19	960	-	9,255	315	-
1987	1,784	1	2	1,385	564	181	40	47	-	49	1,239	302	56	922	27	18	576	<0,5	966	-	8,159	2,788	-
1988	1,310	1	2	1,076	420	217	180	40	-	36	1,874	395	114	882	32	18	243	4	893	-	7,737	3,248	-
1989	1,139	2	2	905	364	141	136	29	-	52	1,079	296	142	895	14	7	364	-	337	-	5,904	2,277	-
1990	911	2	2	930	313	146	280	33	13	60	567	338	94	624	15	7	315	-	274	-	4,924	1,890	180-350

Table 2.1.1.1 continued

Year	NAC Area			NEAC (N. Area)							NEAC (S. Area)						Faroes & Greenland				Total Reported	Unreported catches	
	Canada	USA	St. P&M	Norway	Russia	Iceland		Sweden (West)	Den.	Finland	Ireland	UK (E & W)	UK (N.Irl.)	UK (Scotl.)	France	Spain	Faroes	East Grld.	West Grld.	Other	Nominal Catch	NASCO Areas	International waters (12)
	(1)			(2)	(3)	Wild	Ranch				(4,5)		(5,6)		(7)	(8)	(9)		(10)	(11)			
1991	711	1	1	876	215	130	345	38	3	70	404	200	55	462	13	11	95	4	472	-	4,106	1,682	25-100
1992	522	1	2	867	167	175	461	49	10	77	630	171	91	600	20	11	23	5	237	-	4,119	1,962	25-100
1993	373	1	3	923	139	160	496	56	9	70	541	248	83	547	16	8	23	-	-	-	3,696	1,644	25-100
1994	355	0	3	996	141	141	308	44	6	49	804	324	91	649	18	10	6	-	-	-	3,945	1,276	25-100
1995	260	0	1	839	128	150	298	37	3	48	790	295	83	588	10	9	5	2	83	-	3,629	1,060	-
1996	292	0	2	787	131	122	239	33	2	44	685	183	77	427	13	7	0	0	92	-	3,135	1,123	-
1997	229	0	2	630	111	106	50	19	1	45	570	142	93	296	8	3	0	1	58	-	2,364	827	-
1998	157	0	2	740	131	130	34	15	1	48	624	123	78	283	8	4	6	0	11	-	2,396	1,210	-
1999	152	0	2	811	103	120	26	16	1	62	515	150	53	199	11	6	0	0	19	-	2,246	1,032	-
2000	153	0	2	1,176	124	83	2	33	5	95	621	219	78	274	11	7	8	0	21	-	2,913	1,269	-
2001	148	0	2	1,267	114	88	0	33	6	126	730	184	53	251	11	13	0	0	43	-	3,069	1,180	-
2002	148	0	2	1,019	118	97	0	28	5	93	682	161	81	191	11	9	0	0	9	-	2,654	1,039	-
2003	141	0	3	1,071	107	110	0	25	4	78	551	89	56	192	13	7	0	0	9	-	2,456	847	-
2004	159	0	3	784	82	130	0	19	4	39	474	108	47	209	19	7	0	0	15	-	2,099	686	-
Average																							
1999-2003	148	0	2	1,069	113	100	6	27	4	91	620	161	64	221	11	8	2	0	20	-	2,668	1,073	-
1994-2003	204	0	2	934	121	115	96	28	3	69	657	187	74	335	11	8	3	0	38	-	2,881	1,086	-

Key:

1. Includes estimates of some local sales, and, prior to 1984, by-catch.
2. Before 1966, sea trout and sea charr included (5% of total).
3. Figures from 1991 to 2000 do not include catches taken in the recently developed recreational (rod) fishery.
4. From 1994, includes increased reporting of rod catches.
5. Catch on River Foyle allocated 50% Ireland and 50% N. Ireland.
6. Includes angling catch from 2002.
7. Data for France include some unreported catches.
8. Weights estimated from mean weight of fish caught in Asturias (80-90% of Spanish catch).
9. Between 1991 & 1999, there was only a research fishery at Faroes. In 1997 & 1999 no fishery took place, the commercial fishery resumed in 2000, but has not operated between 2001 and 2004.
10. Includes catches made in the West Greenland area by Norway, Faroes, Sweden and Denmark in 1965-1975.
11. Includes catches in Norwegian Sea by vessels from Denmark, Sweden, Germany, Norway and Finland.
12. Estimates refer to season ending in given year.

Country	Origin	Primary Tag or Mark			Total
		Microtag	External mark	Adipose clip	
Canada	Hatchery	0	9,347	1,197,991	1,207,338
	Wild	1,073	31,639	4,565	37,277
	Adult	0	6,926	829	7,755
	Total	1,073	47,912	1,203,385	1,252,370
France	Hatchery	0	132,396	458,991	591,387
	Wild	0	28,346	891	29,237
	Adult	15	0	0	15
	Total	15	160,742	459,882	620,639
Germany	Hatchery	43,785	0	95,000	138,785
	Wild	0	0	0	0
	Adult	0	0	0	0
	Total	43,785	0	95,000	138,785
Iceland	Hatchery [1]	278,848	0	0	278,848
	Wild	3,090	0	0	3,090
	Adult	0	513	0	513
	Total	281,938	513	0	282,451
Ireland	Hatchery	392,635	0	0	392,635
	Wild	8,280	0	0	8,280
	Adult	0	0	0	0
	Total	400,915	0	0	400,915
Norway	Hatchery	14,127	54,820	0	68,947
	Wild	1,923	2,446	0	4,369
	Adult	0	282	0	282
	Total	16,050	57,548	0	73,598
Russia	Hatchery	0	0	1,077,620	1,077,620
	Wild	0	0	0	0
	Adult	0	2,402	0	2,402
	Total	0	2,402	1,077,620	1,080,022
Spain	Hatchery	76,160	974	140,326	217,460
	Wild	0	954	0	954
	Adult	0	0	0	0
	Total	76,160	1,928	140,326	218,414
Sweden	Hatchery	0	3,000	40,157	43,157
	Wild	0	552	0	552
	Adult	0	0	0	0
	Total	0	3,552	40,157	43,709
UK (England &	Hatchery	80,868	0	87,458	168,326
Wales)	Wild	9,682	2,800	1,906	14,388
	Adult	0	1,216	0	1,216
	Total	90,550	4,016	89,364	183,930
UK (N. Ireland)	Hatchery	17,436	0	47,610	65,046
	Wild	1784	0	0	1,784
	Adult	0	0	0	0
	Total	19,220	0	47,610	66,830
UK (Scotland)	Hatchery	11043	0	0	11,043
	Wild	4712	2519	2304	9,535
	Adult	0	1292	0	1,292
	Total	15,755	3,811	2,304	21,870
USA [2]	Hatchery	0	568,846	438,204	569,143
	Wild	0	459	0	995
	Adult	0	2,698	0	4,424
	Total	0	572,003	438,204	574,562
All Countries	Hatchery	871,117	769,383	3,488,357	4,829,735
	Wild	30,544	69,715	9,666	110,461
	Adult	15	15,329	829	17,899
	Total	901,676	854,427	3,498,852	4,958,095

[1] The number of microtagged hatchery fish in Iceland includes 200.926 fish reared in seapens.

[2] The total numbers includes internal tags.

TABLE 2.4.1. Summary of Atlantic Salmon Tagged and Marked in 2004. 'Hatchery' and 'Wild' refer to smolt and parr; 'Adults' refers to both wild and hatchery fish.

Figure 2.1.1.1 Nominal catches of salmon in four North Atlantic regions, 1960-2004

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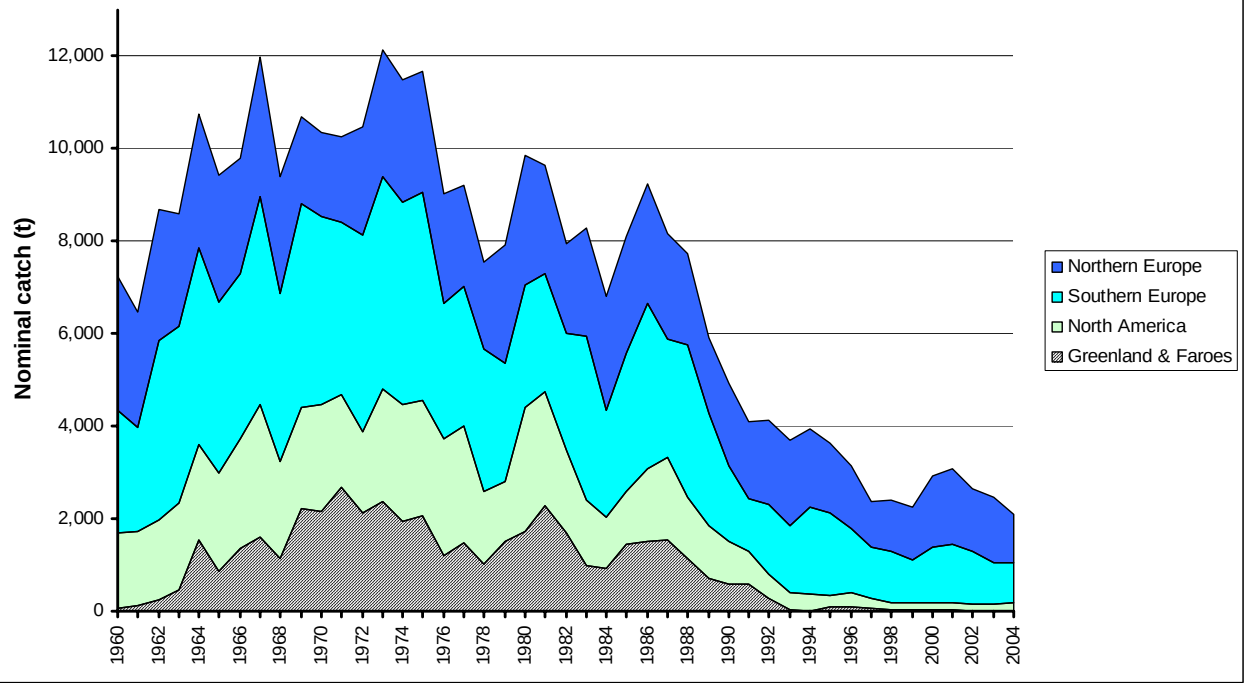


Figure 2.2.1. World-wide farmed Atlantic salmon production, 1980-2004.

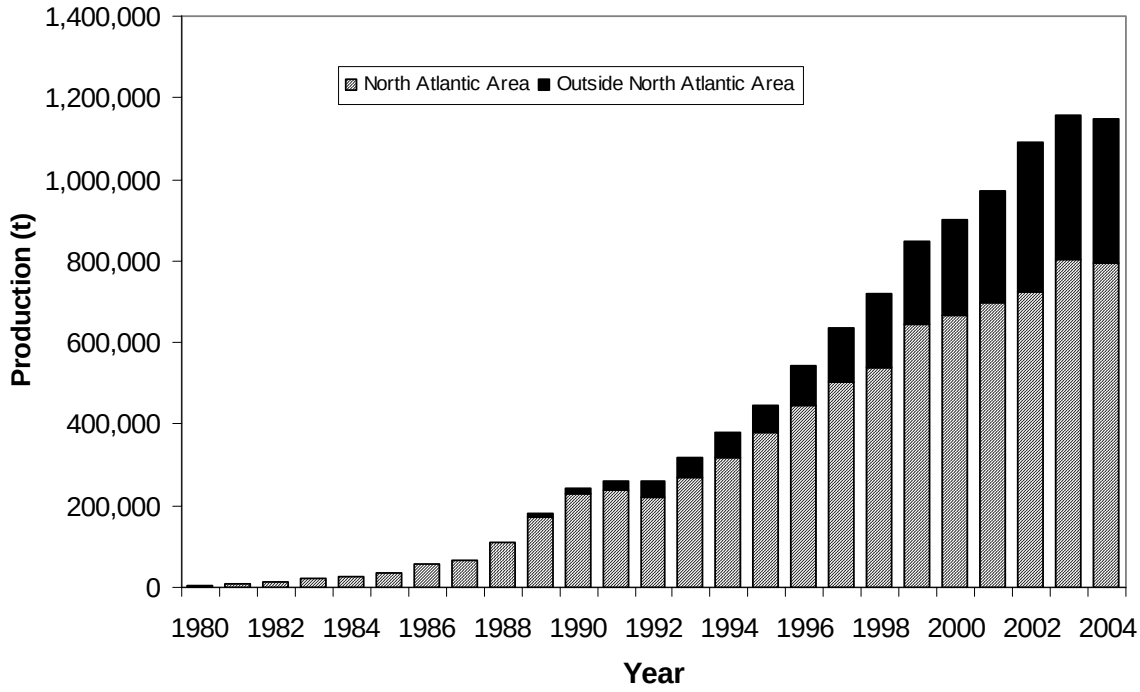
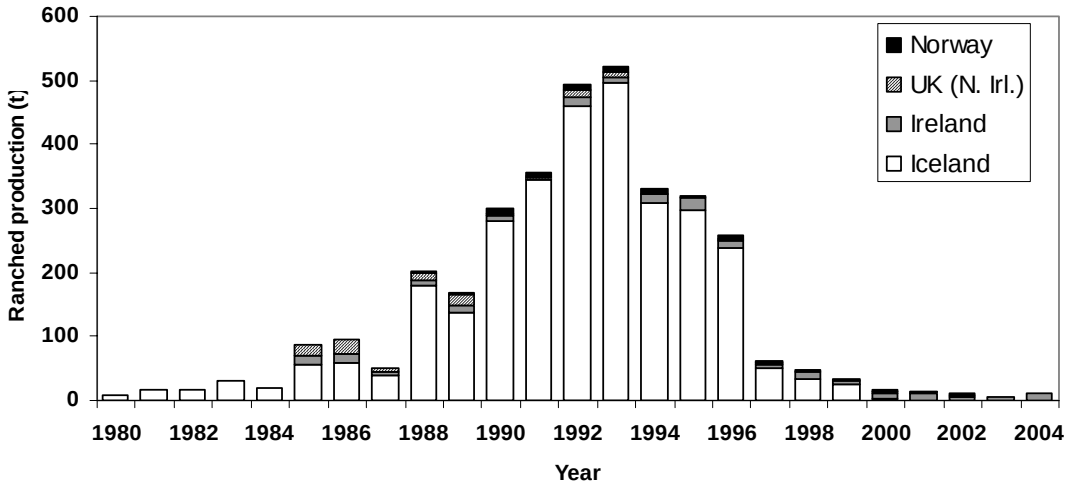


Figure 2.2.2. Production of ranched salmon (tonnes round fresh weight) as harvested at ranching facilities in the North Atlantic, 1980-2004.



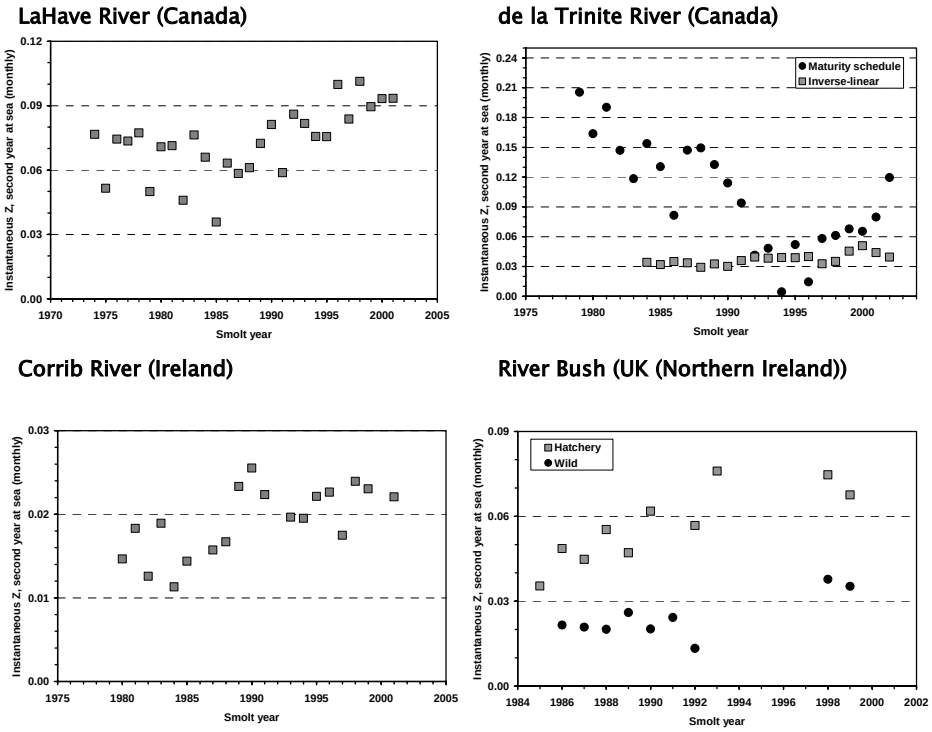


Figure 2.3.1. Estimates of marine mortality in the second year at sea from two stocks in the NAC area (upper panel) and two stocks in the NEAC area (lower panel) based on the inverse-weight method assuming linear growth at sea and the maturity schedule method for one stock. The de la Trinite River and Corrib River are wild stocks. The River Bush is for wild and hatchery stocks whereas the Lahave River is a hatchery stock.

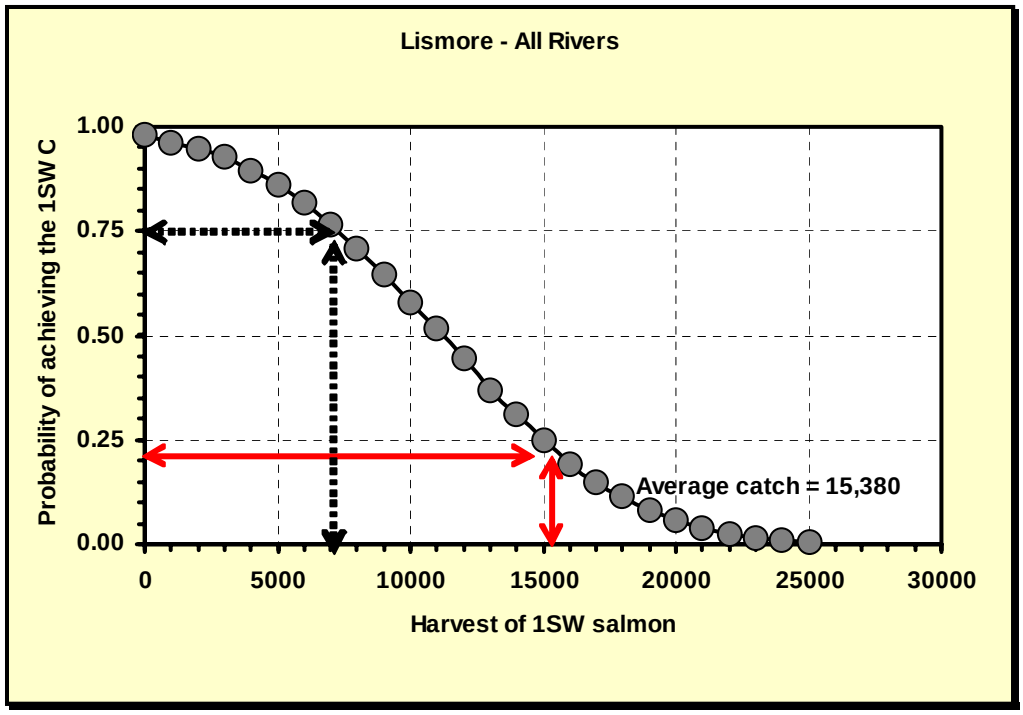


Figure 2.3.2.1 Risk plot showing the probability of meeting or exceeding the district CL and the harvest options by all methods (commercial and rods) of 1SW salmon. The average catch for the Lismore district (2000 to 2004, all methods, excluding sea trout and hatchery fish, but including an unreported catch) was 15 380 1SW salmon. At this level of harvest there is less than 25% chance that the CL will be met. The harvest option which provides a 75% chance of meeting the CL is approximately 7200 1SW salmon and this has been recommended as the precautionary catch advice for 2005.

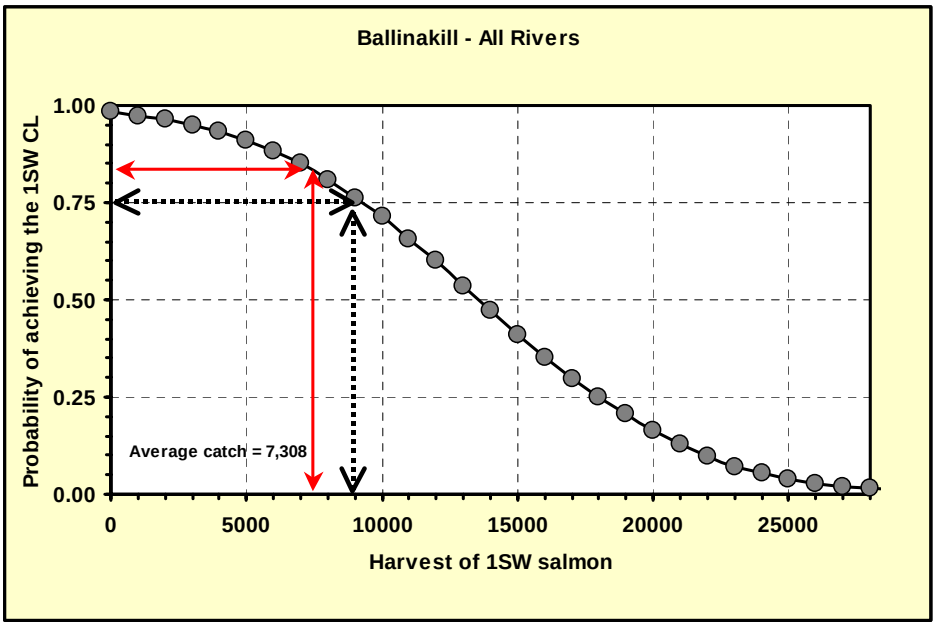


Figure 2.3.2.2 Risk plot showing the probability of meeting or exceeding the district CL (CL) and the harvest options by all methods (commercial and rods) of 1SW salmon. The average catch for the Ballinakill district (2000 to 2004, all methods, excluding sea trout and hatchery fish, but including an unreported catch) was 7308 1SW salmon. At this level of harvest there is an 85% chance that the CL will be met. The harvest option which provides a 75% chance of meeting the CL is approximately 9000 1SW salmon. As the average catch is lower than the harvest option at 75%, the lower catch is selected as the precautionary catch advised for 2005. This is because the Ballinakill district fishery catches salmon destined for other districts and there is clearly a need to protect vulnerable stocks in these other districts.

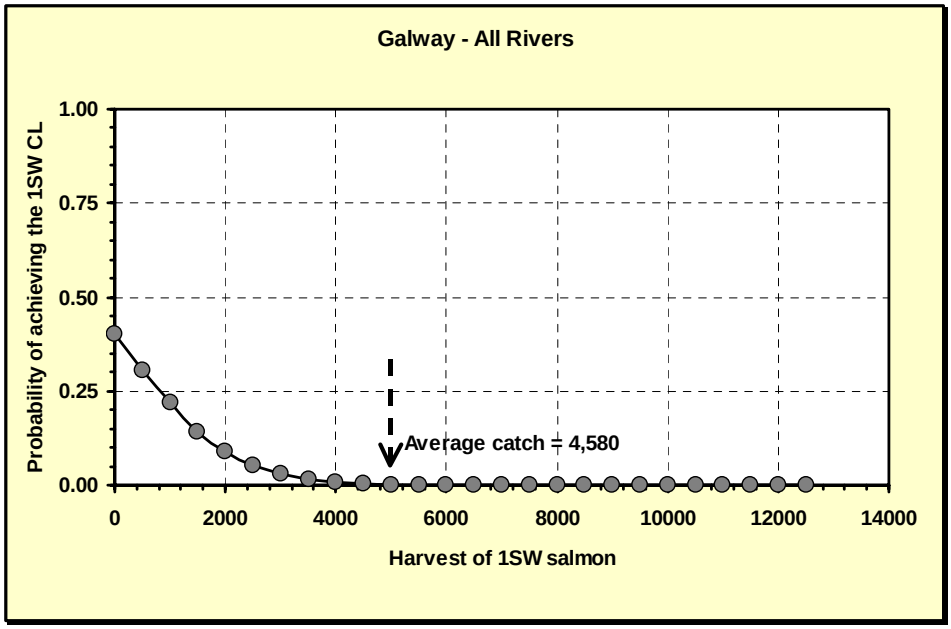


Figure 2.3.2.3. Risk plot showing the probability of meeting or exceeding the district CL (CL) and the harvest options by all methods (commercial and rods) of 1SW salmon. The average catch for the Galway district (2000 to 2004, all methods, excluding sea trout and hatchery fish, but including an unreported catch) was 4580 1SW salmon. At this level of harvest there is no chance that the CL will be met. Similarly, there is no harvest option which provides 75% chance of meeting the CL. In this instance there is no surplus of fish over spawning requirements to support a harvest.

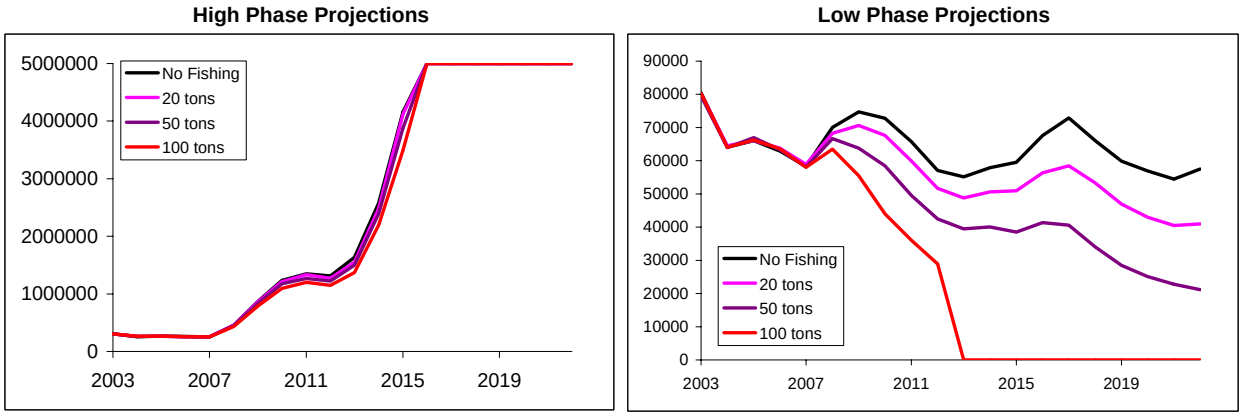


Figure 2.3.5.1 Comparison of medians of PFA from projections assuming different levels of catch in the West Greenland fishery each year for all models except those that have a flat relationship between LS and PFA (models 1 and 3).

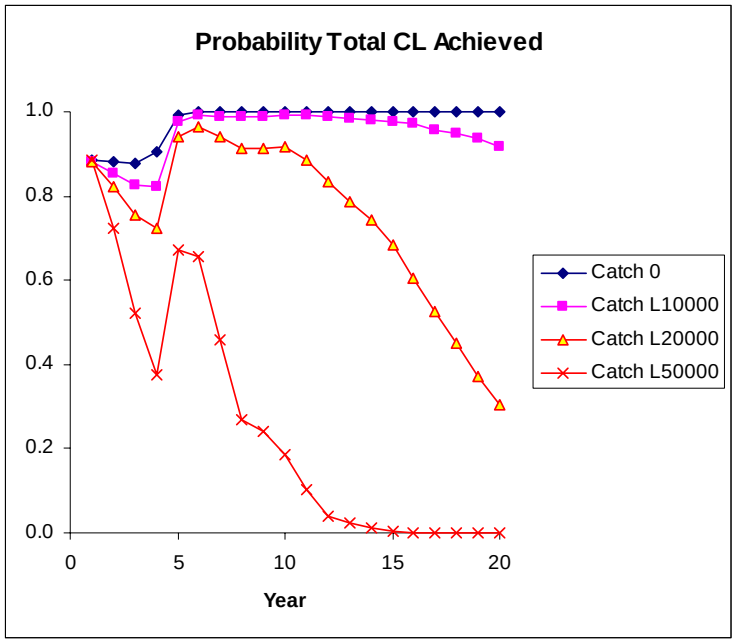


Figure 2.3.5.3.1. Probability that the total CL is achieved in the district each year under four levels of catch.

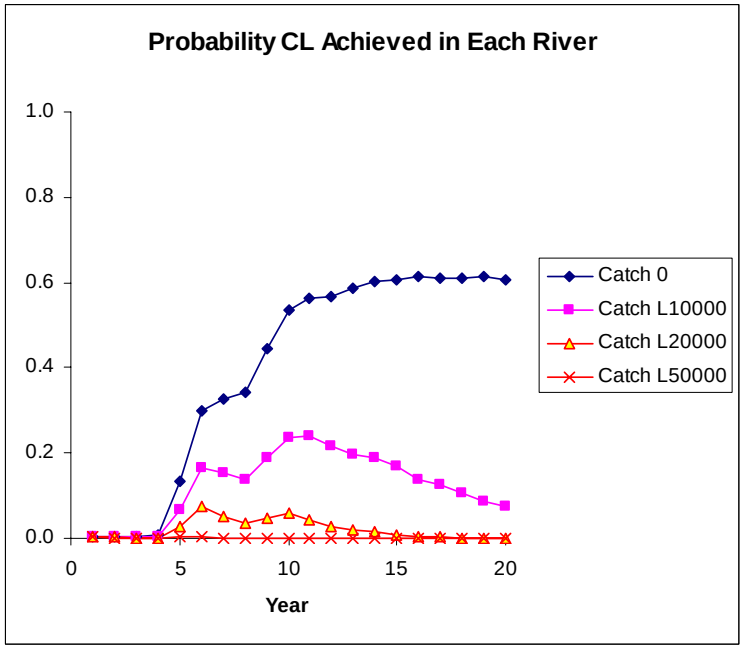


Figure 2.3.5.3.2 Probability that all 14 rivers achieve their CL for each year under four levels of catch.

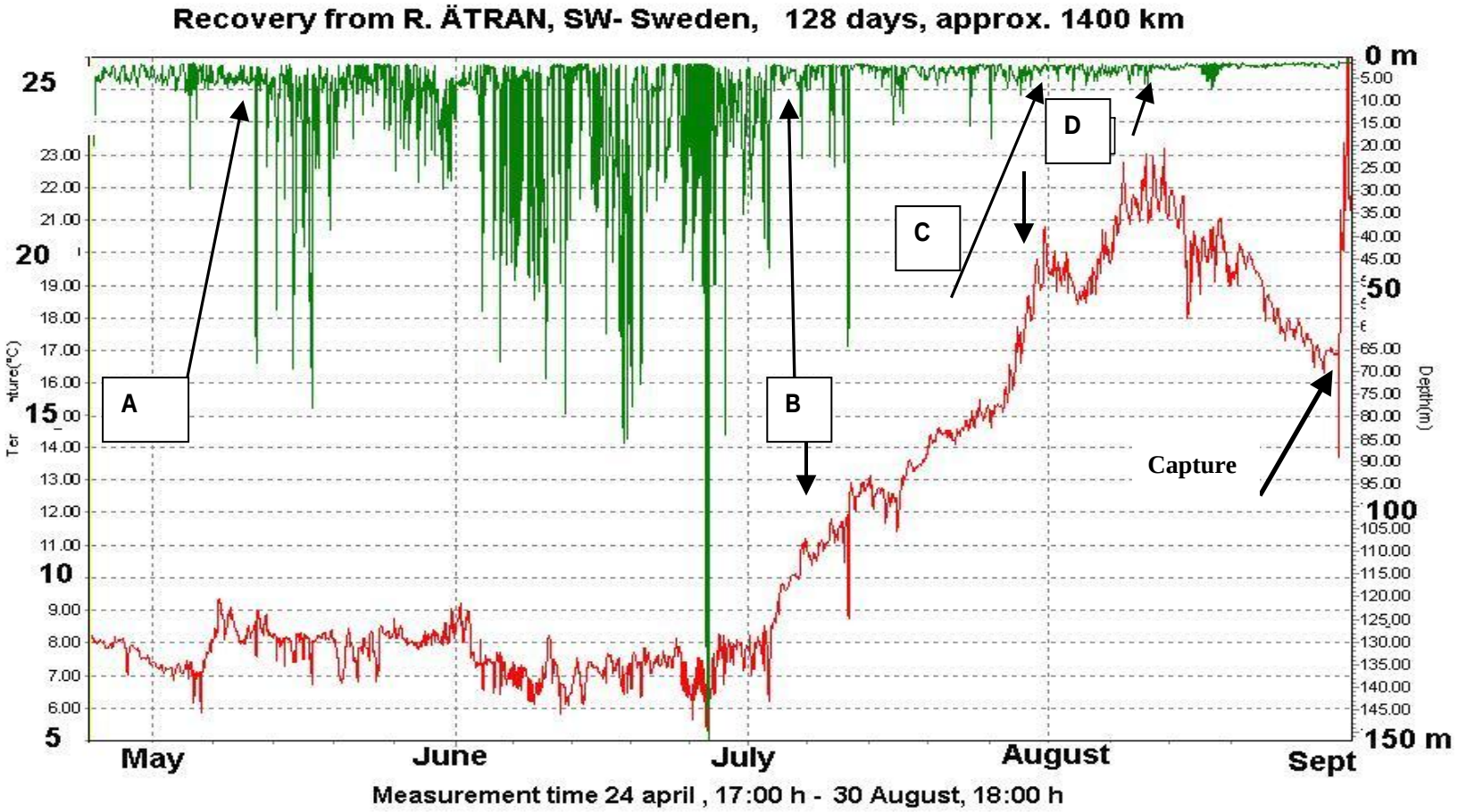


Figure 2.3.5.4.1. Data records of a salmon recovered in R. Ätran, Sweden. Depth above and temperature track below. To the left of A) post-release period , and probable periods of B) feeding and migration activity, C) Coastal migration (rising temperature), D) Estuarine dwelling and migration followed by in-river dwelling when the diving activity ceases.

6. NASCO has requested ICES to identify relevant data deficiencies, monitoring needs and research requirements taking into account NASCO's International Atlantic Salmon Research Board's inventory of on-going research relating to salmon mortality in the sea

6.1 Data deficiencies and research needs

Recommendations from Section 2 – Atlantic salmon in the North Atlantic Area:

1) ICES recommends that in regions where fishery closures have not resulted in stock rebuilding, urgent research work should be continued to forecast population viability, to determine the cause or causes of declines, and activities should be implemented to reverse declining population trends.

2) Coordinated tagging/tracking studies should be carried out to give information on migration, distribution, survival, and growth of escaped farmed salmon.

3) Further basic research is needed on the spatial and temporal distribution of salmon and their predators at sea to assist in explaining variability in survival rates:

- As depth and temperature recording tags (DSTs) have proven to be a good method in assessing the marine life history of salmon, further DST-tagging experiments on smolts, adult salmon, and kelts should be conducted in different areas of the North Atlantic area.
- Experimental trawling surveys should be conducted to evaluate the vertical distribution of post-smolts and older salmon in the sea, if possible in combination with tagging of post-smolts and salmon with DST tags.

Recommendations from Section 3 – Fisheries and Stocks from the North East Atlantic Commission Area:

1) Further progress should be made in establishing a PFA predictive model using the PFA of maturing 1SW salmon, in addition to the spawner term, as a predictor variable for the PFA of non-maturing 1SW in the northern NEAC area.

2) Efforts should be made in developing PFA estimation models for smaller units than national levels as marine survival may vary between rivers and regions and temporal variation in marine growth and abundance are more correlated between rivers in small geographical areas than between rivers more distant to each other.

Recommendations from Section 4 – Fisheries and Stocks from the North American Commission Area:

1) There is a need to develop habitat-based spawner requirements in Labrador, and to monitor salmon returns in the Ungava region of Québec.

2) There is a need to investigate changes in the biological characteristics (mean weight, sex ratio, sea-age and river-age composition) of returns to rivers, of smolt output, of spawning stocks of Canadian and US rivers, and the harvest in food fisheries in Labrador. These data and new information on measures of habitat and stock recruitment are necessary to re-evaluate existing estimates of spawner requirements in Canada and USA and for use in the run reconstruction model.

3) ICES recommends that the smolt age distribution for the six North American areas be re-evaluated on a five-year schedule.

Recommendations from Section 5 – Atlantic Salmon in the West Greenland Commission Area:

1) Continued efforts should be made to improve the estimates of the annual catches of salmon taken for private sales and local consumption in Greenland.

2) Efforts should be made by the Home Rule Government of Greenland to provide information on the extent of fishing activity by all license holders.

3) The mean weights, sea and freshwater ages and continent of origin are essential parameters to provide catch advice for the West Greenland fishery. In addition, sampling to determine sex on as many whole fish as practicable and methods to test for ISAv and other diseases in Atlantic salmon caught in West Greenland should be included in the program. Methods for determining sex on gutted individuals should be considered. ICES recommends that the sampling program be continued and closely coordinated with a fishery harvest plan to be executed annually in West Greenland.

ICES considers that the identification of data deficiencies and research requirements, although mainly driven by specific tasks under the terms of reference, was assisted by reference to the NASCO inventory of on-going research into salmon mortality in the sea.

ANNEX 10

Council

CNL(05)9

Catch Statistics - Returns by the Parties

CNL(05)9

Catch Statistics - Returns by the Parties

1. The Official Catch Statistics, as submitted by the Parties, are tabulated overleaf (Table 1). The figures for 2004 are provisional. These catch statistics, which have been rounded to the nearest tonne, will be used to calculate the contributions to NASCO for 2006 and the adjustment to the 2005 contributions (in the light of the confirmed 2003 catches) unless the Secretary is advised otherwise.

2. Under Article 12 of the Convention, the Secretary shall compile and disseminate statistics and reports concerning the salmon stocks subject to the Convention. Table 2 presents catch statistics for the period 1960-2004 by Party to the NASCO Convention.

3. Tables 1 and 2 are set out in the format for the presentation of catch statistics which was agreed by the Council at its Fifth Annual Meeting. A further, more detailed, record of catch statistics during the period 1960-2004 is provided, for information only, in paper CNL(05)10.

4. For the 2004 catch data, the discrepancy in the combined statistics for the North Atlantic region provided to NASCO by its Parties (2097 tonnes) and those provided by ICES (2,099 tonnes) is 2 tonnes. The difference is due to the inclusion in the ICES statistics of a catch of 3 tonnes for St Pierre and Miquelon and because the catch for West Greenland reported to NASCO (16 tonnes) is a tonne higher than the figure in the ICES statistics.

5. The total provisional declared catch of 2,097 tonnes in 2004 by NASCO Parties is approximately 14% lower than the confirmed catch in 2003 (2,450 tonnes) and is the lowest catch in the forty-five year period of record. There have been major reductions in fishing effort all around the North Atlantic. In addition, catch and release of wild salmon is becoming increasingly significant but these "catches" are not included in these statistics (see CNL(05)22). Therefore, these catch data should not be used as a measure of abundance. A report on the status of the stocks in 2004 is contained in the ACFM report from ICES (document CNL(05)8).

Secretary
Edinburgh
11 May, 2005

Table 1: Official Catch Statistics

	Provisional 2004 Catch (Tonnes)	Provisional 2003 Catch according to Sea Age						Confirmed 2003 Catch (Tonnes)
		1SW		MSW		Total		
		No	Wt	No	Wt	No	Wt	
Canada *	159	52,726	91	12,941	68	65,667	159	141
Denmark (in respect of Faroe Islands and Greenland)	16	-	-	-	-	-	-	9
Faroe Islands	0	-	-	-	-	-	-	0
Greenland	16	-	-	-	-	-	-	9
European Union**	926	-	-	-	-	-	-	1,012
Iceland	130	-	-	-	-	-	-	110
Norway	784	108,645	207.2	100,516	577.2	209,161	784.4	1,071
Russian Federation	82	17,105	38.3	8,195	43.7	25,300	82	107
United States of America***	0	-	-	-	-	-	-	0

* The breakdown of the Canadian catch is into the categories small (shown under 1SW) and large (shown under MSW) salmon.

** Breakdown of the catch by number and weight according to sea age is available for some EU Member States.

*** During 2004, a dealer in the State of Connecticut reported 24lbs of Atlantic salmon by-catch to NOAA Fisheries. No additional information is available on the target fishery that the by-catch resulted from or the vessels origin. NOAA Fisheries will continue to pursue any additional information that may be available regarding this reported by-catch.

Table 2: Catches of Atlantic Salmon by the Parties to the NASCO Convention

	Canada	Denmark (Faroe Islands and Greenland)	European Union	Finland	Iceland	Norway	Russian Federation	Sweden	USA
1960	1636	60	2641		100	1576	1100	40	1
1961	1583	127	2276		127	1456	790	27	1
1962	1719	244	3894		125	1838	710	45	1
1963	1861	466	3842		145	1697	480	23	1
1964	2069	1539	4242		135	2040	590	36	1
1965	2116	861	3693		133	1900	590	40	1
1966	2369	1338	3549		110	1823	570	36	1
1967	2863	1600	4492		146	2058	883	25	1
1968	2111	1167	3623		162	1752	827	150	1
1969	2202	2350	4407		133	2083	360	76	1
1970	2323	2354	4069		195	1861	448	52	1
1971	1992	2511	3745		204	1847	417	35	1
1972	1759	2146	4261	32	250	1986	462	38	1
1973	2434	2402	4604	50	156	2126	772	73	3
1974	2539	1945	4432	76	265	1973	709	57	1
1975	2485	2086	4500	76	166	1754	811	56	2
1976	2506	1479	2931	66	225	1530	542	45	1
1977	2545	1652	3025	59	130	1488	497	10	2
1978	1545	1159	3102	37	291	1050	476	10	4
1979	1287	1694	2572	26	225	1831	455	12	3
1980	2680	2052	2640	34	249	1830	664	17	6
1981	2437	2602	2557	44	163	1656	463	26	6
1982	1798	2350	2533	83	147	1348	364	25	6
1983	1424	1433	3532	79	198	1550	507	28	1
1984	1112	997	2308	75	159	1623	593	40	2
1985	1133	1430	3002	49	217	1561	659	45	2
1986	1559	1490	3524	38	330	1597	608	53	2
1987	1784	1539	2593	49	250	1385	559	47	1
1988	1311	1136	2833	34	412	1076	419	40	1
1989	1139	701	2450	52	277	905	359	29	2
1990	912	542	1645	59	426	930	316	33	2
1991	711	533	1139	69	505	877	215	38	1
1992	520	260	1506	77	636	867	166	49	1
1993	373	35	1483	70	656	923	140	56	1
1994	355	18	1919	48	448	996	141	44	0
1995	259	86	1852	-	439	839	130	-	0
1996	290	92	1474	-	358	787	131	-	0
1997	229	59	1179	-	154	630	111	-	0
1998	157	17	1183	-	164	740	130	-	0
1999	152	19	1016	-	147	811	102	-	0
2000	153	29	1336	-	85	1176	124	-	0
2001	148	42	1407	-	88	1267	114	-	0
2002	148	9	1245	-	97	1019	118	-	0
2003	141	9	1012	-	110	1071	107	-	0
2004	159	16	926	-	130	784	82	-	0

1. The European Union catch from 1995 includes the catches by Finland and Sweden. **2.** The catch for Denmark (in respect of the Faroe Islands and Greenland) includes the catch for Greenland when it was a member of the European Union and the catches up to 1983 by Denmark. **3.** Figures from 1986 are the official catch returns to NASCO. Figures to 1986 are based on data contained in the ICES Working Group Reports. **4.** The Faroese fishery was subject to compensation arrangements in the period 1991-1998. The West Greenland fishery was subject to compensation arrangements in 1993, 1994, 2002, 2003 and 2004. Under the compensation arrangements from 2002 a subsistence fishery is permitted.

ANNEX 11

Council

CNL(05)38

Gear Trials of a Novel Pelagic Trawl for Use in Atlantic Salmon (Salmo salar* L.*) Post-Smolt Surveys

(Tabled by the European Union)

CNL(05)38

Gear Trials of a Novel Pelagic Trawl for Use in Atlantic Salmon (Salmo salar L.*) Post-Smolt Surveys*

(Tabled by the European Union)

Introduction

Knowledge of the distribution of post-smolt salmon in both the North Sea and the Norwegian Sea has been built up from a series of survey trawls over the past decade. Smolts have been found to concentrate along the shelf edge and a general temperature/salinity preference has also been identified. Further progress in describing their distribution, and the influencing factors, depends, to a large extent, on the success of future survey trawls. This in itself is problematic using current fishing gear for the following reasons: post-smolt salmon are present in low concentrations relative to other marine fish species in the ocean, survey trials are expensive and this particular survey method is destructive, causing death to the specimens sampled. Therefore the development of survey methods that are both more cost-effective than at present, and less damaging to the post-smolts sampled, is required.

Gear developments have taken place in Norway and this report presents results from a collaborative cruise on the Scottish Fisheries Research Services' (FRS) Fisheries Research Vessel (FRV) *Scotia* involving FRS, the Institute of Marine Research (Norway) and the Atlantic Salmon Trust, which took place in the latter half of May, 2005 to test the new gear.

The main objective of this cruise was to test a prototype trawl which, rather than capturing post-smolts, records, by use of CCTV, their passage as they pass through an open-ended trawl net. A supplementary objective, dependent on the success of the gear trials, was to conduct a post-smolt survey at the shelf edge.

Description and testing of gear

The gear comprised a modified pelagic trawl net with an opening of 60m wide by 10m deep buoyed to ensure surface operation. The cod end was removed and a triangular metal frame, with sides of length approximately 2.6m, 2.25m and 2.25m and a depth of 0.5m, was attached in its place. The frame was fixed and buoyed so that the largest side hung vertically in the water column. To the vertex opposite this side a housing containing a camera was attached. Images from the camera were fed by cable to a transmitting aerial attached to a small catamaran which was towed behind the net. The transmitted signals were received by another aerial mounted on FRV *Scotia* and from there displayed in real time on a VDU located on the bridge of the ship. Successful gear testing took place in calm conditions in the Scalloway Deeps off the west of Shetland and in the Minch to the west of the Scottish mainland.

Post-smolt survey

Having completed the gear trials and demonstrating that the trawl could be successfully used, FRV *Scotia* relocated to the shelf edge where a series of 4 operational trawls were conducted. In addition to gathering information on the distribution of post-smolts, CTD and

thermosalinograph information was also collected. In total, 178 post-smolts, one wild adult and one farmed adult salmon were observed.

Discussion

The trial of the modified pelagic trawl gear was a success with real-time footage of fish passing through the net being obtained and recorded. In addition, the supplementary aim of undertaking survey trawls on the shelf edge and collecting ancillary hydrographical information was also achieved.

The successful survey along the shelf edge has shown that the trawl gear is a practical tool for investigating post-smolt distribution at sea. This is extremely relevant to Fisheries Research Services, the Scottish Executive and to NASCO with respect to the SALSEA programme. In summary there are 3 major advantages of the new gear. Firstly, it is much more cost-effective than using normal pelagic trawls with cod ends. The new trawl can be towed for almost unlimited periods and the fish passing through the net can be observed via the camera link, negating the need to shoot and haul the net every hour or so. Thus, a much greater area of sea can be covered, greatly increasing the efficiency of collecting distribution information. Secondly, the new trawl provides a non-destructive way in which to observe the distribution of post-smolts. This is a major breakthrough given the high sea mortality rates currently impacting upon salmon in the sea. Thirdly, it is now possible to link the distribution of individual, or shoals of, post-smolts, much more closely to the prevailing hydrographical conditions as the precise location of each observation can be recorded. This was not the case previously when normal pelagic trawls were used and the location of capture could only be recorded relative to the entire area of the particular trawl.

While the trial was an undoubted success, there are some areas of development that need to be considered further in order to obtain the maximum benefits from the new trawl system. In particular, the conditions under which the gear was deployed were relatively calm (wind force 3 – 4 on the Beaufort Scale) and thus the stability of the trawl requires testing under more testing conditions.

ANNEX 12

CNL(05)11

Report of the Fourth Meeting of the International Atlantic Salmon Research Board

6 June 2005, Palais des Congrès, Vichy, France

1. Opening of the meeting

1.1 The Chairman, Mr Jacque Robichaud, opened the meeting and welcomed Members of the Board, their scientific advisers and the representative of the accredited NGOs, Mr Chris Poupard, to Vichy. He indicated that, as agreed by the Board at its last meeting, fund-raising and management consultants had been employed to develop a fund-raising strategy and that representatives of Brakeley Consultants would be participating in the discussions under agenda item 7, so as to report their findings. In order to facilitate a broader debate and coordination of the Board's main tasks, review of the SALSEA programme and the search for new funds, these two items would be considered in open sessions.

1.2 A list of participants (excluding those who attended only the Open Session) is contained in Annex 1.

2. Adoption of the agenda

2.1 The Board adopted its agenda, ICR(05)7 (Annex 2).

3. Election of Chairman

3.1 The Board re-elected Mr Jacque Robichaud as its Chairman.

4. Inventory of Research

4.1 At its inaugural meeting the Board had developed an inventory of research relating to salmon mortality at sea, CNL(01)21, which had been updated in 2003, ICR(03)3, in 2004, ICR(04)3 and ICR(04)6, and again in 2005, ICR(05)3. A summary of the updated inventory had been made available to the ICES Working Group on North Atlantic Salmon for information purposes so as to assist it in identifying data deficiencies, monitoring needs and research requirements. This inventory had also been made available to the Board's Scientific Advisory Group (SAG) to assist it in identifying gaps in research and research priorities and to develop recommendations for enhanced coordination of existing research (see section 5 below).

4.2 The Assistant Secretary, Dr Peter Hutchinson, made a brief presentation on the inventory. He noted that maintenance of this inventory is required under the Board's Rules of Procedure and is considered an essential tool in identifying research gaps and priorities and in improving coordination of existing research. It is also important in demonstrating to potential funders the extent of existing commitments by the Parties and the nature of the on-going research programmes. As requested by the Board at its

last meeting, a number of changes had been made to the format for requesting information to update the inventory and to the presentation of this information, including development of a table of annual expenditure by topic area and Party. The updated inventory includes a total of 54 on-going and 9 completed projects. Since last year, 2 projects had been completed and 12 new projects added. One EU Member State (Sweden) had included information in the inventory for the first time in 2005 and there is now information for most EU Member States with salmon interests (Denmark, France, Finland, Ireland, Sweden, UK). The total annual expenditure on the on-going projects included in the inventory amounts to about £5.7 million, an increase of 24% compared to 2004. No costings were available for 7 of the projects.

4.3 He advised the Board that the inventory had been thoroughly reviewed by the Scientific Advisory Group which had developed a number of recommendations which would be presented by the Group's Chairman.

5. Report of the Scientific Advisory Group

5.1 The report of the third meeting of the Board's Scientific Advisory Group (SAG) was presented by its Chairman, Mr David Meerburg (Canada), SAG(05)4 (Annex 3). The Group had reviewed the updated inventory of research, considered a progress report on the SALSEA programme and elected a new Chairman.

5.2 The SAG recommends to the Board that when the inventory is next updated:

- the Board should seek information from the French authorities on the sampling programme at St Pierre and Miquelon according to the agreed inventory reporting format;
- the Secretariat should indicate which Work Package and Task in the SALSEA programme each project in the inventory relates to;
- the Board Members should be asked to provide a breakdown of the funding between public and private sector partners for projects involving such collaboration;
- any projects that have not been updated and no longer appear to be current should be included as completed projects, following consultation between the Secretariat and the Board Member concerned;
- it should be made clear in the inventory that while project costings are allocated to the Party or EU Member State coordinating the research, there may also be financial contributions to the research by collaborating countries.

5.3 The Board agreed to these recommendations and asked that Board Members provide details of any additional projects and updated information for inclusion in the inventory to the Secretariat by 30 June and that after that date the inventory should be made available on the Board's website. The Board also agreed that for completed projects, information should only be presented in the inventory in the year of completion, and thereafter the information should be held in a separate database.

5.4 The SAG had also considered a number of questions in relation to the SALSEA programme but recognized that it would be difficult to provide an objective review of the programme since almost all participants in the SAG meeting had been involved in the Workshop to develop the SALSEA programme. The SAG had recognized the comprehensive nature of the programme and believe that it is technically feasible

(subject to the development work identified) and economically justifiable given the enormous value of Atlantic salmon stocks. The SAG had recommended to the Board that there should be an external review of the SALSEA programme and had proposed two approaches for such a review involving scientists from the Pacific and through the Diadromous Fish Committee of ICES.

5.5 Finally he reported that he was not able to be considered for re-election as Chairman of the SAG and that Dr Malcolm Beveridge (European Union) had been unanimously elected as its Chairman. The Board thanked Mr Meerburg for his work in chairing the SAG since its inception.

6. The SALSEA Programme

(a) Report of the Dublin meeting (Open Session)

6.1 At its last meeting the Board had agreed to organise and sponsor a workshop to further develop a major programme of research on salmon at sea, drawing on the SALSEA project but involving scientists from North America and more widely in Europe. Dr Ken Whelan and Mr David Meerburg had been asked to develop a Plan of Action for the Workshop, which was held in Dublin, Ireland, during 12-15 October 2004. The Chairman, Dr Ken Whelan, introduced the report of the Workshop, ICR(05)2. The Workshop had developed an international cooperative research programme on salmon at sea, SALSEA, which comprises a series of Work Packages and Tasks to examine key hypotheses, differentiating between those Tasks which can be achieved through enhanced coordination of existing on-going research, and those involving new research for which funding would be required.

6.2 He noted that success in implementing SALSEA will require coordination of on-going programmes, additional or redirected core national funding from NASCO's Parties, and additional private-sector funding. Two Work Packages, concerning support technologies (genetic stock identification, enhanced efficiency of sampling gear at sea and standardized scale analysis techniques) and investigating the distribution and migration of salmon at sea, have been identified as the priority areas for fund-raising. It is assumed that research in the inshore zone will continue to be carried out by the Parties but with enhanced levels of cooperation and coordination of research. The cost of these two priority Work Packages (assuming two years of research cruises) is in the region of £7.8 million. A third year of cruises would bring this total for the programme to about £10.5 million.

6.3 The Board recognized that the SALSEA programme should lead to a much clearer understanding of the factors affecting mortality of salmon at sea and the opportunities to counteract that mortality. However, it is aware that, unlike factors affecting mortality in fresh water, which may be addressed through management action, there may be limited opportunities to counteract mortality of salmon at sea. Nonetheless, the Board recognized that there was a need to better understand the factors affecting salmon at sea, given the large increase in mortality in the last twenty years compared to the 1970s and 1980s and that the information derived from implementing the SALSEA programme should support rational salmon management in future. The Board noted that there is considerable information from tagging experiments and post-smolt surveys and available in scale collections that could be more fully analysed and that this could assist in planning and implementing the SALSEA research cruises.

It was also noted that given the existing commitments for the Parties' research vessels, it might be difficult to obtain ship time for the SALSEA programme and that chartering of vessels might be necessary if funding for the SALSEA programme is forthcoming.

(b) Future Actions

(i) Immediate Next Steps (within 6 months)

6.4 The Board fully endorsed the SALSEA programme and noted that its implementation would require funds of approximately £7.8 million or £10.5 million, depending on whether there are two or three years of research cruises. These funds could either be raised from the NASCO Parties or through fund-raising (see paragraph 7.6) including public/private partnerships. The Board agreed that the immediate next steps with regard to the SALSEA programme should be:

- for the NASCO Secretariat to allocate research projects in the inventory of marine research to the various SALSEA Work Packages and Tasks so as to better identify elements of the programme that are already on-going;

- to arrange for a peer review of the SALSEA programme. The Chairman was asked to write to Drs Helle and Beamish, both of whom have extensive experience of research on Pacific salmon, inviting them to review the SALSEA programme and outlining the background to the programme and the reasons for seeking the review;

- to arrange further communication of the SALSEA programme to ICES to raise awareness of the programme and to seek support for, and feedback on, the programme from scientists working on diadromous fish, and from the broader community of marine scientists in relation to SALSEA's relevance to the ecosystem approach. Dr Niall O'Maoileidigh, Chairman of the ICES Diadromous Fish Committee, had agreed to make appropriate arrangements within ICES;

- to correct and update the SALSEA programme in the light of any feedback received from the reviewers. This work should be undertaken by correspondence or conference communication unless extensive changes are required, when a meeting of the SAG could be held in conjunction with other NASCO or ICES meetings scheduled for the late autumn.

6.5 While the review process referred to above is ongoing, the NASCO Secretariat should review the Board's funds, in consultation with Board Members, in order to determine the sums available for fund-raising and those which can only be spent on research-related activities. An early indication is that most of the Board's current funds can only be used for research. Once the sums already available are known, research priorities and timescales for the use of the funds available for research should be identified and the research initiated at the earliest opportunity so as to demonstrate to the Parties and potential fund-raisers further progress with implementing the SALSEA programme. The planning and initiation of this research should be coordinated by the SAG. Decisions regarding prioritizing of research activities should be made by the Board. The report presented to the Board on the SALSEA programme indicated that

there are several research coordination Workshops that should be considered by both the SAG and the Board pending the peer review of the programme.

6.6 The Board should make appropriate arrangements for greater NGO involvement in the work of the Board and in implementing the SALSEA programme.

(ii) Longer-term Actions

6.7 There is a need for the Board and its SAG to develop detailed time-lines and costings for the major components of the SALSEA programme (i.e. oceanic research cruises) based on various possible funding scenarios (e.g. £7.5 million available in 2007, £4 million available in 2008, etc.). The Board should then seek further funds from the Parties for these major components (either in money or in kind) or restricted funding (up to £200,000 required over a two-year period) to allow a fund-raising programme to be undertaken. Alternative approaches for obtaining the funds could also be considered, such as approaching other sources, e.g. the EU Seventh Framework Programme, NGOs, and a phased approach to fund-raising through consultants. If the funds for SALSEA are to be obtained through a fund-raising programme the Board will also need to work with consultants to develop marketing material for the SALSEA programme and to communicate the SALSEA programme and funding options to the Parties and NGOs. Subject to funds being available, the major elements of the SALSEA programme should be implemented.

6.8 It is recognized that taking the SALSEA programme forward is a major undertaking and there may be a need for the Board and/or the SAG to meet prior to the next Annual Meeting of NASCO in order to accomplish some of the tasks identified above. The scientific meetings referred to in paragraph 6.4 might be an opportunity for the SAG to meet. The Secretariat and Chairman will also have a key role to play in coordinating these next steps.

7. The search for new funds

(a) Consultants' report on a fund-raising strategy (Open Session)

7.1 Last year a report was made to the Board on initial fund-raising efforts by the Chairman and Secretary. It was noted that fund-raising is a very specialized activity, that it is likely to be a slow process, and that there are many competing interests for the funds available. The Board had agreed that it would be helpful to have some professional assistance in developing a fund-raising strategy. Since last year, a firm of fund-raising and management consultants, Brakeley Consultants, based in London, UK, had been engaged to develop a fund-raising strategy. Brakeley's client list includes arts and cultural institutions, environmental organizations, medical centres and hospitals and educational facilities.

7.2 The Chairman introduced Mr William Conner, Mr David Morris and Mrs Anne Voboril Conner of Brakeley Consultants, who presented a report to the Board, ICR(05)8 (Annex 4). This report had concluded that, in the SALSEA programme, the Board had a positive and urgent case, with objectives that meet this urgency and wide potential sources of funding (although they considered that the majority of the funds would be raised from a small number of sources). On the negative side, they considered that there was limited potential to raise money with the current structure of

the Board, the target of £7.5 million was too high, there was a lack of a strategy to make the most of the relationship with NASCO's NGOs and additional government funding would be essential as leverage for funding from the private sector. They therefore recommended that, as the next steps, additional funding of £4 million should be sought from NASCO's Parties and that a professionally managed fund-raising programme should be initiated with the objective of raising £4 million over a five-year period. The focus of the fund-raising initiative should be the SALSEA programme and the NGOs should be involved in the fund-raising effort. A communications programme would be required to support the fund-raising effort.

7.3 Following a period of discussion, the Chairman thanked the representatives of Brakeley Consultants for their detailed and informative presentation.

7.4 The Secretary indicated that Brakeley Consultants had advised him that the cost of implementing a professionally managed fund-raising initiative would be in the region of £100,000 per annum over a period of two years, although it would be necessary to seek a proposal and detailed costing from Brakeley Consultants for implementing this initiative. He indicated that he had been advised that fund-raising consultants no longer consider it ethical to charge on the basis of a proportion of the funds they raise. The Board recognized that it would be desirable to use professional expertise in any fund-raising initiative rather than employing a staff member in the Secretariat and that the consultants' role would be to identify possible sources of funding, develop relationships with potential funders and then make introductions so that representatives of the Board could present the SALSEA programme to them.

(b) Future actions

(i) Immediate Next Steps

7.5 The Board agreed that the first step should be to fully review the report from Brakeley Consultants, ICR(05)8, and to coordinate views from the Board Members on the way forward with regard to the fund-raising approach. Based on recommendations from Brakeley Consultants, the Board should agree on appropriate representation on the Board and involvement in the fund-raising effort.

(ii) Longer-term Actions

7.6 In the event that the Parties do not agree to fund the SALSEA programme either fully or in partnership with private organizations, the only way to proceed will be through fund-raising, although implementation of Work Package 1 could begin with less funding and some Parties may initiate parts of Work Package 3 on their own. A fund-raising effort on behalf of the Board will require commitment by the Parties for a minimum of two years with resources of £100,000 per annum (see paragraph 7.4). It is possible that donations could be received by the Board after one year and there would then be a need to review if a second year of commitment by the Parties is required. If a fund-raising programme is initiated, the Board should establish a fund-raising sub-group to lead the fund-raising process in line with the recommendations from Brakeley Consultants.

8. Finance and administrative issues

8.1 Under Rule 14 of the Board's Rules of Procedure, ICR(05)4, it is stated that the Rules of Procedure "may be subject to review by the Council of NASCO at any time and should be reviewed no later than 2005". Since their adoption in 2001 the Rules of Procedure have not been reviewed or amended other than to reflect the change in name of the Board to the International Atlantic Salmon Research Board. The Board noted that there had been some changes to the Rules such as those concerning NGO participation in its meetings which needed to be reflected in document ICR(05)4 and that further changes might be needed in the light of the fund-raising consultants' recommendations. The Board agreed that the rules should be reviewed more thoroughly at its next meeting.

8.2 The Secretary reported that the Board's financial statements for the year to 31 December 2004 had been sent to all Members of the Board but, following consultations with Board Members, these had not been audited because there had been very few transactions in the year and the price quoted by the auditors had been high. The major expenditure during 2004 had been the cost of organising the SALSEA Workshop. At the end of the 2004 financial year the balance of the fund amounted to approximately £122,000 following receipt of contributions in 2004 from the US (approximately £83,000), Iceland (£2,800) and the NASCO budget (£18,000). A contribution of £10,000 had been received from Norway in 2003. Since the year-end there had been some additional minor costs associated with the SALSEA Workshop but the major expenditure had been the cost of developing a fund-raising strategy (approximately £18,000 to date). A contribution had been received from Canada (approximately £2,000) and, allowing for interest, the fund balance as of 1 May 2005 was £107,000 but this would be reduced to around £100,000 following the final payment to the fund-raising consultants for the preparation of their report, ICR(05)8. The EU indicated that it expected to make a payment of Euro 50,000 (approximately £30,000) to the fund in the near future. The Board recognized that some of these funds (e.g. US and Canadian contributions) could only be spent on research work while others could be available for research work or fund-raising activities.

8.3 The Board noted that the fund had not been audited since its establishment and agreed that an audit should be conducted at the close of the 2005 financial year. In accordance with the Board's financial rules the audited report will be made available to all Members of the Board for their acceptance. It was agreed that the Chairman should provide a brief overview of the finances of the Board in his report to the Council. The Board's audited accounts will be freely available. Last year the representative of the accredited NGOs had indicated that the NGOs may be able to assist with identifying target individuals and companies for fund-raising and by offering the services of an honorary auditor. Mr Poupard agreed to take this matter up again within the NGO group.

9. Other business

9.1 There was no other business.

10. Report of the meeting

10.1 The Board agreed the report of its meeting.

11. Date and place of next meeting

11.1 The Board will agree the date and place of its next meeting by correspondence.

11.2 The Chairman thanked participants for their contributions and closed the meeting.

Annex 1 of CNL(05)11

List of Participants

Chairman of the Board

Mr Jacque Robichaud

Canada

Mr Guy Beaupré
Mr David Meerburg

Denmark (in respect of the Faroe Islands and Greenland)

Dr Jan Arge Jacobsen
Mr Andras Kristiansen

European Union

Dr Malcolm Beveridge
Mr Ted Potter
Mr Andrew Thomson

Iceland

Mr Arni Isaksson

Norway

Mr Raoul Bierach
Mr Arne Eggereide
Dr Lars Petter Hansen

Russian Federation

Dr Svetlana Krylova
Dr Boris Prischepa
Ms Elena Samoylova
Dr Igor Studenov

USA

Mr Pat Scida
Mr Stetson Tinkham

Non-Government Organizations

Mr Chris Poupard

Secretariat

Dr Malcolm Windsor
Dr Peter Hutchinson

ICR(05)7

Fourth Meeting of the International Atlantic Salmon Research Board

at 10.00am on Monday 6 June, 2005
Palais des Congrès, Vichy, France

Agenda

1. Opening of the meeting

2. Adoption of the agenda

3. Election of Chairman

4. Inventory of Research

5. Report of the Scientific Advisory Group

6. The SALSEA Programme

   (a) Report of the Dublin meeting
   (b) Future actions

7. The search for new funds

   (a) Consultants' report on a fund-raising strategy
   (b) Future actions

8. Finance and administrative issues

9. Other business

10. Report of the meeting

11 Date and place of next meeting

SAG(05)4

Report of the Third Meeting of the Scientific Advisory Group of the International Atlantic Salmon Research Board

Palais des Congrès, Vichy, France
Sunday 5 June 2005

1. Opening of the Meeting

1.1 The Chairman of the Scientific Advisory Group (SAG), Mr David Meerburg (Canada), opened the meeting and welcomed members of the group to Vichy.

1.2 A list of participants is contained in Annex 1.

2. Adoption of the Agenda

2.1 The SAG adopted its agenda, SAG(05)3 (Annex 2).

3. Election of Chairman

3.1 Mr Meerburg indicated that he was not able to be considered for re-election. The SAG unanimously elected Dr Malcolm Beveridge (European Union) as Chairman.

4. Review of the updated inventory of research and recommendations for enhanced coordination of research

4.1 The SAG reviewed the updated inventory of research relating to salmon mortality in the sea, ICR(05)3. The Assistant Secretary of NASCO, Dr Peter Hutchinson, provided an overview of the inventory, which is considered by the Board to be an essential tool in identifying research gaps and priorities and in improving coordination of existing research. In 2005, 54 ongoing and 9 completed projects had been included in the inventory and the annual expenditure on the ongoing projects was in excess of £5.7 million, although no costings had been provided for 7 projects. A number of projects are, however, close to completion. He noted that an increasing number of EU Member States are contributing information to the inventory and that information is now available for Denmark, France, Finland, Ireland, UK and Sweden. Since the last update, 12 new projects had been included and 2 projects had been completed. He indicated that no updated information had been provided for some ongoing projects and only partial information had been provided for some others. As requested by the Board at its last meeting, guidance notes on updating the inventory had been developed and a number of changes had been made to the presentation of the information. Following this brief overview, each Party gave a more detailed summary of its research projects.

4.2 The SAG noted that for projects involving collaboration between two or more countries, some of the project costs may be incurred by Parties other than the coordinating Party, and that this should be made clear in subsequent updates of the

inventory. The SAG also noted that the sampling programme at St Pierre and Miquelon referred to in Council paper CNL(05)28 is not included in the inventory. While France (in respect of St Pierre and Miquelon) is not a Party to NASCO, the sampling programme is being undertaken by French scientists from IFREMER in collaboration with Canadian scientists. The SAG therefore recommends that, in view of the French authorities' indication that they are keen to cooperate with NASCO, the Board should seek to obtain information from them on this sampling programme, according to the agreed reporting format, for inclusion in the inventory. The SAG also recommends that when the inventory is next updated, the Secretariat should indicate which Work Package and Task in the SALSEA programme the project relates to so that those areas of the programme which are already being addressed, at least in part, through ongoing research, and gaps in the SALSEA programme, can be identified. The SAG also noted that in addition to collaboration between Parties, there is collaboration between public and private-sector organizations on a number of the projects in the inventory. The SAG recommends that when the inventory is next updated, the Board Members should be asked to provide a breakdown of the funding between the private and public sectors, to the extent possible, and that the collaborating partners should be identified in the summary tables.

4.3 The SAG also recommends that when the inventory is next updated, any projects that have not been updated and no longer appear to be current should be included as completed projects, following consultation between the Secretariat and the Board Member concerned. The SAG also noted that there may be additional projects and updated information that could be included in the inventory and that Board Members should be requested to provide this information to the Secretariat by 30 June. Thereafter the inventory should be made available on the Board's website.

4.4 The SAG members discussed whether there is a need to consider a more formal mechanism for coordinating ongoing research, for example by appointment of a funded technical position, or whether the existing approach is adequate. The view was expressed that there may be very limited opportunities to reallocate funds from existing ongoing programmes but that a more formal approach to coordination might be appropriate for any new funds that are raised by the Board in support of the SALSEA programme. In the event that new funding is raised to support this programme, the SAG recognized the desirability of allocating expenditure so as to ensure that the research is conducted at the most appropriate research facility and by bringing in the researchers best qualified to test key hypotheses in relation to mortality of salmon at sea.

4.5 The SAG noted that there is apparently only one project in the inventory concerning development of methods and that key areas such as sampling equipment development, genetic stock identification and scale analyses had been identified in the SALSEA programme. Progress on these areas for further development is crucial to the success of the SALSEA programme.

4.6 Reference was made to a recent publication entitled "The Norwegian Sea Ecosystem" edited by H.R. Skjoldal which contains valuable information on research on salmon at sea.

5. The SALSEA Programme

5.1 At its last meeting the SAG had reviewed progress in development of the SALSEA programme. The SAG had welcomed the programme but noted that there had been no North American scientists involved in its development and some European countries had not contributed to it. The SAG had recommended to the Board that it support the further development of the SALSEA programme through organizing and funding a Workshop. The Board had agreed to this proposal and the Workshop to further develop SALSEA was held in Dublin, Ireland, during 12-15 October 2004. The Chairman of the Workshop, Dr Ken Whelan, presented the report of the meeting, ICR(05)2. He indicated that the SALSEA programme contains a comprehensive mix of freshwater, estuarine, coastal and off-shore elements ensuring a comprehensive overview of factors which may affect the marine mortality of salmon. The programme comprises four Work Packages designed to test key hypotheses about factors influencing mortality of salmon at sea. These Work Packages are as follows:

Work Package 1	Supporting technologies (genetic stock identification, sampling, equipment evolution and scale growth history);
Work Package 2	Early migration through the inshore zone;
Work Package 3	Investigating the distribution and migration of salmon at sea;
Work Package 4	Communications.

5.2 He noted that it is intended that Work Package 2 should be carried out and funded by the Parties but with a greater level of cooperation and coordination of the research. The estimated cost of Work Packages 1 and 3 is approximately £7.8 million over approximately five years assuming two years of research cruises. The Board has employed professional fund-raising consultants to develop a strategy to raise the significant funds required from the private sector. The SAG was asked to consider a number of questions in relation to the SALSEA programme, as follows:

(i) Is there support for the SALSEA programme?
(ii) Is there any other way of doing it?
(iii) Is the expenditure justified?
(iv) Is it technically feasible?
(v) Is it reasonable to expect that the programme will deliver the results needed?
(vi) Can the programme be considered alone or is assistance needed?

5.3 The Chairman noted that it would be difficult for the SAG to provide an objective review of the programme since almost all participants at the SAG meeting had been involved in the Workshop to develop the SALSEA programme. Nevertheless, it was recognised that important questions had been raised concerning the programme, and that the Group's views might be of assistance to the Board when it considers the programme and the proposed fund-raising strategy at its meeting.

5.4 With regard to support for SALSEA, the Group recognized that there has been a very significant increase in marine mortality of salmon since the 1970s and that returns to fresh water are now less than 50% of the levels in the 1970s and 1980s. The severity of the situation facing Atlantic salmon needs to be stressed to potential funders of the research. It was, however, recognized that if the increased mortality is related to climate change, there may be no opportunity to counteract it. This might make the programme less attractive to governments but the programme might still be attractive

to private funders as an opportunity to contribute to a better understanding of the salmon's life at sea.

5.5 The SAG recognized that SALSEA is a very comprehensive and ambitious programme which should ensure a thorough overview of the factors affecting mortality of salmon at sea originating in fresh water, estuaries, coastal or offshore waters. It was noted that there may be difficulties in securing the research vessel time detailed in the SALSEA programme given existing commitments and that consideration might need to be given to chartering of vessels.

5.6 The SAG noted that studies of the economic value associated with exploitation of salmon in a number of countries have confirmed the very significant value of the resource. For example, in Scotland a recent study has estimated that recreational salmon fishing generates in the region of £75 million annually to the economy. In addition, however, there are very significant existence values associated with the resource, which may greatly exceed those associated with its exploitation. The SAG felt that, given the enormous economic values of wild Atlantic salmon and the depleted state of most stocks, additional expenditure on research of around £8 million over a five-year period was justifiable.

5.7 The SAG discussed whether or not the SALSEA programme was technically feasible. Some concern was expressed about the capabilities of genetic stock identification techniques. These techniques are being used successfully in the Foyle system in Northern Ireland, and on the Moy in Ireland, to identify individual tributary stocks in the fisheries, and in Alaska for management of the Pacific salmon fishery. It was recognized that it would be far more challenging to employ these techniques to identify the origin of salmon caught at sea in the SALSEA research programme because the application of GSI is dependent on the existence of comprehensive baseline data for all contributing stocks. It was noted, however, that there have been major advances in genetic analytical techniques and that identification to the regional level (e.g. major stock complexes) should be feasible even if it is not initially possible to assign salmon to individual rivers. The SAG noted that there has been standardisation of the suite of genetic markers that will be used by salmon geneticists and that there are several initiatives underway to collect baseline genetic material, including the Atlantic Salmon ARC project detailed in the inventory. A major advantage of GSI techniques is that the origin of every fish caught at sea becomes known as compared to conventional tagging programmes where only the few recovered fish provide information as to their origin.

5.8 The SAG agreed that it would be important for the SALSEA programme to be reviewed externally. Dr Dick Beamish from the Canadian Department of Fisheries and Oceans in Nanaimo and Dr Jack Helle, who is presently Chairman, through the North Pacific Anadromous Fish Commission, of an international salmon research programme in the Bering Sea (BASIS) involving collaboration between all NPAFC Parties, were suggested as possible reviewers from the Pacific. Dr Niall O'Maoileidigh, Chairman of the ICES Diadromous Fish Committee, agreed to raise the issue of review of the SALSEA programme by ICES at that Committee's next meeting. It was suggested that the SALSEA programme might also be presented to other ICES Committees at the Organization's Annual Science Conference in Aberdeen in September 2005 so as to encourage support for the SALSEA programme from broader marine research disciplines.

5.9 The SAG noted that the EU's Seventh Framework Programme, which includes a marine component, might be a source of funding for the SALSEA programme. The SALSEA programme has been developed as a concept document and individual Tasks would need to be further developed into research proposals if funding was to be sought from this Seventh Framework Programme.

6. Other business

6.1 There was no other business. The Group thanked Mr Meerburg for his excellent work during his time as the SAG Chairman.

7. Report of the meeting

7.1 The SAG agreed a report of its meeting.

8. Date and place of next meeting

8.1 The SAG decided to agree the date and place of its next meeting by correspondence.

Annex 1 of SAG(05)4

List of Participants

Canada

Mr David Meerburg (Chairman)

Denmark (in respect of the Faroe Islands and Greenland)

Dr Jan Arge Jacobsen

European Union

Dr Malcolm Beveridge
Dr Niall O'Maoileidigh
Dr Ken Whelan

Norway

Dr Lars Petter Hansen

USA

Mr Tim Sheehan

Secretariat

Dr Peter Hutchinson

SAG(05)3

Meeting of the Scientific Advisory Group of the International Atlantic Salmon Research Board

Palais des Congrès, Vichy, France
14.00 hrs, Sunday, 5 June, 2005

Agenda

1. Opening of the meeting

2. Adoption of the agenda

3. Election of Chairman

4. Review of the updated inventory of research

5. The SALSEA Programme

   (a) Report of the Dublin meeting
   (b) Focused coordination of existing resources
   (c) Recommendations to the Board

6. Other business

7. Report of the meeting

8. Date and place of next meeting

Annex 4 of CNL(05)11

ICR(05)8

BRAKELEY
FUNDRAISING & MANAGEMENT CONSULTANTS

The SALSEA Programme

Final Report of

a Feasibility and Planning Study

for

The International Atlantic Salmon Research Board (IASRB)

June 2005

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TABLE OF CONTENTS

1. Executive Summary

1. Introduction

Early in 2005, BRAKELEY Ltd was commissioned by the North Atlantic Salmon Conservation Organisation (NASCO), on behalf of the International Atlantic Salmon Research Board (IASRB), to advise on the possibility of raising up to GBP 10 Million for a Research programme. BRAKELEY proposed to undertake a feasibility and planning Study consisting of

- an internal strategic review
- preparation of the Case for Support
- prospect research
- an external interview programme to test the Case for Support and the SALSEA objectives

This report sets out the findings from the study.

2. Background

NASCO is an inter-governmental Treaty Organisation established in 1984. Its Contracting Parties include every North Atlantic government with Atlantic salmon interests and 23 NGOs are accredited to it. Although, primarily through the activity of NASCO and its members, considerable steps have been made towards improving river and inshore habitats for salmon, resulting in stabilisation in the number of smolts leaving for the open sea, the numbers of fish returning from sea to complete the life cycle are falling drastically. While there are a number of possible explanations, the ocean life of salmon is not fully understood and an urgent research programme is required. The IASRB has been set up to respond to this problem and has devised SALSEA (Salmon-at-Sea), a five-year research programme with a total cost of the order of GBP 11 Million.

3. Methodology

Success in fundraising depends on five essential elements

- a convincing Case for Support
- urgent and essential financial Needs
- realistic Sources of Support for the financial goal
- strong Volunteer Leadership
- Organisational Readiness and capability for fundraising.

Evaluation of these five elements through research and a programme of interviews with potential donors forms the basis of this study.

In the internal review five interviews were undertaken and from these, and other material provided, a draft *Outline Case for Support* and a sample *List of Financial Needs* were prepared. Simultaneously, research on prospective donors was undertaken in Europe and North America from which a list of potential interviewees for the external interview programme was prepared. Difficulty was experienced with arranging and undertaking some of the interviews and in the end fourteen out of the twenty interviews were completed. This is significant for the outcome of the Study.

4. The Case for Support

A draft Outline Case for Support (Appendix B) was prepared in consultation with NASCO officers and discussed with interview respondents. The key premises of the Case are generally accepted. They are that

- the number of wild Atlantic salmon is declining
- the problem is critical
- river and inshore factors are no longer the main problem
- the main problem is ocean mortality
- a comprehensive research programme is required to understand the problem and provide a basis for action to counteract it
- new technologies becoming available now make such a programme possible.

A number of issues require resolution. They include focusing the profile for fundraising by concentrating on the SALSEA programme objective; clarifying the similarities and differences with Pacific Salmon programmes and activities; raising the profile of the ocean programme compared with specific and local activities; managing expectation in relation to the programme, and establishing confidence in the outcome of the research.

5. Financial Needs

A draft List of Financial Needs was prepared presenting the cost elements of the SALSEA programme restructured with donors in mind (Appendix C). The element likely to be of most interest to potential donors is the research in the open ocean with associated provision of equipment and novel technologies. The inshore elements are already in the programme and, in many cases, supported locally. At present the communications elements are not specific enough to be attractive. It is very unlikely that the whole programme could be supported from private sources.

One of the strongest arguments for the SALSEA programme is that the size and comprehensiveness of the problem requires that it should be undertaken by an international organisation. It is essential that any existing or planned initiatives of a similar kind by other local, national, or continental organisations should be co-ordinated with the overall SALSEA programme. Otherwise the strength of funding approaches will be dissipated - for all parties.

6. Financial Goal

The financial goal tested in the Study was GBP 7.5M over a five-year period. The evidence suggests that a goal at this level is too high and that additional money from Contracting Parties will be required if the SALSEA programme is to be completed within the time period. Making this additional money available in the form of "matching" or "partnership" funding could be helpful in attracting private funding.

7. Sources of Support

A programme of prospect research was undertaken in Europe and in North America both to prepare for future fundraising and to identify people to be interviewed in the Study. The main requirements for interview were

- a connection to NASCO/IASRB
- a keen interest in the survival of the Atlantic Salmon
- possession of wealth, control of wealth or influence on wealth.

Fulfilling the first of these requirements proved difficult and it accounts for a number of the interviews being difficult or impossible to arrange. Interview discussions were therefore largely with corporate leaders or foundation officers. Use of a test Gift Chart for GBP 7.5 M (Appendix D) confirmed that gifts in the upper ranges would prove difficult and that the test goal was too high. At present it would appear that any financial support would be from foundations or companies rather than from individuals. Some organisations believed that they had already contributed, for example to inshore measures such as buying out net fishing.

8. Leadership

Strong volunteer leadership is essential for success in fundraising. Neither NASCO nor IASRB appears to have the right contacts for enlisting strong volunteer leaders. Accredited NGOs may be in a better position to introduce and attract such leadership for the SALSEA programme.

9. Organisational Readiness for Fundraising

The NASCO/IASRB Secretariat is very small and is not set up to undertake a major fundraising programme. Professional fundraising management, closely co-ordinated with the management of the SALSEA programme itself and with participating Accredited NGOs, would be required. There do not seem to be any organisational impediments in terms of attitudes to fundraising.

10. Public Relations

Not only does NASCO/IASRB have a very low profile but media reports connected to the decline in Atlantic Salmon numbers tend to concentrate on particular geographical areas or on specific issues such as salmon farming. The broader picture of the decline in salmon returning from the ocean and a need for the full understanding of the factors concerned is not being presented. This position is contrasted with the high profile for issues related to the Pacific Salmon. Although public relations activity does not usually raise money directly it contributes to creating a climate of opinion that assists fundraising approaches, particularly where issues are urgent. Action needs to be taken to raise the general profile of the SALSEA initiative.

11. Conclusions

The Case for Support for the SALSEA initiative is a strong one. There is a demonstrable need for a solution to an urgent problem; the comprehensive knowledge required to provide the solution has not yet been acquired; the technological means to acquire the knowledge is now available; acquiring it is expensive and requires international co-operation; the SALSEA approach offers the best means of acquiring this knowledge.

The Financial Needs setting out the SALSEA programme contain elements that would be attractive to private sources of funding, particularly the ocean research elements.

Potential Sources of Support, primarily foundation and corporate, exist. The Test Goal used in the Study - GBP 7.5M - appears to be too high for fundraising from private sources and additional support from Contracting Parties would be required to complete the programme within the five-year timescale. Such additional support would provide leverage for fundraising.

Lack of strong Volunteer Leadership is the biggest impediment to successful fundraising for the SALSEA programme. Enlistment of financially strong and influential persons to champion the cause will be essential for success. Accredited NGOs may be able to provide help in this area by providing access to candidates through their own volunteer leadership.

The necessary infrastructure for fundraising does not exist within the NASCO/IASRB secretariat. Either additional personnel would need to be appointed

or professional management bought in. Co-ordination with the management of the SALSEA programme and with NGOs would be essential.

A much higher profile for SALSEA and the problem of salmon death at sea will be needed.

12. Recommendations

On the basis that the SALSEA initiative as costed is adopted by NASCO/IASRB and supported by Accredited NGOs:

1. Contracting Parties should be approached for an additional GBP 4M over the five-year period, (this additional funding possibly contingent on matching funds being secured from private sources).
2. A fundraising initiative for GBP 4M over five years should be undertaken.
3. Accredited NGOs with fundraising experience should commit themselves to providing support for the fundraising for this initiative for the period of the programme.
4. The focus of fundraising should be the SALSEA initiative with IASRB as the managing agent for the programme.
5. All fundraising initiatives by Accredited NGOs for activities falling within the SALSEA programme should be encouraged as long as they are fully co-ordinated with programme management.
6. NASCO/IASRB should engage professional fundraising management.
7. Management of fundraising should be closely co-ordinated with the management of the SALSEA programme.
8. The President of NASCO should budget a substantial proportion of his time for fundraising/public relations activity.

13. Next Steps

The following are the next steps that should be taken:

1. A 'public private partnership' strategy should be defined and agreed by NASCO/IASRB.
2. With the assistance of the Accredited NGOs, IASRB should enlist (or create a parallel structure including) people who can deliver the GBP 8M (USD 14M) of additional public and private funding required.
3. The Accredited NGOs should be integrated into the strategy with full transparency and partnership in both policy and fundraising matters.
4. A communications programme should be implemented to support these initiatives.

14. Cost of Fundraising

NASCO/IASRB should expect the full cost of fundraising to be between 8% and 12% of the money raised.

2. Introduction

On 12 January 2005 a meeting took place between Dr Malcolm Windsor, Secretary of the North Atlantic Salmon Conservation Organization (NASCO) and the International Atlantic Salmon Research Board (IASRB), and Mr William Conner, Managing Director, Brakeley Ltd. The purpose was to discuss the possibility of NASCO/IASRB raising up to £10 million for a research programme.

(A note on the organizations – NASCO and IASRB – is provided in Appendix A)

In response, Brakeley submitted a proposal for a comprehensive Fundraising Feasibility Study to assess the IASRB's potential for fundraising and to advise on the best course of action. The menu of Study items proposed was:

Item I: Internal Strategic Review

Item 2: Writing a draft Case for Support

Item 3: Prospect Research

Item 4: External Feasibility Interviews to assess the Case and the financial needs.

The IASRB accepted the proposal in January 2005. David Morris, Senior Consultant was the Lead Consultant on the project, working with Josephine Warrior, Writer and Consultant, and Anne Conner, Consultant and Prospect Researcher. William Conner, Executive Vice President and Managing Director was the Supervising Director.

In Item I of the Study – the Internal Strategic Review – Brakeley carried out an abbreviated review of IASRB's existing situation. This focused on the Case for Support, the Financial Needs, and the associated costs and leadership strategies. Although two 'internal' interviews were initially proposed, it proved necessary to undertake five interviews with NASCO/IASRB staff that were carried out in January and February by Josephine Warrior. The names of those interviewed are set out in Appendix A. From these interviews and other documentation an Outline Case for Support was drafted and a sample List of Financial Needs prepared. In parallel, David Morris and Anne Conner undertook Prospect Research (Item 3) in Europe and North America. A report on the findings from those interviews and from the Internal Strategic Review - including a draft Case for Support, draft List of Financial Needs, and a list of prospective funding sources - was presented to Dr Malcolm Windsor in an interim report meeting on 9 March 2005.

The External Feasibility Study (Item 4) to assess the attractiveness of the Case and the Financial Needs was then undertaken by the consultants during April and May 2005. This was planned to consist of a further 20 confidential interviews with people considered to be prospective donors, potential leaders of fundraising, or persons who could give valuable advice.

We should like to express our appreciation to Margaret Nicholson, PA to Dr Windsor, for her efficient help with interview arrangements, documents, and correspondence with potential interviewees.

3. Background

The North Atlantic Salmon Conservation Organization (NASCO), an inter-governmental Treaty Organization, was established in 1984. Every North Atlantic government with Atlantic salmon interests is a member of NASCO and 23 non-governmental organizations are also involved. In response to concerns about stocks, NASCO has been able to persuade its Contracting Parties to undertake a broad range of remedial measures with considerable success.

These measures have been informed by the progress that has been made in recent years towards the increased understanding of the life cycle of salmon. Great strides have been made towards improving river and inshore habitats over the last two decades and the number of smolts leaving rivers for the open sea has been sustained or is increasing. However, the number of salmon spawning in the rivers is continuing to decline at an alarming rate. Huge numbers of salmon are failing to return from sea.

In response to the urgency of this problem, NASCO has established the International Atlantic Salmon Research Board (IASRB). IASRB is a charitable board consisting of representatives from the Contracting Parties of NASCO – Canada, Denmark (in respect of the Faroe Islands and Greenland), the EU, Iceland, Norway, the Russian Federation, the USA). The 23 NGOs affiliated to NASCO are also represented. The task of the IASRB is to direct and coordinate an International Atlantic Salmon Research Programme (SALSEA) to identify and explain the causes of increased marine mortality of Atlantic salmon, and to examine the possibility of taking action to counter these mortality rates and restore the wild salmon to its historical level of abundance.

Although the governments that sponsor NASCO and the IASRB provide annual funding of the order of GBP 4 Million (USD 7.25 M), the urgency of the problem is such that additional funding for specific research could be critical to the survival of the Atlantic salmon. NASCO and the IASRB therefore identified and wrote to a number of potential donors in an attempt to engage their interest and support. Many did not reply, and those that did reply regretfully declined to help.

It was against this background that NASCO and the IASRB approached Brakeley. Brakeley suggested a programme to explore the feasibility of fundraising, and also recommended that the study should focus directly on fundraising for the SALSEA research programme, as a clear and compelling objective, rather than for the parent bodies.

4. Methodology

The success of any major fundraising programme depends on the strength of five essential elements. These are:

- A convincing Case for Support
- Essential and realistically costed Financial Needs
- Accessible Sources of Support and an ambitious but realistic Goal
- Strong and inspiring Volunteer Leadership
- Organisational Readiness to begin and support a fundraising programme or campaign.

It is our experience that, in the absence of a positive evaluation for each of these five elements, achieving success in a major gift fundraising enterprise is likely to be difficult. Thus the conclusions and recommendations in this Report have been made with these five elements always in mind.

A Convincing Case for Support

The 'Case' of an organisation embraces the total picture of what the organization stands for – its mission, its traditions, its achievements past and recent, and, most importantly, its plans and aspirations for the future. A statement of the Case is the means of communicating to potential donors the importance of the SALSEA programme and a justification for requesting significant gifts. The Case must be coherent and inspiring, and it must present a 'vision' that people can share.

Essential and realistically costed Financial Needs

For fundraising to succeed the areas of need for which the IASRB is seeking funding must be thoroughly documented, realistically costed, and viewed by potential donors as urgent and essential to the realisation of the IASRB's vision - survival of the Atlantic salmon.

Accessible Sources of Support and an ambitious but realistic Goal

Sufficient numbers of validated potential donors must be identified - wealthy individuals, companies and foundations - who are prepared to consider supporting a challenging but achievable goal.

Strong and inspiring Volunteer Leadership

A committed, respected group of campaign committee members, led by a person of public standing who will inspire action and support, is essential in order to carry forward any ambitious fundraising programme. Members of such a campaign committee will need to lead fundraising by example and open doors to donors at the highest level if success is to be assured.

Organisational Readiness to begin and support a major fundraising initiative

The final factor in fundraising success is the readiness of IASRB (and NASCO) to engage in a fundraising campaign. This requires, in addition to clear and decisive leadership, an organisational commitment of time and resources necessary to ensure success

It is around these five elements that interviews are based and on which this report and its recommendations are structured.

As already described, the Internal Strategic Review, the preparation of the Case and List of Financial Needs, and the research on prospective donors proceeded, for the most part, smoothly and effectively. More detailed information is given in the following sections.

However, serious problems were encountered when potential external interview partners were approached and Brakeley consultants had much more difficulty than usual in obtaining external interviews. This is not altogether surprising considering that NASCO works mainly at a government, NGO, and research organization level. Brakeley frequently works across continents, has access to consultants and contacts in many countries, and has carried out many international feasibility studies but considers that the problems in obtaining external interviews was particularly marked in this case. Ease of access to such external interview partners is frequently, but not always, an early indication of how swiftly an organization might be able to embark on a fundraising initiative. The difficulty encountered in this instance suggests that some radical consideration will need to be given as to how the IASRB can begin to access the wealthy and influential people who might be persuaded to support the SALSEA programme.

5. The Case for Support

The first requirement for success in fundraising is a strong, compelling and visionary 'Case for Support'. The preparation of a succinct outline of the arguments for supporting the SALSEA programme is an important tool in the study. During the Internal Strategic Review we therefore explored the strengths and the weaknesses of the SALSEA programme and prepared a brief draft of an Outline Case for discussion with the external interview partners. This was reviewed and discussed with NASCO officers and the final version is included as Appendix B.

The key features of the Outline Case are:

- the nature and attractiveness of wild salmon
- its economic and environmental importance
- NASCO/IASRB's previous successes in conservation
- the current problem and the increasingly urgent need to solve it
- the significance and timeliness of the SALSEA programme.

The nature and attractiveness of wild salmon

The case describes the beauty and fascination of this 'King of Fish', the mystery of its life cycle, and the enjoyment people get from seeing it in the wild.

Economic and environmental importance

The case highlights the economic importance of the wild salmon in terms of its value in sectors such as tourism and fishing, and its environmental significance as an 'aquatic canary'.

Conservation successes

Previous successful national and international environmental and economic initiatives, many initiated by NASCO, are outlined. These include the cleansing of polluted rivers, the use of 'catch and release' in recreational fishing, and the buying out of commercial fishing.

The current problem

The case spells out how, despite all this, the numbers of salmon returning to spawn in their hatch rivers are continuing to plummet, and the desperately urgent need to find out why this is happening before it is too late.

The SALSEA programme

The SALSEA programme is then introduced, explaining the need for further accurate knowledge to discover the reasons for this alarming decline in the number of returning wild salmon and so to promote measures to improve its survival. The timing is right, the technology is now available, and researchers are in place. What is lacking is the funding.

Issues arising from the Case

Several issues arose from the discussion of the case.

Confusion over the organisations concerned

There was confusion about the organisations involved even among those who had some familiarity with the sector. This not only included the relationship between NASCO and the IASRB, but also between these and other organisations working on marine and environmental issues, and the institutions, such as universities, carrying out related research. Clarity and simplicity will be critical in all presentations and approaches. 'SALSEA' should therefore be the objective of any fundraising initiative with IASRB as the organisation doing the fundraising. NASCO should remain in the background.

Comparison with Pacific Salmon research

Particularly in the case of North American respondents, attention was drawn to the number of programmes and the amount of work that had been carried out in studying the Pacific salmon as compared to the Atlantic salmon. Whereas the Pacific Salmon activity had a strong profile and was high in the public (certainly the media) consciousness, the Atlantic Salmon had not so much a 'bad press' as no press at all. The coverage that appeared, on either side of the Atlantic, tended to be about local issues or was related to the debate on the impact of farmed salmon, often connected to a particular environmental perspective. The coordinated and comprehensive work of NASCO has a low profile and is not seen in the context of the wider picture.

Awareness

For some respondents another feature of the comparison with the Pacific Salmon picture was an implication that much of the proposed work had already been done in the Pacific and that a major programme of research on the Atlantic Salmon would be 're-inventing the wheel'.

For example, one person drew attention to

"The ***definitive*** study on death of Pacific salmon [that] has been done by Dr. John Volpe at the University of Victoria. Sea lice around the anal pores of the salmon are what is killing them. The explosion of the sea lice population is especially devastating for baby salmon which pass so near the net pens that they are infested with the sea lice as they swim by."

A check with NASCO indicated that, while this conclusion was important, other research had shown that it was neither a sufficient nor a necessary explanation of salmon death at sea, but it illustrated the perceptions prevalent among potential donors. Only in the wider context can such factors be judged as definitive or contributory and the broad picture needs to be emphasised when approaching possible donors. For example, the differences between the Pacific and Atlantic Salmon and the reasons for much more money being put into conserving Pacific salmon stocks need to be explained and put into context and the opportunities for collaboration require exploration.

Research

It is important that, while the critical nature of the situation is emphasised, the possibilities for future action are also presented and that no justification is provided for the view that

'people have written off the Atlantic Salmon and see funding of Pacific Salmon-related research and initiatives as a better investment."

An issue that needs to be discussed and prepared follows from questions raised about the level of confidence in the outcome from the research. For example there is concern either that no significant answers will result from the SALSEA programme, or that it is an expensive way of confirming an answer that is already known (such as global warming) but that little can be done about it.

These are valid concerns, but they can be answered by pointing out that uncertainty of outcome is a central characteristic of essential research; that even negative answers will suggest alternative ways forward and the best areas or strategies on which to concentrate future resources; and that data gained can be used to support action in other areas, for example, pressure for initiatives to reduce global warming if this proves to be a prime cause of the Atlantic Salmon's decline in numbers.

There is also a conflict of attitude between those who want to get something done immediately and scientists who consider that without fuller understanding any action will address the symptoms and not the underlying condition. Among some prospective donors there was considerable respect for the 'dollar to save a salmon' approach of Orri Vigfusson and the Atlantic Salmon Fund in that it showed results straight away. There was a perception that, in the words of one respondent,

'Scientists are inclined to say 'wouldn't it be awfully interesting to know' while the fish are dying'.

Comment

Once presented, the basic premises of the Case for Support

- The number of wild Atlantic Salmon is declining
- The problem is urgent
- Most, if not all, of the river and inshore factors have been identified and action has been or is being taken
- The problem lies in the ocean phase of the life cycle (or in interaction with the ocean phase)
- A comprehensive approach needs to be taken to understand this phase as a basis for taking action
- New technologies make the research possible

appear to be generally accepted and an initiative to do something about it is generally welcomed. It is then necessary to show that the comprehensive approach presented is the optimum one in scientific, economic and practical terms.

'The key message is 'we don't know' but you must show where all this is leading'.

6. Financial Needs

A second essential requirement for successful fundraising is that potential donors perceive the objectives for which money is sought as urgent and compelling and essential to achieve a shared aim. After the discussions arising from the internal interviews, we prepared a List of Funding Needs, attached as Appendix C. The preparation of this document required some restructuring of the way in which the SALSEA programme was described. In particular, it was necessary to look at the cost elements of the five-year programme from the point of view of people who might fund it.

The document refers to two main elements - an inshore programme and an offshore programme.

The inshore programme – studies in estuaries and inshore areas – is presented as the continuation of existing activity, providing quantification of the qualitative factors already known, with an extension of this work to the factors affecting the transition from fresh to salt water. The funding for this element is seen as being an extension of existing governmental and agency provision.

The offshore programme – research in the open ocean – is the main focus of fundraising for SALSEA and is presented as essential to completing the 'big picture'. This offshore programme is further divided into a number of elements:

- modelling, designing and planning a project to investigate the distribution and migration of salmon at sea
- a programme of research cruises to execute the project
- further development and application of novel technologies to use in the project.

The need for a comprehensive communication and education programme to convey the vision, ongoing progress and findings of SALSEA to the world, particularly to the people and powers that can take appropriate and relevant action to change what can be changed, is then emphasised.

Responses to the Needs

As indicated in the previous section, the argument that the answer to why the wild Atlantic salmon numbers are declining lies in the deep sea seems to be generally accepted. However, the reaction to these needs raised several issues.

- The preparation stage is recognised as critical to the success of the research voyages, but it is not viewed as 'sexy' and may therefore be difficult to raise money for
- The research voyages ("whatever you do DON'T call them 'cruises'"!) and novel technologies are seen as interesting and likely to appear attractive to a variety of donors.
- The communications programme, is seen as necessary but neither the elements nor the costs are clear. More work is needed to specify the requirements in this area if funding assistance is to be sought.

Other Programmes

Initially, our understanding was that the SALSEA programme for the study of Atlantic Salmon in the ocean phase was unique since the costs involved were high and the need for international coordination and an overview meant that it was out of the range of individual countries, institutions or NGOs. However, in our research on related organisations and activities we became aware of a smolt 'ocean tracking' research programme sponsored by the Atlantic Salmon Federation (ASF), an NGO based on the North American Atlantic seaboard. Subsequently, we have become aware of some recent tensions between ASF and NASCO that appear to be in the process of being resolved.

It is essential that an ambitious programme like SALSEA, if it is to succeed in attracting funding at the necessary level, is 'the only game in town' and that all related activities, especially if they are likely to be approaching the same potential funding sources, are fully coordinated within it. It will be to no one's advantage if potential donors find themselves approached by competing organisations for support for similar purposes.

The corollary is that the role of all potential participants, particularly if they themselves are successful at fundraising for their activities, needs to be recognised. There also needs to be an appropriate mechanism for their participation in the development of the overall programme and acknowledgement of the contribution that can be made by their expertise.

Comment

As is discussed in a later section we do not consider that it is possible to fund the whole programme from private sources. In packaging the elements of the Salmon at Sea programme it will be essential to look at cost elements - such as specific voyages, equipment and techniques - and present them within the context of a broad governmentally-funded programme leading towards a defined objective.

7. Financial Goal

The sum total of the costed elements in the list of needs was of the order of GBP 11M (USD 19.5M). Recognising that NASCO's sponsoring organisations provided research support of the order of GBP 4M (USD 7M) per annum, a test goal of GBP 7.5M (USD 13.2M) over five years (GBP 1.5M (USD 2.6M) per year) was suggested.

Reactions to the level of the goal were mixed. There was general acceptance of the proposition that research carried out in the deep ocean was likely to be expensive, that the programme was urgent and did not look extravagant, and that five years was the optimum timescale in view of the lifecycle of the salmon.

The total was, however, considered to be a high one, even spread over a number of years. There was also the additional complication that partial funding from sponsoring governments already existed. Although many examples of partnership funding between public (government) and private sources can be found on both sides of the Atlantic it is an area that has to be handled with some care.

On the governmental side can be found the view that

'government is already funding this and if they (supporters of the project) want it that badly they can pay the extra cost to bring it forward'.

From the donors' point of view, the key question that has to be satisfactorily answered is one that private (individual and corporate) donors invariably ask about government-funded agencies and institutions

'I already pay taxes: why should I pay again?'

The response to this question needs to focus on the extreme urgency of the problem and the questioner's commitment to its solution – in other words, the argument that a certain amount of funding from governments is forthcoming but that this is generally limited to basic support, already budgeted for, and renewed on an annual basis. The argument depends on the perception that such is the importance and urgency of the problem that additional funds must be obtained so that the research can be started at once and completed in the minimum timescale.

The possibility of additional government funding can be an attractor for private funding. Conversely, the potential existence of private support may be persuasive in unlocking further government funding. One approach is to estimate the

potential for attracting private funding for the objective and then approach government to provide the shortfall as 'matching' funding. This has the added advantage of providing an 'added value' incentive to prospective donors.

A difficulty that can arise in partnership between, on the one hand, governmental, particularly inter-governmental, organisations and, on the other, voluntary not-for-profit organisations results from differences in culture. The former are thorough, consensual and perceived by the latter as bureaucratic. The latter are driven by enthusiasm, 'can-do' in approach, and perceived by the former as sometimes blinkered and irresponsible particularly in their public relations activities. Each partner needs awareness of the strengths and weaknesses of both if a productive collaboration is to result.

Comment

In general those consulted considered that the test goal was too high to be met solely from non-governmental sources. We are therefore of the view that further funding from the Contracting Parties will be essential if the Salmon-at-Sea programme is to be completed within the proposed timescale.

8. Sources of Support

For a fundraising programme to be successful it is, of course, essential that there are adequate prospective donors prepared to give at the levels necessary to achieve the goal. An essential part of the study has therefore been to undertake research to build up a list of prospective donors to prepare the ground for possible future fundraising.

In our discussions we not only look at respondents' perceptions of what a realistic overall goal might be (as described in the previous section). We also seek their views on the numbers and levels of potential gifts that might make up such a goal.

As an aid to this discussion we prepare a Gift Chart (Appendix D) demonstrating how the donation profile for such a goal might be constructed. (An alternative Gift Chart in US Dollars was also prepared). The rationale for this process stems from the well-established phenomenon, validated over many fundraising campaigns, that in a typical successful campaign some 10% of the total comes from one gift, 40%-50% from the first ten or so gifts, 80%-90% from around one hundred gifts with the balance coming from many smaller gifts. Because the bulk of the total is provided by a small number of large gifts, their identification and evaluation provides significant evidence for deciding on fundraising potential. While no two campaigns are ever identical this pattern provides a good starting point for analysis and planning.

The initial prospect research was aimed at identifying people who could be interviewed in the second stage of the study. We were looking for people with the following characteristics:

- a connection to NASCO/IASRB
- a keen interest in the survival of the Atlantic salmon
- possession of wealth, control of wealth or influence on wealth.

Fulfilling the first of these requirements proved the most difficult. The external list contains mainly foundations, together with some companies considered to have an interest in the future of the wild salmon, and a few well-known 'salmon-enthusiasts'. We were aware that NASCO had already tried writing to some high-profile individuals already - without success. We were not altogether surprised when interviews with others proved difficult or impossible to arrange.

There is already a considerable amount of money, commensurate with the levels needed to fund the SALSEA programme, going into wild salmon conservation on both sides of the Atlantic. Most of this is supporting local initiatives, some of it in fulfilment of the 1994 Oslo Agreement of NASCO countries.

In order to tap into these sources it will be necessary for IASRB to convince both recipients and donors that unless the SALSEA programme is undertaken, the broad picture understood, and measures taken to counteract the death of salmon in the ocean, their local action will prove useless in the longer term in preventing the continuing decline of the wild salmon population.

It will also need to be borne in mind that many of the companies and organisations with an interest in salmon fishing have already been 'tapped on the shoulder' (as one respondent put it) in order to undertake such initiatives as the buying out of net fishing in estuaries.

Comment

We consider that there are potential sources of financial support that would justify a programme of fundraising from non-governmental sources for the SALSEA initiative. The evidence that we have at present suggests that this would have to be led by approaches to foundations since we are not at present convinced that IASRB has the personal contacts and relationships that would enable the Board to raise significant money from wealthy individuals or from companies.

9. Leadership

Influential contacts and relationships are essential to any major fundraising programme. Unless volunteer leaders of substance are prepared to show their commitment to the cause - by giving up their time, opening their address books, and contributing financially either in a personal capacity or through an organisation over which they have influence - it is not possible to access gifts at the levels essential for successful achievement of a high goal.

The difficulty of identifying potential leaders for interview and the problem of arranging interviews with those identified has already been mentioned. It is clear that neither NASCO nor IASRB has any significant direct contacts or influence with people who could bring private money to support a major fundraising initiative for the SALSEA programme.

In view of the importance of volunteer leadership for fundraising this finding would normally lead us to advise against any serious fundraising initiative. However, it became clear during the study that some of the NGOs accredited to NASCO were already successful in fundraising and mobilizing volunteer leaders of the social and economic calibre required to attract significant gifts to their cause. If the access and contacts that the NGOs possess could be made available to fundraising for the SALSEA initiative then the possibility would be opened for substantial fundraising success. But there are undoubted difficulties.

In Sections 5, 6 and 7 above we have already noted problems in the relationship between NASCO and some of the NGOs. At the time of writing this report it appears that there is a will on both sides to resolve these issues both to ensure the involvement of all relevant NGOs and to improve the cooperation between the governmental and non-governmental partners in pursuing the objective that all share. This is encouraging since a good relationship is essential if private money is to be sought.

However, even if the relationship between the inter-governmental organisation and its accredited NGOs were a smooth one, access to the latter's volunteer leadership would be a sensitive issue. NGO's have their own objectives, mainly local ones, for which they have raised money and for which they are supported by their friends. They have also invested time, effort and money into the research and cultivation needed to attract busy and successful people to take on a leadership role in their fundraising. Sharing this with others, even for a wider cause in which they all believe, will not be easy.

Comment

High calibre volunteer leadership will be essential if private money to support the SALSEA programme is to be forthcoming. Within the timescale required this will only be possible with the active involvement of the Accredited NGOs. Discussion should therefore take place with the most active of these NGOs with a view to exploring how they would be able to assist with fundraising for the SALSEA programme. In undertaking these discussions it will be essential to emphasize that the objective is not to divert existing or potential funding from the NGOs to SALSEA (unless that is also the NGOs' objective), nor is it to 'poach' NGOs' leadership. Rather it is to recognise that the SALSEA programme is something bigger than any individual NGO can manage and therefore requires 'bigger' leadership on an international rather than national stage. The role of the NGOs would be to provide contact and introduction to that 'bigger' leadership.

10. Organisational Readiness for Fundraising

Without the resources and the ability to refine and present the Case and the Needs and to manage the relations with volunteer leadership and prospective donors fundraising will not be successful. We therefore look at the infrastructure of an organisation to assess its fundraising capability, the additional resources that might be needed, and whether there are any potential difficulties in terms of negative attitudes to fundraising that may need resolution.

We did not find in NASCO/IASRB any organisational impediments in terms of attitudes to fundraising and the people to whom we spoke were positive and enthusiastic. We also found the leadership of the SALSEA programme to be inspirational.

In terms of organisation, however, the NASCO/IASRB Secretariat is very small and, while we have found its members quick to learn the requirements of fundraising, it is not set up to undertake a major fundraising programme, particularly one distributed over a number of countries. For a programme of this kind, which requires close coordination with the management of the SALSEA programme and for which close co-operation with the participating Accredited NGOs will be crucial, experienced professional fundraising management will be essential.

11. Public Relations

Although public relations activity does not usually raise money directly it contributes to creating a climate of opinion that assists fundraising approaches, particularly where issues are urgent.

NASCO and IASRB appear to have a very low profile. This itself is not necessarily a problem since, as we have indicated above, there is a danger that the number of various organisations and acronyms can be confusing. However, the SALSEA message that the underlying problem lies with the death of salmon in the ocean is not yet coming through. Media reports connected to the decline in Atlantic Salmon numbers appear to concentrate on particular geographical areas or on specific issues such as the impact of salmon farming. The broader picture of the decline in salmon returning from the ocean and the need for a full understanding of the factors concerned is not being presented.

This position is contrasted with the high profile for issues related to the Pacific Salmon. Action needs to be taken to raise media awareness of the critical problem facing the Atlantic salmon, the location of that problem in the ocean, and the opportunity to understand and possibly solve it through the SALSEA initiative.

Comment

As the primary communicator of the SALSEA project, the incoming President of NASCO will need to budget a significant proportion of his time for media communication.

The assistance of Accredited NGOs would also be helpful in this area.

12. Conclusions

In Section 3 we set out the five essential elements for success in fundraising:

A convincing Case for Support

Essential and realistically costed Financial Needs

Accessible Sources of Support and an ambitious but realistic Goal

Strong and inspiring Volunteer Leadership

Internal Readiness to begin and support a Fundraising Programme or Campaign

The **Case for Support** for the SALSEA initiative is a strong one - emotionally, economically and rationally. There is a demonstrable need for a solution to an urgent problem and perception of the urgency of the problem is widely shared. There is widespread recognition that the comprehensive knowledge required to provide the solution has not yet been acquired but that the technological means to acquire the knowledge is now available. It is also understood that acquiring this knowledge will be expensive and will require international co-operation. The SALSEA approach is recognised as offering the best means of acquiring this knowledge.

The Financial **Needs** setting out the SALSEA programme contain elements that would be attractive to private sources of funding. These are primarily the ocean research elements including technologies and equipment. The communications and educational elements would need to be specified in much more detail before support was likely to be forthcoming.

Potential **Sources of Support**, primarily foundation and corporate, exist. The Test Goal used in the Study - GBP 7.5M - appears to be too high for fundraising from private sources and additional support from Contracting Parties would be required to complete the programme within the five-year timescale. Such additional support would provide leverage for fundraising.

Lack of strong Volunteer **Leadership** is the biggest impediment to successful fundraising for the SALSEA programme. Enlistment of financially strong and influential persons to champion the cause will be essential for success. NASCO/IASRB does not have the direct contacts to undertake this enlistment. Accredited NGOs, however, particularly those that undertake successful fundraising, have developed such contacts and could help significantly by providing access to candidates through their own volunteer leadership. Some

difficulties in the relationship with the NGOs would need to be resolved for this to happen.

The necessary **infrastructure** for fundraising does not exist within the NASCO/IASRB secretariat. Either additional personnel would need to be appointed or professional management bought in. Co-ordination with the management of the SALSEA programme and with NGOs would be essential.

A much higher profile for SALSEA and the problem of salmon death at sea will be needed.

13. Recommendations/Next Steps

Recommendations

On the basis that the SALSEA initiative as costed is adopted by NASCO/IASRB and supported by Accredited NGOs:

1. Contracting Parties should be approached for an additional GBP 4M (USD 7M) over the five-year period, (this additional funding possibly contingent on matching funds being secured from private sources).
2. A fundraising initiative for GBP 4M (USD 7M) over five years should be undertaken.
3. Accredited NGOs with fundraising experience should commit themselves to providing support for the fundraising for this initiative for the period of the programme.
4. The focus of fundraising should be the SALSEA initiative with IASRB as the managing agent for the programme.
5. All fundraising initiatives by Accredited NGOs for activities falling within the SALSEA programme should be encouraged as long as they are fully co-ordinated with programme management.
6. NASCO/IASRB should engage professional fundraising management.
7. Management of fundraising should be closely co-ordinated with the management of the SALSEA programme.
8. The President of NASCO should budget a substantial proportion of his time for fundraising/public relations activity.

Next Steps

The following are the next steps that should be taken:

A 'public private partnership' strategy should be defined and agreed by NASCO/IASRB.

With the assistance of the Accredited NGOs, IASRB should enlist (or create a parallel structure including) people who can deliver the GBP 8M (USD 14M) of additional public and private funding required.

The Accredited NGOs should be integrated into the strategy with full transparency and partnership in both policy and fundraising matters.

A communications programme should be implemented to support these initiatives.

14. Cost of Fundraising

It is Brakeley's general experience that the total cost of fundraising for a well-managed, focused campaign is likely to be between 8% and 12% of the overall financial goal.

APPENDICES

Appendix A – Note on the Organizations

NASCO

The North Atlantic Salmon Conservation Organization (NASCO), an inter-governmental Treaty Organization, was established in 1984. Every North Atlantic government with Atlantic salmon interests is a member of NASCO and 23 non-governmental organizations are also involved. In response to concerns about stocks, NASCO and its Contracting Parties have successfully:

prohibited salmon fishing on the high seas
initiated measures to minimize unreported catches
greatly reduced harvests in salmon fisheries
halted fishing for salmon in international waters by non-contracting parties
improved the salmon's environment in freshwater through habitat restoration programmes
introduced measures designed to prevent adverse impacts of aquaculture on wild stocks and to maintain the essential gene pool that will be necessary for healthy future salmon farming stocks
promoted good management practices, including precautionary management
instituted co-operative projects between salmonid aquaculture and wild fisheries, identifying areas of present and potential future cooperation
developed guidance for rebuilding salmon stocks.

IASRB

The International Atlantic Salmon Research Board is a charitable board consisting of representatives from the Contracting Parties of NASCO – Canada, Denmark (in respect of the Faroe Islands and Greenland), the EU, Iceland, Norway, the Russian Federation, the USA). The 23 NGOs affiliated to NASCO are also represented.

Chairman of the Board: Mr Jacque Robichaud (Canada)
Chairman of the Scientific Advisory Group: Mr David Meerburg
Secretary to the Board: Dr Malcolm Windsor

The task of the IASRB is to establish and administer an International Atlantic Salmon Research Programme into the causes of marine mortality of Atlantic salmon and the opportunities to counteract this mortality. Its Terms of Reference are:
To maintain an inventory of relevant research projects which are ongoing or planned and for which budgets have been confirmed
To identify research needs
To evaluate the inventory against research needs
To identify gaps in the inventory of research and set priorities for further research
To provide a forum for coordination of relevant research efforts by the Contracting Parties of NASCO
To develop administrative mechanisms to accept financial contributions to an International Atlantic Salmon Research Fund
To solicit and accept financial contributions and manage the Fund
To establish terms and conditions for soliciting, evaluating, approving and funding relevant research projects
To fund approved projects and review results in relation to the objectives of the Programme.

The IASRB has established a Scientific Advisory Group to identify research priorities, enhance coordination and advise on research proposals.

NASCO / IASRB Personnel – Interview List

Name	Position	Notes
Hutchinson, Dr Peter	Assistant Secretary, NASCO and the IASRB	
Potter, Ted	Head of Fisheries Biology, Centre for Environment, Fisheries and Aquaculture Science (CEFAS)	
Robichaud, Jacque	Chairman of the IASRB	By telephone
Whelan, Dr Ken	President of NASCO, and Director, Aquaculture & Catchment Management Services, Marine Institute, *Foras na Mara*, Ireland	
Windsor, Dr Malcolm	Secretary, NASCO and the IASRB	

Appendix B Outline Case for Support

SALMON AT SEA - THE CASE FOR SUPPORT

'The Salmon at Sea ('SALSEA') programme is an urgent investigation into one of the great mysteries of the oceans – the epic journey of wild Atlantic salmon from their home rivers in Europe and North America, through the waters of the North Atlantic to the feeding grounds in sub-Arctic regions, and then back again to spawn. It is urgent because the salmon are failing to return and we need to know why.'

North Atlantic Salmon Conservation Organization(NASCO)
Organisation pour la Conservation du Saumon de l'Atlantique Nord

An SOS

The exuberant silver leap of a salmon as it swims upstream to its place of birth evokes a responsive leap in the hearts of all who are fortunate enough to see it.

With the successful programmes now put in place by NASCO (the North Atlantic Salmon Conservation Organization) and its Parties, many more people ought to have the opportunity to experience this thrilling sight. The life of the salmon in rivers and coastal waters is now well-understood and local and national action and international cooperation have removed many of the threats to its wellbeing. Wild salmon fishing at sea is strictly controlled, polluted rivers have been cleansed (there are now salmon in the Rhine), and the use of 'catch and release' is widely followed in recreational fishing.

Yet in spite of these measures in some rivers wild Atlantic salmon are heading towards the brink of extinction. Although the numbers of migrating young fish (smolts) are high, the adult salmon are not returning. They are dying in the oceans once they leave the security of their natal rivers. The last two decades have seen an unprecedented decline to critical levels in the numbers of mature salmon returning to their home rivers to spawn. The cause of this decline is increased mortality at sea, which, for some stocks, is now twice the level of the 1970s.

Despite advances in our knowledge and many sacrifices made, throughout the North Atlantic countries, aimed at conserving and restoring stocks, the numbers continue to plummet.

We don't know why the salmon are being lost at sea.

Migrating salmon are under pressure – but are these pressures man-made or environmental? Are they connected with global warming? Are salmon dying as a by-catch in the fisheries for mackerel and herring that have developed in the North-East Atlantic? Are escaped farmed salmon changing the genetic structure? Do subtle pollutants in fresh water adversely affect the salmon as they make the transition to salt water? Has the food chain in the sea been disrupted? Are marine predators the culprits?

'The Atlantic salmon's story is a mystery. Why is this magnificent species dying at sea? We need to discover what is happening, so that we can provide a sound basis for management, and address those factors under our control, and provide extra support for stocks where necessary. We have the expertise and the experience to solve this problem.'

Dr Malcolm Windsor, Secretary, NASCO and the IASRB

The SALSEA Initiative

To explore these and other questions, the IASRB (the International Atlantic Salmon Research Board) is launching the SALSEA initiative. SALSEA draws together the best marine research expertise across

the North Atlantic in a research programme designed to unravel the mystery of the salmon's oceanic life and its migrations, and to identify, explain and promote measures to improve the survival of salmon at sea. The objective of SALSEA is to restore this remarkable species to its former abundance and to preserve the wild salmon for the enjoyment and benefit of future generations.

SALSEA is a comprehensive package of initiatives. The marine migration patterns of salmon are poorly understood. Knowledge is the key to rational management. SALSEA offers a unique opportunity to find out how salmon use the oceans: where they go, how they exploit currents and food resources, what critical factors affect migration and distribution, and what factors determine salmon survival at sea. The ultimate goal is to halt and reverse the decline.

The timing is right for the SALSEA initiative. Recent advances in technology, such as the development of live-capture trawls that enable young salmon at sea to be caught without damage, genetic stock identification techniques, and miniature electronic tags capable of recording environmental and positional information, promise an excellent chance of success.

'These new technologies combined with research surveys over vast areas and at different times of the year would give us an unprecedented insight into the distribution and migration patterns of salmon in the North Atlantic.'

Dr Peter Hutchinson, Assistant Secretary, NASCO and the IASRB

Support for SALSEA

The wild salmon, the 'King of Fish', brings pleasure and economic benefits to millions of people around the North Atlantic seaboard. A symbol of wildness and energy and an animal of shining beauty, the salmon is also an 'aquatic canary' alerting us to pollution problems in the rivers and streams it inhabits, a gene bank for the fish farming industry, and the ultimate test of skill for the angler. It generates great benefits for tourism in often-remote rural economies throughout North America and Europe. It will be a tragedy for salmon, for conservation, and for our regional economies if this decline is not reversed. There is little time left. Sponsoring government support is secure but the urgency of the problem means that additional funding for the SALSEA programme is required before it is too late. We are therefore starting a major international fundraising initiative to support this vital multi-disciplinary project. Answers are needed now.

'We have the knowledge, the will, access to all the lead scientists and an effectively working international framework. If we do not get the necessary funding soon, all our previous work will be for naught. With your help, we can do it. You can help the salmon to return.'

M. Jacque Robichaud, Chairman of the IASRB

Appendix C List of Financial Needs

SALSEA - THE NEEDS

Introduction

The International Atlantic Salmon Research Board's SALSEA project is the only comprehensive multi-disciplinary programme of research into the mortality of salmon at sea. It encompasses all the key areas where additional scientific knowledge is required to identify the causes of the failure of wild salmon to return.

There are two main elements to the programme – one inshore and one offshore.

The inshore element - studies in estuaries and inshore areas - should make it possible to identify areas where losses occur, and to quantify them and identify the causes. Factors affecting marine survival in the inshore zone can be quantified and should provide results within a timeframe of one to three years. Because the work falls within territorial waters, funding is largely the responsibility of governments and national agencies. The SALSEA initiative has shown a need in this area for greater coordination of existing programmes, the formulation of transboundary programmes, and a more focused use of resources around the SALSEA priorities.

The offshore element – research in the open ocean – is essential to complete the 'big picture'. By its very nature this work will initially have to be qualitative. However, open ocean mortality is the major factor driving the decline in key Atlantic salmon stocks, and therefore models that predict both the migration patterns and distribution of Atlantic salmon in the open ocean must be developed as a matter of urgency. A genetic study and the development of a database library, achieved through sophisticated sampling techniques and the enhanced application of technology on a broad scale, will enable researchers to gain the information that they need in order to advise on action to take.

This programme has a five-year timeframe – one year of preparation, three years of comprehensive sampling, and one year of analysis and planning for action. It is this area that needs the urgent additional financial support.

The Programme

1. The Ocean – Investigating the Distribution and Migration of Salmon at Sea

This wide-ranging, multi-disciplinary survey throughout the salmon's whole North Atlantic range, is an increasingly urgent priority. Researchers will collect data fundamental to determining the migration and distribution patterns of Atlantic salmon at sea.

Research Tasks

Developing theoretical migration models from existing data to design well-targeted marine surveys and test the theories.

Refining plans for a large-scale marine survey programme and the standardization of trawl survey techniques between the participating partners.

Conducting a comprehensive North-Atlantic-wide survey to collect the samples and the information required to compare migrations patterns, distribution, and possible factors affecting the survival of reared and wild salmon at sea – this element of the programme will require two years of research cruises.

Collating, analysing and reporting and publicising the data from the marine surveys and the consequent recommendations.

Funding Needs

Modelling, Design and Planning of Project	**£**
Staff costs	60,000
Expenses and transport	20,000
Total	**80,000**

Research Cruises
(Provisional outline programme of research cruise requirements (annually over three years - 2007 (April-November), 2008 (May-October) and 2009) with annual costs some of which will be incurred in 2006. All major tagging studies will coincide with these sampling periods.)

Cruise Origin	**No. of Cruises**	**Days**	**From**	**To**	**Estimated Cost £**
West					
Canada	4	20	Gulf of St Lawrence	Labrador Sea	1.050,000
United States	2	20	Gulf of Maine	Northern Nova Scotia	460,000
North American Total	**6**	**120**			**1,510,000**
East					
Eng/Wales	1	14	SW Irish Sea	Northwest England	120,000
Ireland/NI	1	14	NW Irish Sea	Western Norwegian Sea	120,000
Scotland	1	14	S E Scotland	Western Norwegian Sea	250,000
Norway	1	14	Southwest Norway	Mid-Western Norwegian Sea	200,000
	1	14	Greenland Sea	Western Barents Sea	120,000
Russian Federation	1	14	White Sea	Eastern Barents Sea	120,000
Iceland	1	14	South	South West Iceland	120,000
	1	14	North	North East Iceland	120,000
Faroes	1	14	Faroes	North Faroes	120,000
European Total	**9**	**126**			**1,290,000**
Annual Total	**15**	**246**			**2,800,000**
Three Year Total	**45**	**738**			**8,400,000**

(Note: Estimated costs are at national rates and could vary considerably depending on origin of research vessel (agency-owned versus contracted commercial vessel) and other factors.)

Equipment – Development and Application of Novel Technologies

In recent years there has been a systematic effort to sample young salmon at sea, but there are still major gaps in our knowledge of the oceanic phase. The development of new survey techniques has the potential to greatly improve our understanding. Advances in sampling methods, genetic methods of stock identification and fish scale analysis, and the establishment of genetic libraries, offer an opportunity to unlock the ocean's 'black box' and shed new light on the causes of Atlantic salmon decline. Work is still required to perfect these techniques.

Research tasks

Development of genetic tagging to determine stock origin.

Evolving sampling equipment to increase the sampling efficiency for salmon at sea.

Signals from scales: establish fish scale analysis techniques to identify marine growth histories and anomalies indicating common mortality factors.

Funding Needs	**£**
Genetic tagging programme – development and analysis	1,500,000
Development and implementation of sampling equipment	330,000
Development of techniques of fish scale analysis	100,000
Total	**1,930,000**

2. Inshore - Death in the Early Migration Phase

Increasing evidence demonstrates that the freshwater and marine environments cannot be considered in isolation. We need to know what factors – including fresh water and man-made factors operating in the coastal zone – affect the survival chances of salmon at sea by influencing the fitness of smolts.

Research tasks

Understanding the influence of biological characteristics (eg size) of Atlantic salmon smolts on their marine mortality.

The impact of physical factors in fresh water (eg water flow and temperature) on marine mortality.

The influence of freshwater contaminants on marine mortality.

The part played by key predators in estuaries and inshore waters.

The impacts of aquaculture (eg disease, parasites and hybridization) on the mortality of salmon.

Many of these research tasks are being covered by work that is already underway, funded by national agencies or partnerships with national agencies. Coordination of these will be improved and existing programmes expanded within the SALSEA initiative.

Information – Communication and Education

To add the force of general opinion to their expert advice, the scientists working on these and related projects need to communicate the vision, ongoing progress and findings of SALSEA to the world, particularly to the people and powers who can take appropriate and relevant action to change what can be changed. The IASRB website needs to be developed to provide a means for SALSEA

participants to make available their knowledge on research methods and approaches, improvements in technology and progress reports on research

SALSEA has the potential to capture the public imagination. A vigorous international outreach programme, supported by an imaginative web site, would inspire all who want to see the King of Fish secure in the great rivers of Europe and North America. Aimed at all sectors of society, the website should include material for the education of schoolchildren, fishermen and the general public in the mysteries of the salmon's migrations, its decline in numbers, and the importance of reversing this decline.

Saving the North Atlantic Salmon

There can be no doubt that the answer to why the wild North Atlantic salmon numbers are declining lies in the deep sea. The SALSEA initiative, based on a sound theoretical and technical framework, offers the only opportunity to halt and reverse this decline. The task is urgent. Existing funding is inadequate to meet fully the demands of this urgency.

The governments that sponsor NASCO and the IASRB already provide annual funding in excess of £4 million, underpinning infrastructure and basic activity. They have also supported much of the river and laboratory research undertaken over the last twenty years. However, studying salmon at sea is not like studying salmon in the laboratory or the river. For a start it is a lot more expensive: a single dedicated 25-day research voyage costs approximately £500,000. Careful planning and cooperation with other agencies can keep the costs down. But time is not on the side of the wild North Atlantic salmon. Its plight is becoming increasingly urgent. Solutions must be found before it is too late.

The SALSEA programme urgently needs an additional £7.5 Million (£1.5 Million in each year for the next five years) to understand in full the life of the wild North Atlantic salmon and to advise how to save it. The International Atlantic Salmon Research Board seeks the financial help of all who delight in this magnificent creature to support this vital task.

Appendix D - Gift chart

TEST GOAL: £ 7,500,000

	Gift size £	Prospects required	No of gifts	Total £	Cumulative total £
Pacesetting Gifts					
	1,000,000	3	1	1,000,000	1,000,000
	500,000	6	2	1,000,000	2,000,000
	250,000	18	6	1,500,000	3,500,000
Leadership Gifts					
	100,000	30	10	1,000,000	4,500,000
	50,000	60	20	1,000,000	5,500,000
	25,000	120	40	1,000,000	6,500,000
Major Gifts					
	10,000	120	40	400,000	6,900,000
	5,000	180	60	300,000	7,200,000
	2,500	240	80	200,000	7,400,000
Other gifts	Under 2500		Many	100,000	7,500,000
TOTALS		777	259	7,500,000	7,500,000

DISTRIBUTION

Top 9 gifts	£	3,500,000	46.67%
Next 70 gifts	£	3,000,000	40.00%
Balance	£	1,000,000	13.33%
TOTALS	£	7,500,000	100%

ANNEX 13

CNL(05)12

Request for Scientific Advice from ICES

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

1.1 provide an overview of salmon catches and landings, including unreported catches by country and catch and release, and worldwide production of farmed and ranched Atlantic salmon in 2005;
1.2 report on significant developments which might assist NASCO with the management of salmon stocks including new or emerging threats to, or opportunities for, salmon conservation and management;
1.3 report on developments in methods to identify origin of Atlantic salmon at a finer resolution than continent of origin (river stocks, country or stock complexes);
1.4 describe sampling programmes for escaped farmed salmon, the precision of the identification methods employed and the reliability of the estimates obtained;
1.5 assess the genetic effects of introgression of farmed Atlantic salmon on wild salmon populations;
1.6 provide an assessment of the minimum information needed which would signal a significant change in the previously provided advice for each Commission area;
1.7 provide a compilation of tag releases by country in 2005;
1.8 identify relevant data deficiencies, monitoring needs and research requirements [1].

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

2.1 describe the key events of the 2005 fisheries and the status of the stocks; [2]
2.2 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;
2.3 further develop the age-specific stock conservation limits where possible based upon individual river stocks;
2.4 provide annual catch options or alternative management advice for 2006-2008, if possible based on forecasts of PFA for northern and southern stocks, with an assessment of risks relative to the objective of exceeding stock conservation limits and advise on the implications of these options for stock rebuilding; [3]
2.5 update and further refine estimates of by-catch of salmon in pelagic fisheries (including non-catch fishing mortality) with an assessment of impacts on returns to homewaters.

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

3.1 describe the key events of the 2005 fisheries (including the fishery at St Pierre and Miquelon) and the status of the stocks; [2]
3.2 provide any new information on the extent to which the objectives of any significant management measures introduced in recent years have been achieved;
3.3 update age-specific stock conservation limits based on new information as available;
3.4 provide annual catch options or alternative management advice for 2006-2008 with an assessment of risks relative to the objective of exceeding stock conservation limits and advise on the implications of these options for stock rebuilding. [3]

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

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

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

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

Notes:

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

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

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

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

ANNEX 14

Council

CNL(05)13

Report of the Stakeholder Consultation Meetings on the 'Next Steps for NASCO'

CNL(05)13

Report of the Stakeholder Consultation Meetings on the 'Next Steps for NASCO'

Fishmongers' Hall, London, England, 19 January 2005 and Eastland Park Hotel, Portland, Maine, USA, 25 January 2005

1. Opening of the Meeting

1.1 The London meeting was opened by the Co-Chairs, Mr Andrew Thomson (European Union) and Mr Bjornulf Kristiansen (Norwegian Farmers' Union). Their opening statement is contained in Annex 1.

1.2 The Portland meeting was opened by the Co-Chairs, Ms Patricia Kurkul (USA) and Mr Scott Burns (World Wildlife Fund – USA). Their opening statement is contained in Annex 2.

1.3 A list of participants at both of the consultation meetings is contained in Annex 3.

2. Report on Progress by the Next Steps for NASCO Working Group

2.1 Dr Malcolm Windsor, Secretary of NASCO, made a presentation in which he summarised the work of NASCO in its first 20 years, based on the document NSCM(05)3 entitled 'NASCO at 20 Years' (Annex 4), and outlining some of the options developed by the Next Steps for NASCO Working Group to consolidate progress and to assist NASCO to better achieve its objectives as outlined in Annex 1 of document NSCM(05)4. He indicated that he hoped that the stakeholders present at the consultation meetings would:

- comment on the work of NASCO in its first 20 years;
- advise on where the Organization might focus its efforts in the next decade;
- provide views on the options identified to consolidate progress and better achieve NASCO's objectives;
- suggest new ideas for managing and conserving salmon stocks and for the work of the Organization.

3. Views from Stakeholders

3.1 At both the London and Portland meetings, Mr Chris Poupard, Chairman of NASCO's NGOs, made a presentation on behalf of the NGOs on the Next Steps for NASCO, NSCM(05)6 (Annex 5).

3.2 At the London meeting a presentation was made by Dr Detlev Ingendahl (State Inland Agency of Ecology, North Rhine-Westfalia, Germany), NSCM(05)7 (Annex 6).

3.3 Prior to the London meeting, a document, NSCM(05)11, was submitted by Mr Oystein Aas of the Norwegian Institute for Nature Research (Annex 7).

3.4 Following the London meeting a document, NSCM(05)8, was submitted by EU (Finland) (Annex 8).

3.5 At the Portland meeting a document entitled 'Three Proposals for Next Steps' was tabled by the World Wildlife Fund and the Atlantic Salmon Federation, NSCM(05)9, (Annex 9).

3.6 Following the Portland meeting a document entitled 'The Aboriginal Fishery and the Work of NASCO' was submitted by the New Brunswick Aboriginal Peoples Council, NSCM(05)10 (Annex 10).

4. General Dialogue and Discussion

4.1 At both meetings there were open and frank discussions on the presentations made, and on the future challenges for NASCO. This dialogue is summarised in paragraphs 4.2 and 4.3 below. The text has been made available to all participants at the consultation meetings to allow them to check that their interventions have been correctly recorded and they have been given the opportunity to include new thoughts and ideas after the consultation meetings, which are also reflected in the text below. All written submissions, other than those clarifying an intervention made at the consultation meetings, have been annexed to this report.

4.2 ***London Consultation Meeting***

Richard Cowan (Department of the Environment, Fisheries and Rural Affairs, UK) stated that the NGO presentation raised a number of useful points but he expressed some concern about the proposal to change NASCO's mandate. He believed that the approach proposed by the Next Steps for NASCO Working Group, i.e. the development of action plans for implementation, with binding goals and timetables, was more appropriate than formal mandate change, which could have serious implications. NASCO's agreements encourage certain actions but they are not precise regulatory texts and to develop such texts would be a very time-consuming process. While he recognised the need to address the issues related to implementation of agreements referred to in the NGO presentation, he urged caution in relation to changing NASCO from a forum for international cooperation to a formal regulatory agency.

Chris Poupard (Chairman of NASCO's NGOs) suggested that, with respect, the intervention from Mr Cowan was exactly what he would expect from a civil servant. He stated that the NGOs seek to change the status quo so as to improve salmon conservation. While there is no suggestion that the mandate change should enable NASCO to intervene in domestic matters concerning the management of salmon stocks, the objective of the mandate change would be to achieve a firm international framework for actions that would be mandatory on the Parties, not voluntary. He referred to the European Union's Water Framework Directive which, while setting targets, allows flexibility in how EU Member States achieve these. The NGOs sought a more dynamic and positive way forward. For example, while the Williamsburg Resolution is a good framework, it needs to be tightened up and developed as a mandatory framework. He asked what would happen if a Party did not adhere to the timescales and goals outlined in the voluntary action plans suggested by the Next Steps for NASCO Working Group. The NGOs do not want NASCO to be in the same

position as it is now in a further 20 years' time and the NGOs are therefore proposing that the Working Group's recommendations on action plans be introduced immediately, but that there be a protocol on reporting and that the issue of mandate change be considered further.

Seymour Monro (Atlantic Salmon Trust, Scotland, UK) congratulated NASCO on its achievements over the last 20 years and supported the list of focus areas for the future, with the addition of the issue of predation, as suggested in the NGO document. He also recognised the need to consider other major diseases and parasites of salmon in addition to *Gyrodactylus salaris*. He stressed the need for NASCO to put more pressure on its Parties to fully implement the agreements that have been developed and to better finance the focus areas in future. He indicated that the Atlantic Salmon Trust had allocated £100,000 to key research on salmon at sea as part of the SALSEA initiative and there is a need for NASCO to encourage governments to better support this area of research. In this regard, some NASCO Parties have not contributed any funds to the International Atlantic Salmon Research Board. He hoped that NASCO and NASF would be able to work more closely together in future.

Chris Poupard stated that he fully agreed that some Parties need to contribute more funds to support research on salmon at sea.

Gerard Gough (Electricity Supply Board, Ireland) stated that he was pleased to participate in the consultation meeting, and he noted that NASCO needed adequate 'teeth' to ensure implementation of its agreements. He suggested that most companies want to address environmental issues and he thought it would be helpful if NASCO could consider introducing a certification scheme for practices that were considered 'salmon-friendly'.

Andrew Thomson (Co-Chair) suggested that a 'salmon-friendly' certification scheme was an interesting idea that might be further explored.

Ole Tougaard (DG Fisheries, European Commission, Brussels, Belgium) supported the comments of Richard Cowan and stated that there is a need for caution in considering any change to NASCO's mandate, which would be a minefield as it could conflict with the sovereign rights of the Contracting Parties. He referred to the very effective system used by the Organization for Economic Cooperation and Development's (OECD) Fishery Commission, which involved an obligation, both moral and political, for detailed reporting with thorough scrutiny of the reports made. In this way those Parties that are not doing enough to implement agreements could be identified. He indicated that a report was being drafted by the Commission on interceptory salmon fisheries in European Community waters and that Community legislation concerning interceptory salmon fisheries may follow.

Chris Poupard indicated that this initiative by the Community with regard to interceptory fisheries was extremely promising and that he took the concerns about the mandate change seriously.

Ian Gregg (Association of Rivers Trusts, UK) generally supported the proposals from the NGOs, but he suggested that NASCO might need to concentrate its focus on a few key areas. He referred to an article in the Atlantic Salmon Trust's progress report of

November 2004 in which the Chairman of the Trust's Scientific Advisory Panel, Dr Richard Shelton, stated as follows:

"The challenge for the future is to extend the principles of wise salmon husbandry, which are serving us so well in fresh water, to the greater world of the sea. The urgency of the task is underlined by the fact that, over the same period that we have shown greater care in the management of our rivers and estuaries, the survival of salmon at sea has halved. For some populations, notably the early-running fish and those affected by poorly-run cage farms, levels of return are even worse".

Mr Gregg suggested that NASCO should, therefore, concentrate a larger proportion of its resources on what happens to salmon in the 'black hole' of the ocean. He referred to the enormous increase in the amount of work taking place 'in-river' over the last 20 years through the efforts of river trusts in Scotland, England and Wales, while at the same time survival at sea had halved. NASCO can be an important forum for exchange of information on best practice in relation to habitat, diffuse pollution, etc., but its main focus should be on research at sea, including aspects such as the impact of global warming and pelagic trawling, renewed efforts to stop mixed stock interceptory salmon fisheries and on encouraging genetic work. He suggested that more emphasis also needs to be placed on education and communication, and that some effort was required in building a closer working relationship with NASF. He indicated that, subject to possible impacts of global warming, he was optimistic about the future of the wild Atlantic salmon. The EU Water Framework Directive and reform of agricultural policies should help with habitat issues and diffuse pollution, and if NASCO can address the problems facing salmon at sea, then things should look good. He was encouraged by the development of the SALSEA project and the AST's generous donation.

Chris Poupard agreed with Mr Gregg's comments. He referred to the need for NASCO to develop a public awareness and media strategy. He indicated that there is a huge amount of important work being undertaken with regard to the SALSEA programme but it is not being adequately promoted. He suggested that if NASCO's message was more effectively communicated it would show that it was taking the right steps. With regard to the suggestion that NASCO should have only 2 or 3 main focus areas, he expressed concern that if that happened the other areas currently being addressed, and emerging threats, would be ignored. He believed that NASCO is addressing the main current problem areas but it needs to do more and be adequately funded.

Nick Marriner (North-West Regional Fisheries, Ecology and Recreation Advisory Committee, UK) stated that this was his first involvement in a NASCO meeting, which he had found very interesting. He supported the views expressed by Ian Gregg. If NASCO has no 'teeth' it is merely an influential pressure group but the problem is the lack of speed of decision-making and of implementation of agreements. He believed that there are dangers in diluting the efforts of the Organization; its effectiveness in the future could be ensured by focusing more on certain areas. For example, only NASCO can tackle the issues concerning salmon at sea and research on the marine phase of the salmon's life-cycle should be given a higher priority in the focus areas. The effectiveness of NASCO requires a sound programme of scientific research that allows it to put pressure on its Contracting Parties and other organizations to address issues of concern. He noted that salmon populations are still

declining despite major reductions in fishing effort so there is a need for further research to better understand the factors influencing salmon abundance. There is also a need to show the social and economic benefits of such research.

Andrew Thomson stressed that the focus areas identified by the Next Steps for NASCO Working Group included research at the top of the list.

Detlev Ingendahl (State Inland Agency of Ecology, Northrhine-Westfalia, Germany) made a brief oral presentation on behalf of the Northrhine-Westfalian Migratory Fish Programme on the salmon reintroduction programme on the River Rhine. He referred to a detailed description of the programme and the problems it is facing, which had been made available to the consultation meetings, NSCM(05)7 (Annex 6). He hoped that the information provided would be considered further by NASCO in its future deliberations on restoration of salmon populations.

Malcolm Windsor stated that while NASCO had developed good agreements through international cooperation, there can be problems in implementing these agreements, and that is where the stakeholders can play a vital role in influencing governments. With regard to mandate change, he felt that this should be looked at further but that there may be resistance to giving NASCO too many 'teeth'. He noted that in the past the NGOs had not pressed NASCO's Parties hard on the extent of implementation of NASCO's agreements, although in recent years the NGOs had become much better organised. Stakeholders can exert pressure on NASCO's Parties to follow the agreements developed. With regard to salmon at sea, he picked up the clear message that the SALSEA programme was seen as the priority issue. He agreed with the proposal by the representatives from Germany for a workshop on restoration programmes so as to share experiences and encourage others to restore depleted stocks. There is a need for information from Germany, Portugal, France and Spain for inclusion in NASCO's database of salmon rivers, so as to highlight rivers in need of restoration.

Ede Brumund-Rüther (Verband Deutscher Sportfischer - German Anglers Union) stated that there are rivers in Germany other than the Rhine which are being restored, including the Wesser, Elbe and several northern coastal rivers. While there has been government assistance for the work on the Rhine, this is not the case for all rivers. Under the EU Natura 2000 programme, where a river has its original stock of salmon, it has a designation and therefore a high degree of protection, but this is not the case where the river has lost its original stock, and restoration activities are being undertaken. For example, it is possible to establish hydro-power plants in rivers under restoration, and there is no requirement to have existing hydro-power plants upgraded to modern standards to facilitate free passage of migratory fish in both directions. He suggested that rivers under restoration needed some designation and perhaps NASCO could assist in this regard.

Paul Knight (Salmon and Trout Association, UK) raised a number of examples, to support the NGO document, of where the NGOs see NASCO playing an important international role in future by bringing pressure to bear on individual governments to honour commitments made in NASCO. The extra pressure from NASCO, in addition to that exerted by the NGOs, would be invaluable. Likewise, he felt that NGOs have a role to play in bringing examples of local problems, or best practice, to NASCO's attention.

He referred to the very high winds in Britain in the last two weeks and noted that such extreme events are predicted to become more frequent with climate change. At least 1 million farmed salmon are believed to have escaped from cages in Scotland alone during these storms, highlighting the need for urgent regulation of the fish farming industry. With regard to predation, the NGOs had successfully pressed the Government in England to increase the number of cormorants that can be shot under licence and to extend the shooting season to 1 May to cover part of the period of smolt migration. Rivers Trusts are undertaking excellent work in maximising smolt output but a smolt that is preyed upon by an avian predator cannot be replaced, so unnaturally large cormorant populations can have a massive impact on a river's production. He also stressed the need for a clear NASCO policy on seal management to assist individual governments. He referred to the use of socio-economic information in support of conservation measures for salmon. Rod-caught salmon are worth many more times the value of net-caught salmon to local and national economies. In the UK, 50% of all salmon caught are released, and research on the River Eden has shown that, with careful handling, up to 90% of released fish survive to spawn. Catch and release therefore represents a win-win solution, maintaining socio-economic benefits while controlling exploitation. He stated that the potential for habitat protection under the EU Water Framework Directive is vital for salmonid fish but cautioned that it does not afford protection to sub-catchments under 10km^2 in area. These small streams are vital for the future of sea trout stocks and probably also for salmon, but are vulnerable to land-use change and diffuse pollution, and must be protected. He then referred to the heavy exploitation, as a by-catch, of sea trout stocks in Finland by coastal whitefish gill netting to the extent that the sea trout were almost wiped out. It is therefore vital to have coordination between factors operating in the sea and in fresh water for various migratory species if protection in fresh water is not to be undermined by events at sea. These are worrying aspects for NGOs who deal with these and many other issues on a daily basis. The NGOs support the NASCO mandate being broadened to include sea trout. He stressed that NGOs can therefore play an important role within NASCO, both at Annual Meetings and during inter-sessional Working Groups.

Chris Poupard referred to two issues that had been raised by NGOs who could not attend the consultation meeting. Firstly, the Federation of Irish Salmon and Sea Trout Anglers had called for NASCO's mandate to include sea trout, particularly given the concerns about the impacts of aquaculture on this species. Secondly, while there was total support among the NGOs for the need for urgent action in relation to the Irish drift net fishery for salmon, the Salmon Net Fishing Association of Scotland believes that the Scottish coastal fishery is different in management terms to the Irish drift net fishery and the North-East Coast of England drift net fishery, and should therefore not be included in the section of the NGO document covering management of homewater fisheries.

Richard Cowan stated that he had never felt that NASCO had no formal 'teeth', and all Parties and the EU Member States are well aware that they are under a moral obligation to implement the Organization's agreements. He believed that even if NASCO's agreements were binding, there would still be the problem of what action could be taken against a Party that did not implement an agreement since it is difficult to give international organizations real 'teeth'. He noted that NASCO's NGOs are good at reinforcing this moral obligation and that NASCO's Parties take the views of

NGOs seriously. He stressed the need to be careful in suggesting that the present arrangements don't work when in fact, in general, they do.

John Gregory (Institute of Fisheries Management, UK) made four points, the first two relating directly to actions to safeguard the salmon, and the second two relating to the administration of NASCO. Firstly, he indicated that concerted action on research on salmon at sea should be afforded a high priority by NASCO since it cannot be undertaken by others. There is a need for NASCO to focus its efforts on a few priority areas. Secondly, he suggested the need for continuing and enhanced liaison with the salmon farming industry so as to minimise the impacts of aquaculture on the wild stocks, and stressed the need for NGO involvement in the Liaison Group to ensure its success. Thirdly, he suggested that NASCO review its meeting structure to improve its efficiency. He proposed that a three- to five-year cycle be adopted, with greater focus on each area of NASCO's work. Fourthly, he indicated that there was a need to improve NASCO's accountability and the stakeholders should be increasingly involved in this process. He stated that the stakeholders would be willing to put forward proposals on how to improve accountability.

Hugh Becker (North-East Regional Fisheries, Ecology and Recreation Advisory Committee, UK) indicated that the extent to which note is taken of an Organization's statements depends on how credible and consistent the statements are. With regard to climate change and its impacts on the marine survival of salmon, it is important to recognise that there may be nothing that can be done about such macro events in the oceans. He referred to the wide range of values variously attributed to the economic benefit to be gained from a rod-caught salmon and suggested that, as NASCO is seen as a dependable honest broker, it could play a valuable role in disseminating reliable and consistent information on the social and economic values of salmon.

Arni Isaksson (Directorate of Freshwater Fisheries, Iceland) thanked the NGOs for their views on NASCO, which included many positive points. However, he believed that while there had been much talk of NASCO lacking 'teeth', it could in fact be the governments that are lacking the 'teeth' by failing to implement NASCO agreements. He agreed that emphasis should be given to research on salmon at sea, including studies on predation, but that could be done without changing the mandate. He also noted that habitat restoration and protection could benefit many species in addition to salmon. NASCO has established minimum standards but Iceland has, in some cases, gone further, for example in relation to aquaculture, by introducing regulations establishing aquaculture-free zones.

Godfrey Williams (Environment Agency, UK) indicated that he supported NASCO's work in the marine environment, which should also consider the implications of climate change for salmon stocks. Further extreme events are predicted and these could affect aquaculture operations and consequently the wild stocks through, for example, escapes. He noted that while the overall picture for salmon stocks is gloomy, there is also some good news in that many rivers have been restored for salmon production. He believed that it would be useful to review of experiences from these rivers to see if the experience gained could be applied elsewhere. He stated that the Environment Agency had followed the NASCO plan of action for habitat protection and restoration by reviewing measures on important salmon rivers. He indicated that many habitat problems are linked to land management and while fisheries departments participate in NASCO's meetings, other government

departments were responsible for these wider issues. NASCO should, therefore, encourage closer cooperation between different government departments responsible for managing aspects that could impact on salmon conservation.

Ian Gregg asked for clarification on three points, as follows:

- the reasons why the Salmon Net Fishing Association of Scotland felt that Scottish net fisheries were different from other interception fisheries;
- the extent of disclosure of NASCO's financial position to NGOs;
- the significance of wind-farm development for salmon conservation.

Chris Poupard replied that the Salmon Net Fishing Association of Scotland had indicated that Scotland had given the lead more than 50 years ago and banned drift net fishing along the coast, and tagging studies had confirmed that the fishery now exploits, in the main, fish native to local rivers. The origin of the net catch may, therefore, be little different to that caught by the rod and line fisheries in the lower sections of rivers.

Seymour Monro indicated that there is much interest in developing wind-farms in some areas of Scotland. In Lewis, for example, there is a proposal to install more than 200 wind turbines, many of which will be located in the vicinity of important spawning burns and nursery habitat. He noted that the UK Government is pushing forward with renewable energy projects but there is a need to carefully consider objections to these proposals on environmental grounds. In the opinion of the salmon fisheries trust's biologist on Lewis, the development of wind-farms is a serious threat to salmon, possibly as significant as aquaculture development. People are not familiar with the negative aspects of renewable energy projects and that's why reference had been made to them in the habitat section of the NGO submission.

Malcolm Windsor referred to the method of calculating the Contracting Parties' contributions to NASCO, in which 30% of the budget is fixed and divided equally among all Parties, and the remaining 70% is related to catch. NASCO's budgets are documented in the annual reports of the Council, but there are no implications for NGOs since NASCO, unlike some other Fishery Commissions, has decided not to charge an NGO fee for attending meetings. He noted that NASCO could certainly improve its public relations work, but at present the Organization has no budget to do this, and no particular skills in this area. The larger NGOs to NASCO have considerably more PR resources and expertise. He noted that currently around £4.6 million is being spent annually by NASCO's Contracting Parties on research on salmon at sea, and the Board has sought to better coordinate this research and raise new funds from the private sector. In this regard the Board hopes to use the NGOs' skills in fund-raising efforts.

Andrew Thomson indicated that in the light of the outcome of the review of the future focus for NASCO, there may be a need for the Parties to contribute additional funds to support the work of the Organization.

Roger Furniss (South West Rivers Association, UK) stated that there is a need to identify a clear 'big picture' for public relations purposes so as to engage the public, the media and the politicians. He indicated that it would be important to consider what level of abundance NASCO sought for salmon stocks, and whether or not it is

appropriate to continue to consider wild Atlantic salmon as a food resource, given the socio-economic values of the resource.

Bjornulf Kristiansen (Co-Chair) referred to the difficulty for individual governments in addressing predator-related mortality of salmon, and suggested it would be useful if this issue could be addressed by NASCO.

Paul Knight stated that since predator control is a very emotive subject, it would be useful to have international support in the form of Resolutions with 'teeth' so as to assist individual governments in considering issues such as control of seals.

Seymour Monro referred to a seminar on predation organised by the Atlantic Salmon Trust. He noted that there is a need to strike an appropriate balance in nature between the salmon and its predators, but at the moment the balance favours the predators, partly because public perception favours mammals and birds rather than fish which cannot be seen. He referred to a £250,000 research project on salmon/seal interactions in Scotland which it is hoped will provide a basis for government action to redress the balance in favour of the salmon. He stressed that support from NASCO in relation to the predation problem would be useful.

Richard Cowan advised the meeting that the UK Fisheries Minister, Ben Bradshaw, had acted in relation to cormorants but seals might be more problematic to deal with. The European Union would have difficulties in agreeing to any Resolution developed in NASCO which suggested the need for action other than the protection of seals. Despite best efforts, the interplay between fisheries and the environment Directorate Generals in the European Commission is not as good as it might be, and this problem also existed in government departments. There is a need to develop a mechanism with governments and the EU to address the issue of seal predation on salmon.

Ole Tougaard raised the question of the need for an EU salmon policy, since such a policy does not currently exist.

Malcolm Windsor indicated that, with regard to predation, NASCO had held a Special Session in 1996, and last year considered information on the impact of predation and the predator management measures being used by Contracting Parties. He recognised that there are gaps in our understanding of the impacts of predation and of the benefits arising from management measures but agreed that NASCO should review the facts and consider its future policy on this issue.

Boris Temkin (Association of Tourist Enterprises of Murmansk Region, Russia) expressed his pleasure at being able to participate in the consultation meeting and noted that many of the issues under discussion are of relevance to the Murmansk region of Russia. While not familiar with the history of the development of NASCO, he wished to highlight two points – the need for close cooperation between NASCO and its Contracting Parties with regard to implementation of agreements, and the need for appropriate legislation to ensure conservation and to protect the property rights of individuals and companies. He stated that the agreements adopted by NASCO are only a first step, and there is a need to make them binding so that governments fully implement them. He suggested that this might require changes to the Convention. He indicated that the process of developing fisheries legislation in Russia is slow, although major new freshwater fisheries legislation had recently been introduced, so it

is important to continue to collaborate within NASCO so as to ensure the Contracting Parties introduce appropriate legislation to conserve salmon.

Hugh Campbell-Adamson (Association of Salmon Fishery Boards, Scotland, UK) indicated that this was his first NASCO meeting and that he was faintly depressed by what he had heard concerning the status of salmon stocks. He referred to the economic value of angling in Scotland, estimated at £78 million. He felt that NASCO should not need 'teeth' since the governments should respond to the commitments made, but where this does not occur it should be the Council of NASCO, not the NGOs, that applied pressure for action. He indicated that he shared the view that seven focus areas may be too much for the NASCO Secretariat to handle, and that the main focus should be on salmon at sea. He believed that the consultation meeting had highlighted the role NGOs can play in NASCO and that all concerned with salmon conservation should be working together. With regard to the statement from the Salmon Net Fishing Association of Scotland, he referred to a paper published in 1976 by Willie Shearer, the adviser to that Association, which indicated that less than 2/3 of the fish caught in the net fishery were destined for local rivers. He concluded that the goodwill expressed during the consultation meeting should be a cause for optimism about the future of the wild salmon.

Paddy Byrne (National Anglers Representative Association, Ireland) stated that many problems had been referred to, but that a major problem attributed to Ireland is the interception in the Irish drift net fishery of salmon destined for other parts of Europe. He welcomed the announcement of a review of interception fisheries by the European Commission but stressed the need for clear definitions of the terms 'interception fishery' and 'mixed stock fishery'.

Ole Tougaard reiterated concerns about the proposal for a change in the NASCO mandate to allow it to develop mandatory agreements. He noted that all international Conventions allow for objections and that a mandate change would require unanimous approval. This, he felt, was unlikely to occur. He stressed the need for a public relations strategy for NASCO and felt that partnership with the NGOs in such a strategy would be a good opportunity for enhanced collaboration. He also felt that a joint approach to fund-raising to support research on salmon at sea would be valuable. With regard to the suggestion for further Working Group meetings, he felt it would be useful if the NGOs met to further develop their ideas for presentation to the Council since some Parties would not be able to commit resources to further meetings. He thanked the NGOs for their valuable input and indicated that he would be willing to meet with them before NASCO's next Annual Meeting to further discuss their ideas.

Chris Poupard indicated that he had noted the comments about mandate change but the NGOs, which represent millions of stakeholders, would be pressing for further consideration of this issue. In response to earlier comments from Richard Cowan, he stated that he did not believe that salmon conservation could be left to the goodwill of civil servants and politicians acting in relation to a moral obligation. He indicated that it had taken 30 years of campaigning to bring about the end of the North-East Coast drift net fishery in England and it was not appropriate to rely on the goodwill of civil servants to end the Irish drift net fishery. It is the role of NASCO to bring pressure to bear on governments but he referred to the need for NGOs to be a little less polite and more critical in future in relation to assessing the actions of the Parties. NGOs are not bound by any need to follow diplomatic protocol so increasing their

role in the work of the Council would facilitate more critical assessment of the actions of the Parties. However, there is a fine line between criticising the Parties and efforts to build trust.

Andrew Whitehead (North Atlantic Salmon Fund (UK)) indicated that he had found the proceedings very interesting and he was very impressed by the list of NASCO's achievements in its first 20 years. However, he knew little of the Organization's work. He noted that NASCO would, in future, need to be more active in influencing politicians and the press and he believed that NASCO's strength is not just in developing binding regulations but in using the moral obligation through political and media pressure. With regard to fund-raising in the UK, he indicated that the voluntary sector had been fortunate in getting public support for the buy-out of the North-East Coast drift nets and he paid tribute to Richard Cowan's efforts in this regard.

George O'Doherty (Department of Communications, Marine and Natural Resources, Ireland) noted that civil servants do not decide on the management of salmon fisheries in Ireland but rather it is a political decision. The policy in Ireland is to have a commercial salmon fishery alongside a recreational fishery. The Irish government is well aware of the work of NASCO and contributes fully to it, and had welcomed the opportunity to present information about the Irish fishery at NASCO meetings. He suggested that there might be scope for further Special Sessions in future, if that would be helpful to the NGOs. The commercial salmon catch in Ireland has been almost halved in 3 years and the likelihood is that for 2005 the quota will be set in line with the scientific advice. He indicated that Ireland is committed to the review of interceptory salmon fisheries being undertaken by the European Commission. He suggested that there is a need for caution in involving NGOs in decision-making for binding regulations and that perhaps there was a need for a quality control system with regard to admitting new NGOs. He expressed disappointment that FISSTA could not be represented at the meeting, and with regard to the proposal that NASCO should also consider sea trout conservation, he indicated that in Ireland sea trout are afforded the same protection as salmon. He noted that many stakeholders, such as netsmen, tourism and agriculture organizations, are not represented in NASCO.

Ian Calcott (Scottish Anglers National Association, UK) stressed the need for urgent action in relation to the Irish drift net fishery. He indicated that the consultation meeting had been very useful and had allowed a full and frank exchange of views.

Chris Poupard accepted that there had been progress in relation to managing the Irish drift net fishery but believed that if there was an international framework for managing mixed stock fisheries it would be easier for a government to implement difficult measures. He noted that a valid point had been raised about whether or not NGOs should be screened, since there are vast differences in the organizations that had been admitted, e.g. Greenpeace, Coomhola Trust Limited, etc. With regard to NGO participation, it is important to create a framework for debate which maximises the NGO contribution to the decision-making process without compromising the legislative and executive responsibilities of the Parties. This framework must be based on the principles of openness and transparency.

Ede Brumund-Rüther stated that from an angler's point of view the management of the Irish fishery is unwise, since at the end of the season anglers were restricted to one salmon a day after drift nets had taken 200,000 salmon. Furthermore, one haul of an

Irish drift net could undermine 15 years of restoration efforts in German rivers where stocks are very weak. He questioned the sense of spending vast sums on restoring rivers only to harvest them for food. Each returning spawner is worth far more when caught by anglers than when harvested for food.

George O'Doherty responded that the total commercial catch in Ireland in 2004 was 143,000 salmon. During the 7½ week season there had been evidence that there had been a poor run of fish so the Salmon Commission had advised the Minister to reduce the permitted angling catch from 3 salmon per day to 1 salmon per day in the month of September.

Patrick Martin (Fondation Saumon, France) indicated that he is new to NASCO but had been surprised to find no French representatives at NASCO's meetings. Consequently he had worked with the NASCO Secretariat to organise the 2005 Annual Meeting in France. He stressed the importance that a delegate from France participate so as to address questions about the St Pierre and Miquelon salmon fishery and to put additional pressure on other governments in relation to mixed stock fisheries. The meeting in France will also allow pressure to be brought to bear on the French government, since they afford a low priority to salmon because of the small harvest (3 tonnes). He believes NASCO is a very important organization in which minimum standards are defined, and NGOs can then press for implementation of appropriate measures.

Malcolm Windsor agreed that it is important that NASCO meets in different countries, close to salmon communities, so as to publicise its work and encourage local people working for salmon conservation. Referring to the intervention by Hugh Campbell-Adamson, he responded that the Secretariat does not undertake all the work, but rather there is involvement of all NASCO governments, which is important when considering appropriate resourcing. Through the chemistry of international cooperation agreements are developed and there is then a need for stakeholders to bring political pressure to bear on governments to honour the commitments made.

Ken Whelan (President of NASCO) indicated that he was pleased at the positive response to the SALSEA programme and stressed the importance of taking it forward. Once the consultations on the draft SALSEA programme are complete, there will then be a master plan of research for which funds will be needed. However, he noted that in addition to raising new funds it may be possible to free up additional funds by reprioritising existing research expenditure. He expressed appreciation to the Atlantic Salmon Trust for their initiative in funding research. He noted that, in future, there would be a need to engage more biologists in the programmes and if the Board is as successful as NASF in its fund-raising the programme will be initiated quickly.

Chris Poupard reiterated the NGOs' appreciation to NASCO for the opportunity to contribute to a review of its future and he hoped that the results of the exercise would justify the effort. The NGOs would be willing to work with NASCO to ensure that the exercise is worthwhile.

4.3 ***Portland Consultation Meeting***

Jaime Geiger (US Fish and Wildlife Service) congratulated the Secretary of NASCO on his excellent presentation on the work of the Organization and suggested that, as

part of NASCO's outreach initiatives, this presentation be made available to all participants at the consultation meetings.

Bill Townsend (Maine Rivers, USA) referred to two recent broadcasts on a Maine radio station, one of which highlighted the plight of 21 species of albatross, 19 of which are at risk of extinction from human activities, while the other broadcast had referred to the exploration of space in the search for new life. He indicated that an important challenge facing governments is to preserve the diversity of life on earth and money spent on space exploration was, in his opinion, poorly spent.

Sebastian Belle (Maine Aquaculture Association, USA) asked for clarification as to whether the position of NASCO's accredited NGOs on mandate change is the same as the view expressed in the WWF/ASF paper.

Chris Poupard (Chairman of NASCO's NGOs) indicated that this was broadly so, but stressed that these were initial ideas only that would need further consideration.

Tim Young (Department of Fisheries and Oceans, Canada) stressed that the Next Steps for NASCO Working Group had not ruled out mandate change, but that its current thinking is that it is probably not necessary.

Andrew Thomson (DG Fisheries, European Commission, Brussels, Belgium) referred to the history of NGO involvement in NASCO and to the increasing role the NGOs are playing in the work of the Organization. He noted that an important role of the Next Steps for NASCO Working Group is to clarify the future relationship between the NGOs and NASCO's Contracting Parties.

Chris Poupard noted that the NGOs had high hopes for NASCO when it was established, many of which have been fulfilled. The NGOs recognise that their primary role is to criticise and pressurise governments into taking appropriate action. He indicated that it is important to create a framework for debate within NASCO which maximises NGO involvement in the decision-making process without compromising the legislative and executive responsibilities of the Parties. Getting the right balance is a fine tightrope to negotiate.

Andrew Thomson noted that while the Working Group had not ruled out mandate change, it is important to consider what such a change would achieve. If NASCO was changed so that its recommendations obliged Contracting Parties to take certain actions, then any Party could object to a recommendation. He believed that much could be achieved through the present arrangement where NGOs pressure governments to implement NASCO agreements. Secondly, any proposal to amend the Convention does not take effect until all Parties have ratified the change, and that could take many years. No Member State would agree to a change that would affect issues of sovereignty. In the case of the European Union, it now has 25 Member States, each with sovereignty rights. The challenge is, therefore, to apply pressure to ensure the Parties take appropriate action. For example, as a result of pressure from NGOs and other factors, the European Community is now influencing the management of the mixed stock salmon fisheries.

Chris Poupard stressed that the NGOs were just recommending that the issue of mandate change be considered further. The approach suggested by the NGOs is that

the Next Steps for NASCO Working Group's proposals should be implemented without delay, and that a small Working Group including NGOs and the Parties be asked to further consider the issue of mandate change. This may be needed because it may not be enough to rely on the goodwill of governments to act. He referred to NGO campaigns over a period of 30 years or so in relation to both the North-East Coast drift net fishery in England and the Irish drift net fishery. The hope is that the Next Steps for NASCO's Working Group's proposals will lead to more rapid action in future by NASCO's Parties, but it is not appropriate to rely solely on the moral obligation on civil servants to implement agreements. For example, he noted that ICES had been recommending that there be no exploitation of salmon in mixed stock fisheries for many years but this advice had not been implemented. He referred to the EU Water Framework Directive which aims to achieve good ecological quality in all surface waters by 2015 through a framework of targets and timescales set by the EU but with the Member States deciding on how to achieve these. He suggested that this approach might be an appropriate model for NASCO to consider.

Jaime Geiger indicated that he believed the purpose of the consultation meetings was to solicit comments from all participants but not to debate what was or was not feasible. He believed that it would be appropriate to give further consideration to the need for mandate change. Furthermore, he suggested that if regulatory measures could be established for 2- or 3-year periods, that would free up time at NASCO's meetings and allow ICES time to develop robust scientific analyses. He suggested that NASCO needed to develop political support for its work so as to give it more 'teeth'. Finally he noted that a great strength of NASCO is the excellent relationship between its Parties and its NGOs and it is vital that this is maintained in future.

Pat Kurkul (Co-Chair) indicated that the meeting was intended to be a round-table debate between stakeholders in the public and private sectors, and while no suggestion would be ruled in or out at the meeting, there would be an opportunity for clarification of any issues raised.

Ed Baum (Atlantic Salmon Unlimited, USA) welcomed NASCO to the State of Maine and indicated that he believed that it was an excellent initiative to seek the views of stakeholders on the future challenges for salmon management. He noted that while there are clearly many problems facing salmon at sea, issues in fresh water and in estuaries should not be ignored. He referred to the very poor performance of stocked fish in some US rivers. He noted that while *Gyrodactylus salaris* had been identified as a focus area for future work, it would be important for NASCO to also consider the impacts of sea lice and Infectious Salmon Anaemia on the wild stocks. He supported the focus areas for NASCO but questioned if the Organization was adequately funded to address these. He thanked NASCO for its work over the last 20 years, which had greatly reduced the interception of salmon from rivers in Maine.

Colin Cunningham (New England Fishery Management Council, USA) supported the recommendation for NASCO to adopt an ecosystem approach to management since it is important that NASCO can work on a broad front to address the wide range of issues, including fisheries for other species, that may affect Atlantic salmon. However, he did not know how this approach would fit under the existing Convention. He noted that with regard to the impacts of aquaculture there is a need to better understand and manage the impacts of forage base removal for fish-meal production. He agreed with the proposals from the NGOs but felt that transgenic

salmon should not be completely dismissed since if they were reared in secure cages on land, that might offer benefits to the wild stocks compared to current salmon farming practices.

Bill Townsend indicated that he felt the opportunity for an exchange of ideas between stakeholders had been very valuable and he encouraged NASCO to hold such consultation meetings more frequently, possibly annually on both sides of the Atlantic. He stressed that NGO involvement in NASCO's work is vital. He noted that it was important for NASCO to effectively communicate its work, including the scientific advice from ICES, to a wide audience of stakeholders. He suggested that NASCO had been hiding its light under a bushel and one approach to improve the Organization's outreach might be to commission a book on the first 20 years of NASCO which conveyed the story in a straightforward and lively manner.

David Reid (Nova Scotia Salmon Association, Canada) stressed the need for consideration of the impacts of acid rain on Atlantic salmon in an international forum so as to draw on experience in other countries. In Nova Scotia, the salmon in 50 out of 65 rivers are considered to be extremely threatened or extinct, and there is therefore a need for NASCO to give this issue some careful consideration.

Jacob van de Sande (Downeast Salmon Federation, USA) supported the need to consider the impacts of forage base removal and acid rain on Atlantic salmon. He highlighted the need for NASCO to increase public support for its work which would, in turn, increase political support. To do this NASCO needs to better communicate to the public what NASCO is and the work it is undertaking. There needs to be greater focus on PR and education. If salmon stocks are to be restored there is a need to ensure that NASCO is an effective international forum.

Steve Rideout (US Geological Survey) supported the need to study the forage base of salmon in the marine environment. He suggested that rather than just focusing on salmon stocks which are under stress, valuable lessons could be learned by studying those stocks which are performing well. He supported the view expressed by others that while there are significant marine survival issues that need to be addressed, freshwater and transition (fresh water to salt water) survival issues should not be ignored as there is evidence from both the US and Canada that serious survival issues at these life-stages are affecting restoration and recovery efforts.

Malcolm Windsor indicated that NASCO wants to base its management decisions on sound scientific advice but asked for the views of the scientists present on how frequently the Organization would need to request advice. At present NASCO seeks advice from ICES annually but the advice changes little and it is possible that the scientific manpower could be used more effectively in future.

Niall O'Maoileidigh (Marine Institute, Ireland) agreed that with regard to catch options, the advice had not changed for a number of years. However, ICES has also been working on other important aspects such as trajectories for stock rebuilding, and he suggested that it would be important to maintain the impetus in these areas. However, it might be possible to continue this work within another forum in ICES.

Kevin Friedland (University of Massachusetts, NOAA, USA) suggested that as the scientists have to wear many hats at their individual laboratories, it is important to have international support for the work they are doing domestically on salmon.

Jaime Geiger indicated that there are benefits for both managers and scientists of international review of scientific programmes. He supported the suggestion that NASCO needs to focus more on education and that there is a need for increased attention to monitoring to support adaptive management.

Malcolm Windsor referred to the formula by which the financial contributions to NASCO are calculated, and indicated that while there are adequate resources to deal with the present workload, additional funding would be required to support public relations and education initiatives. This might be difficult given the financial constraints under which governments operate. However, NASCO is not just the Secretariat; all NASCO's Parties and the NGOs have a role to play in promoting the work of the Organization. He referred to the chemistry in the inter-governmental meetings which allows the Parties to work fast, but it is important to continue the momentum between meetings. He congratulated the NGOs on their useful ideas. He indicated that outreach was not an area in which the Secretariat currently had expertise but that it would be possible to learn from those who did, including the NGOs.

George Lapointe (Maine Department of Marine Resources, USA) agreed that outreach initiatives require specialist knowledge and there would be a need to draw on the expertise in the Parties and NGOs. There may also be a need for a specialist within the Secretariat. With regard to the use of transgenic salmon, he noted that the Food and Drug Administration would first consider the licence application with regard to human and environmental health issues, and the application would then be considered by the Federal and State fishery and wildlife agencies.

Mary Colligan (NOAA Fisheries, USA) referred to the proposals on reporting and to make the Parties more accountable for actions taken to implement agreements. She suggested that an alternative to mandate change might be to develop clear questions to facilitate improved reporting with targets and milestones being set so performance in implementation of agreements could be reviewed. One option might be to have external reviews of progress or alternatively to appoint a compliance committee with representatives of the Parties and the NGOs to assess each Party's reports. The purpose of reporting is not only to assess the extent of implementation of agreements but also to promote exchange of information.

Chris Poupard referred to the proposal from the NGOs for a new protocol on reporting, which would make reporting a formal requirement under each agreement.

Pat Kurkul indicated that the Next Steps for NASCO Working Group had afforded a high priority to the need to improve, in the short term, accountability of the Parties through improved reporting and review of measures implemented.

Kim Blankenbeker (National Marine Fisheries Service, USA) referred to the idea of mandate change, noting that simply making something a binding obligation under a treaty does not necessarily result in compliance. For example, many organizations have clear obligations under their treaties to report data or make budgetary

contributions, yet it is not uncommon for Parties to fail to meet those obligations. In large measure, it comes down to the will of the Parties to do what is required. Having said that, she noted that organizations have an important role to play in encouraging compliance by its membership. Finding effective ways of encouraging compliance, however, is a significant challenge. Depending on the circumstance, some organizations have looked at suspending voting rights or limiting fishing possibilities. She suggested that it would be important to identify what actions could be taken by NASCO to enhance its ability to encourage compliance with reporting and other rules.

Jamie Geiger suggested that increased accountability would lead to increased credibility and that one approach would be to develop action plans or strategic plans under which the goals and objectives of the Parties are detailed with timescales for implementation and requirements for evaluation and monitoring to assess progress.

George Lapointe indicated that in developing action plans it would be important to focus on the needs of the salmon and minimise the time spent in building the structures for reporting.

Ed Baum noted the recommendations in Annex 1 of the Discussion Document, which he felt were 'motherhood and apple pie'. He asked for clarification of what the Next Steps for NASCO Working Group meant by external review and heritage rivers.

Malcolm Windsor indicated that a criticism of NASCO was that while it had developed good agreements, they had been poorly implemented. In a diplomatic environment the Contracting Parties are reluctant to criticise one another, so the Next Steps for NASCO Working Group had suggested that an independent external review panel might be appointed to undertake this assessment. He suggested that this could be an important role for the NGOs and while in the past they have been rather reluctant to criticise the Parties, they are now better organised.

George Lapointe noted that, in the past, NASCO Parties did not appreciate criticism from the NGOs and there is therefore a need to develop a clearly defined and focussed role for the NGOs in NASCO's work. However, he believed that it would not be appropriate for NGOs to carry out the review of progress in implementing NASCO's agreements, and that this should be undertaken by specialist reviewers.

Chris Poupard agreed that it is vital to improve the accountability of the Parties and that until recently the NGOs had been poorly organised. However, the NGOs have been working to build trust and relationships with the Parties, and there is a fine line to tread. The NGOs could certainly play a role in naming and shaming those Parties which are performing poorly in implementing agreements, but this would require that time be given to the NGOs so that they can contribute more fully. In this regard, the NGOs had welcomed the opportunity at the last Annual Meeting to direct questions to one particular Party in relation to management of homewater fisheries.

Scott Burns (Co-Chair) noted that there were issues of non-compliance and failed implementation in other international fisheries organizations, and there may be benefits from reviewing initiatives in those organizations with regard to improving implementation of agreements.

Tim Young indicated that he was involved in the work of the North Pacific Anadromous Fish Commission (NPAFC) and the Pacific Salmon Commission (PSC). With regard to NPAFC, its focus is not on formal reporting but exchange of information among the Parties on research and enforcement. This exchange has been valuable in understanding the factors affecting Pacific salmon stocks. In contrast, the PSC has more formal reporting in relation to harvest allocation. Different approaches are therefore being employed by different fisheries organizations.

Andrew Thomson indicated that he had experience of the work of the Northwest Atlantic Fisheries Organization, the North-East Atlantic Fisheries Commission and the International Baltic Sea Fisheries Commission, all of which have fewer reporting requirements than NASCO. He noted that there is little than can be done when a Party fails to implement agreements, but rather there is a moral obligation on the Parties to act, which can be reinforced by the NGOs. The Next Steps for NASCO Working Group is not, therefore, proposing mandate change at this stage, but rather has developed a range of options to improve accountability.

Chris Poupard referred to the proposals in the NGO response in relation to improved accountability. He suggested that the issue of designating heritage rivers was worthy of further consideration. In Norway, national salmon rivers and fjords have been designated and in the US and Canada salmon populations have been listed under the Endangered Species legislation. Similarly, in the EU the Habitats Directive allows designation of freshwater habitats for salmon and consideration could be given to extending this designation to marine habitats. The Parties could introduce designation of rivers without the need for mandate change.

Bill Townsend expressed some reservations about designating heritage rivers since, while the intention is to raise the profile of these rivers, it could inadvertently lower the profile of other non-designated rivers. His personal belief is that all rivers are equally worthy of protection and while he likes the idea of raising the profile of salmon conservation, he did not believe that the designation of heritage rivers is the best way to achieve this.

Stephen Gephard (State of Connecticut Department of Environmental Protection, USA) indicated that he supported the suggestions for improving accountability through an internal review, comprising representatives of the Parties and the NGOs, which would objectively review the achievement of goals and objectives within the specified timescales. This group might report in writing to the Council so that its findings could be included in the report of the meeting.

Joan Trial (Maine Atlantic Salmon Commission, USA) indicated that much of the reporting to NASCO of statistics and other data comes from ICES, so if advice was requested less frequently than on an annual basis this information would have to be sought from other sources.

Joe McKeon (US Fish and Wildlife Service) supported the need to increase accountability of the Parties and to improve NASCO's profile through an outreach programme. NASCO could also play an important role in supporting domestic programmes.

Tim Young indicated that in Canada there is a long coastline with many salmon rivers (>600), some of which are in very remote areas and without names. Obtaining information can, therefore, be difficult and reporting is a considerable undertaking.

Malcolm Windsor indicated that the present reporting process can be opaque and asked Peter Hutchinson to comment.

Peter Hutchinson (NASCO Secretariat) indicated that reporting in order to fulfil an obligation to implement agreements may be very different in scope to reporting in order to exchange information and expertise among the Parties and to promote the work of the Organization and the Contracting Parties. In order to allow a comprehensive review of the measures being taken there may, therefore, be a requirement to develop new reporting formats and to consider the frequency of reporting. Under the present system NASCO seeks reports on progress in implementing agreements annually, and only requests information on new measures introduced since the last notification. As a result it is not possible to review the suite of measures that may have been introduced over time. Less frequent, but focussed reporting, perhaps on a three- or four-year cycle, may lead to more detailed returns and facilitate review of progress.

Sebastian Belle indicated that he was not speaking for the entire industry, just his Association. As he had not had a chance to review the NGOs' proposals he could not comment on them in detail, but would be willing to submit written comments on them. With regard to the statement that it was not appropriate to rely on the moral obligation on civil servants to implement measures, he stressed that very tough measures had been introduced with regard to aquaculture. Furthermore, it was not the aquaculture industry's experience that NASCO did not have 'teeth'. With regard to *Gyrodactylus salaris*, he stressed that the spread of the parasite in Norway had been through movements of fish for stocking, not farming, and that there is a need for an aggressive programme to eradicate the parasite. He also questioned whether transgenic salmon would increase productivity in farming four-fold, and noted that while there is an application before the US Food and Drug Administration, much of the work on transgenic salmon is being conducted in Canada with Canadian government funding. He suggested that if NASCO is concerned about the use of transgenic salmon, Chile should be invited to become a signatory to the NASCO Convention since it has the largest industry, and is likely to be the first place where transgenics will be used. He indicated that the US industry is at a competitive disadvantage with Chile because of environmental regulations and many of the US farms are about to go out of business. It would not be in the wild salmon's interests if the farms subject to the most stringent environmental regulations failed. With regard to the Liaison Group, his experience of negotiations involving government, industry and NGOs had not been favourable, and he would not, therefore, favour NGO participation in the Liaison Group at this stage, but rather would suggest that the NGOs and salmon farming industry meet for open and frank bilateral discussions. The industry is also sceptical about NGO participation in the Liaison Group because of the problems NASCO has experienced with some NGOs and the media at its Annual Meetings. He also noted that the way in which the Williamsburg Resolution had been taken forward by NASCO seriously compromised the trust that had been built in the Liaison Group and had jeopardised its future. At this stage, therefore, inclusion of NGOs in the Liaison Group was premature. He also suggested that with

regard to the review of NASCO's agreements, there is no such thing as an independent panel.

Lorne Anderson (Canadian Aquaculture Industry Alliance) indicated that with regard to suggestions that consumers may be switching from farmed to wild salmon, the Salmon of the Americas Group ran taste tests among 80 chefs which found that most (a ratio of 3:1) preferred farmed salmon. He indicated that misinformation from NGOs and the media about health risks associated with farmed salmon was putting pressure on the wild stocks. In Canada, the salmon farming industry is highly regulated by both Federal and Provincial governments and there is a strong national code on introductions and transfers. The industry is complying fully with the NASCO agreements on containment and reports appropriate information to the Liaison Group. The Canadian industry does not support the use of transgenic salmon and will not do so until such time as their use is approved by Health Canada and there is consumer demand for them. He expressed concern about increasing NGO participation in NASCO. He supported further work by NASCO on sea lice and Infectious Salmon Anaemia, which are important areas for the industry. He indicated that the industry in Canada is working with the Federal and Provincial governments to develop a National Aquatic Animal Health Programme.

Dwayne Shaw (Downeast Salmon Federation, USA) expressed concern about the use of Atlantic salmon in the Pacific Ocean. He supported the comments about Chilean involvement in NASCO's work. With regard to the issue of accountability he indicated that the power in criticising others lies in putting your own house in order first, and he referred to management of the Greenland fishery in this regard. He noted that with regard to impacts of acid rain, in addition to rivers in Nova Scotia, downeast rivers of Maine have also been affected and the US needs to act to address this issue. He suggested that NASCO might have a role to play with regard to other anadromous species of fish that have synergies with Atlantic salmon. He believed that there should be improved partnership between NASCO and its NGOs in future, but in the case of the salmon farming industry, partnership was different since the industry is regulated.

Andrew Goode (Atlantic Salmon Federation, USA) stated that ASF feels strongly that there is a role for the NGOs in the Liaison Group. In the US there has been progress on aquaculture issues as a result of pressure from the NGOs through collaborative initiatives and legal action. ASF is involved in research in relation to aquaculture impacts and could bring this expertise to the Liaison Group. With regard to the industry's concern about NGO contact with the media, there could be confidentiality agreements developed which should address this concern. He indicated that ASF supports strengthening the NASCO mandate. He expressed concern that the West Greenland fishery could develop again if Canadian stocks recovered, since this could seriously affect the US stocks which are also harvested in that fishery. He suggested that there could be a role for NASCO in agreeing compensation agreements for not fishing quotas, and in developing alternative economic activities for fishermen. He stressed the need to effectively communicate details of NASCO's work to the many NGOs not involved in the Organization.

Chris Poupard expressed disappointment at the comments from Sebastian Belle with regard to NGOs and the media. This had involved a small number of NGOs whose accreditation to NASCO had been suspended because they could not accept the

Organization's media guidelines. He believed this could be resolved through a joint approach to the media. With regard to the Liaison Group he referred to dialogue in Scotland involving the industry, NGOs and government representatives through the tripartite working group, which had led to real progress. NASCO's NGOs are demonstrating increasing organization and while he appreciates the industry's sensitivity, it is vital that NGOs participate in the Liaison Group and, with goodwill from both sides, this could be achieved.

Jaime Geiger urged NASCO to increase its focus on habitat protection and restoration and to consider establishing a fund for landscape-based improvements to which the private sector could be invited to contribute. In some areas, habitat problems remain the main issue. He also referred to the success of the Adopt a Salmon programme in New England and suggested that there could be benefits from an international outreach initiative. He also indicated that NASCO's Special Sessions have been very useful and there is a need to take action in the light of the information presented.

Peter Cronin (New Brunswick Department of Natural Resources, Canada) welcomed the positive suggestions for improving NASCO and he believed there was a considerable amount of common ground in the visions of the NGOs and the Parties. In undertaking the review of the Organization's work and the consultations, there was some fear of the unknown, but it is important to grasp the opportunity to improve NASCO through a strategic approach. In the discussion document it is stated that a goal for NASCO is to conserve and, wherever possible, restore the natural capacity for salmon production to ensure that salmon habitat is fully utilised by salmon and the salmon stocks provide the greatest possible benefits to society and individuals. At present, reporting is linked to tasks that should be undertaken but the focus should, in future, be on timeframes and goals, with detailed reporting on which measures have had benefits and which have failed.

Sebastian Belle indicated that with regard to NASCO's work on socio-economic factors, he hoped that the impact on the industry of NASCO's measures in relation to aquaculture would be included in the economic impact assessment. The impacts of regulations on the salmon farming industry have been significant and there would be socio-economic impacts on the industry elsewhere if they had to apply the same measures that applied in the US. He suggested that there is a need for NASCO's research board to consider the implications of ecosystem shifts on Atlantic salmon. With regard to a joint media approach between NASCO and the NGOs, he stressed the need for caution. While NGOs may have skills in media that NASCO could access, if care is not taken a joint media approach could de-legitimise NASCO.

Ken Whelan indicated that with regard to the ecosystem approach, there is much confusion as to what it means. Research into the factors causing mortality of salmon at sea is challenging but scientists around the North Atlantic have invested great effort in developing a cooperative programme of work (SALSEA) which should be finalised in the next few weeks. While recognising that aspects such as habitat protection and restoration and acid rain must not be forgotten, the marine survival of Irish salmon stocks has fallen to 50% of its level in the 1970s and this threatens to undermine all the good work done in fresh water. While the Research Board aims to raise new funds from the private sector, progress can also be made in implementing the SALSEA programme through re-prioritising existing government research funding.

The SALSEA programme includes hypotheses in relation to ecosystem shifts and by-catch which can be tested.

Andrew Thomson agreed that there is a need to much more effectively communicate the work of NASCO through development of a media strategy. The NGOs could be very helpful in assisting in the development of such a media strategy, which may require additional resources from the Parties to implement it effectively.

Kim Blankenbeker added that NASCO's media strategy must have clear objectives. She noted that a main focus of an education and outreach effort should be to get the word out about the plight of salmon, what is being done internationally to conserve salmon, and what individuals can do. In development of an education/outreach strategy, NASCO needs to define who it is reaching out to in order to target its audience effectively.

Malcolm Windsor agreed that an outreach programme should focus on the situation facing the salmon and the need for international cooperation to address it, rather than go into the detail of NASCO's work. There is a need for a sense of urgency and to raise the profile, perhaps through involving well-known politicians to influence opinion. In this regard the NGOs could also assist.

Chris Poupard thanked NASCO for undertaking the Next Steps review and the consultation meetings. He believed it was unique for an international organization to do this and he hoped that the Next Steps for NASCO Working Group and the Council of NASCO would take the suggestions made forward in a positive manner.

5. Report of the Meeting

5.1 Dr Malcolm Windsor advised the meeting that a draft report of the meeting would be prepared following the consultation meetings and sent to all participants within a period of three weeks after the meetings. All participants could submit written statements to the NASCO Secretariat within a period of ten days after the consultation meetings for inclusion in the report. Participants would be given a period of three weeks to comment on the draft report or to add new ideas in the light of what they had heard at the meetings. The report would then be distributed to the Next Steps for NASCO Working Group ahead of its next meeting scheduled for early April. All participants at the consultation meetings will also be invited to participate in an Open Session at NASCO's Twenty-Second Annual Meeting when the recommendations of the Next Steps for NASCO Working Group will be presented to the Council for its consideration.

6. Close of the Meeting

6.1 In closing the London meeting, Mr Bjornulf Kristiansen indicated that he had attended many meetings but that this consultation meeting had been rather special and had resulted in some very useful ideas for NASCO to consider. He hoped that the Next Steps for NASCO Working Group would give these ideas careful consideration in formulating its recommendations to the Council. Andrew Thomson then thanked all participants for their contributions to the meeting, which had allowed for a very valuable dialogue. He stressed that as custodians of the wild Atlantic salmon, it is our

task to ensure that future generations can enjoy the resource for sport, food or just to admire. That is our challenge. He wished all participants a safe journey home.

6.2 In closing the Portland meeting, Mr Scott Burns thanked the participants for a very valuable dialogue and the useful ideas that had been put forward, and which will be reported in full to the Next Steps for NASCO Working Group at its meeting in April. Ms Pat Kurkul also thanked participants and referred to the common themes that had emerged at both the London and Portland meetings. She indicated that the consultations had been a very valuable process and the Next Steps for NASCO Working Group will have much to consider when it meets in April.

Opening Remarks by the Co-Chairs at the London Consultation Meeting 19 January 2005

Ladies and Gentlemen, let me introduce myself. I am Andrew Thomson. I work for the Fisheries Directorate at the European Commission in Brussels, and I am one of the representatives of the EU at NASCO. On behalf of the Council of NASCO, and along with my Co-Chair, Mr Bjornulf Kristiansen, I would like to welcome you all to this Consultation Meeting.

We are holding this consultation meeting today here in London. Next week, we are doing the same in Portland, Maine, in the USA. Why? We are doing this now because NASCO is 20 years old. Not very old in human terms! In NASCO, we feel that this Organization has done a very good job over the last 20 years. Have a look at the document "NASCO at 20 years", which you have all received. Personally, I think it is remarkable what we have achieved together. With my experience in a number of other international fishery bodies, I know that NASCO is well at the forefront in both its actions and in its spirit.

Despite all these actions, the situation for the wild salmon stocks is serious. We are facing many difficulties in conserving the stocks, and despite all the sacrifices made around the North Atlantic, the stocks do not, so far, seem to have responded.

What is our aim today? We want to seek the views of all the Stakeholders on the future focus for NASCO. We are here today to listen to you, the Stakeholders. What do we mean by Stakeholders? We mean those organizations or individuals who have responsibilities for, utilise, depend on, or are simply concerned about and interested in the wild Atlantic salmon. This is a fairly wide remit.

I see that we have a number of people from the private sector here. We very much welcome your views. There are also people from official bodies, agencies and statutory bodies. You are also major stakeholders and we want to hear from you, too. There is no party line – you must talk and we must all listen.

We welcome all views, however wide-ranging or narrowly focused. You are completely free to suggest major or minor changes. In the discussion document NSCM(05)4 you have just a few options for changes which have been developed by our 'Next Steps for NASCO' Working Group. We want your views on these and any new suggestions you may have for how NASCO as an organization can be made more effective in meeting the challenges facing the wild salmon resource. Nothing is ruled out and nothing is ruled in. We will listen to every suggestion and proposal made and, in a few short weeks, we will let you see a record of this meeting so that you can be sure that we have captured all the points made. You can even add further points later if you think of other such points after the meeting when you have seen the report.

You will appreciate, however, that we cannot give you a response today on whether or not we can accept the ideas put forward. All the ideas and comments, and I must stress all, not just from this meeting but from the parallel meeting in Portland next week, will go back to the Working Group which NASCO has established. All the suggestions will be considered by

this Working Group, which will subsequently make recommendations to the NASCO Council as to what the "Next Steps" should actually be. You will be given a copy of the paper which will go to the Council. You will also be invited to participate, if you wish, in the Open Session of the June NASCO Council Meeting in Vichy, France. All the points will be debated by all those concerned at that time.

This, ladies and gentlemen, is a genuine attempt to involve you in our work and in our planning. As far as we are aware, we are the first International Fisheries Organization to do this. I am sure the others will follow closely behind!

My Co-Chair today is Bjornulf Kristiansen from Norway. I am particularly delighted that he has agreed to serve as Co-Chair today because he has been a very active member of our NGOs. I would like to invite him to say a few words of introduction.

Good morning, Ladies and Gentlemen. My name is Bjornulf Kristiansen and I represent the Norwegian Farmers Union, a long-standing NGO to NASCO. To my Organization's members the Atlantic salmon represents an important cultural and economic resource which augments the income they derive from farming the land. This consultation meeting is very important in developing ideas to improve the situation facing the Atlantic salmon. I hope we will have a lively and valuable debate focusing on what can be done for the salmon in a cooperative atmosphere. Because of the life-cycle of the Atlantic salmon rational management can only be achieved through international cooperation and I believe that NASCO has achieved much in its first 20 years. Our challenge is to ensure that it has the ability to meet the future challenges that lie ahead.

Thank you, Bjornulf. Malcolm Windsor, the NASCO Secretary, will now make some announcements about today's meeting and how we will handle its outcome. Following this, he will make a presentation about "20 Years of NASCO". This will help to summarise where we are today and highlight some of the options developed by the 'Next Steps' Working Group. Remember that this Working Group was established to ensure that NASCO is well positioned to meet future challenges in salmon conservation and management. Having heard from all of us, we will then be seeking your views on where we should be going in future. Remember, ladies and gentlemen, we want to hear your views and we want to hear your views on these views. I want to hear from everyone today, however much you have to contribute. This way, we will guarantee that NASCO can go forward and meet the challenges to ensure the future of the wild salmon.

Opening Remarks by the Co-Chairs at the Portland Consultation Meeting Portland, 25 January 2005

Ladies and Gentlemen, my name is Pat Kurkul and I am the Regional Administrator for the North-East Region of the National Marine Fisheries Service. I am also Head of the US Delegation to NASCO. On behalf of the Council of NASCO my Co-Chair, Mr Scott Burns, and I would like to welcome you all to this Consultation Meeting. We are holding this meeting today here in Portland and we held another parallel one last week in London. The reason that we are doing this now is because NASCO is 20 years old. We all feel that this Organization has done a very good job over these years and when you look at the document "NASCO at 20 years", which you have all got, I think it is remarkable what has been achieved. I have experience of a number of international fishery bodies and I can tell you that NASCO is well in the forefront in its actions and in its spirit.

Nevertheless, the situation for the wild salmon stocks is serious, we face many difficulties in conserving the stocks and, in spite of all the sacrifices made around the Atlantic, the stocks do not, so far, seem to have responded.

Our aim now is to seek the view of all the Stakeholders on the future focus for NASCO. So we are here today mainly to listen to you, the Stakeholders. By Stakeholders we mean those organizations or individuals who have responsibilities for, utilise, depend on, or are simply concerned about and interested in the wild Atlantic salmon. I see that we have a number of people from the private sector here and we very much welcome your views. There are also people from official bodies, agencies and statutory bodies. You are also major stakeholders and we want to hear from you, too. Today there is no party line!

Let me make it clear that we welcome all views, however wide-ranging or narrowly focused. We want you to feel completely free to suggest major or minor changes. In the discussion document NSCM(05)4 you have some options for changes which have been developed by our 'Next Steps for NASCO' Working Group and we would like your views on these and any new suggestions you may have for how the Organization can be made more effective in meeting the challenges facing the resource. Nothing is ruled out and nothing is ruled in. We will note every suggestion and proposal made and we will let you see a record of this meeting so that you can be sure that we have captured the points made. If you think of other points after the meeting when you see the report you can even add these.

I am sure you will appreciate, however, that we cannot give you a response today on whether or not we can accept the ideas put forward. All the ideas and comments, not just from this meeting but from the parallel meeting in London last week, will go back to the Working Group that NASCO has put together for this purpose. This Working Group will sift through all of the suggestions and will make some recommendations to NASCO Council as to what the "Next Steps" should actually be. We will show you the paper which will go to the Council. We will also invite you to participate, if you wish, in the Open Session of the June Council Meeting in Vichy, France where all this will be debated.

So this is a genuine attempt to involve you in our work and in our planning and, so far as we are aware, we are the first International Fisheries Organization to do this.

I have mentioned that my Co-Chair is Scott Burns from WWF and we are particularly delighted that he has agreed to serve as Co-Chair today. So first I would like to invite him to say a few words.

Good morning, Ladies and Gentlemen. It is my pleasure to co-chair this important consultation meeting and to welcome you here today. I work for the World Wildlife Fund and direct its marine conservation programme. Today, as Pat has indicated, we seek your views on the changes that might be needed to ensure that NASCO can meet its future challenges. I would like to thank NASCO and its Contracting Parties for the way in which they have decided to explore the Organization's future through open consultation meetings in London and now today in Portland. I would encourage this meeting to pay special attention to the proposals for change which have been developed by the Next Steps for NASCO Working Group as detailed in the discussion document which has been distributed. I look forward to an open and frank discussion.

Thank you, Scott. I would now like to ask our Secretary, Malcolm Windsor, to make some announcements about today and how we will handle the outcome of this meeting. He will then make a presentation to us about "20 Years of NASCO" so as to summarise where we are today and highlight some of the options developed by the 'Next Steps for NASCO' Working Group to ensure that NASCO is well positioned to meet future challenges in salmon conservation and management. Then, of course, we will be seeking your views on where we should be going in future.

Stakeholder Consultation Meetings on the 'Next Steps for NASCO'

List of Participants

London, 19 January 2005

Mr Hugh Becker	North-East Regional Fisheries, Ecology and Recreation Advisory Committee, Barnard Castle, County Durham, England
Ms Carmen Beraldi	Secretaria General de Pesca, Madrid, Spain
Mr Raoul Bierach	Directorate for Nature Management, Trondheim, Norway
Ms Liz Black	Environment Agency, Cumbria, England, UK
Mr Ede Brumund-Rüther	German Anglers Union, Jade, Germany
Mr Patrick Byrne	National Anglers Representative Association, Newbridge, Co Kildare, Ireland
Mr Ian Calcott	Scottish Anglers National Association, Falkirk, Scotland, UK
Mr Hugh Campbell-Adamson	Association of Salmon Fishery Boards, Edinburgh, Scotland, UK
Mr Paul Chapinal	Department of Environment, Fisheries and Rural Affairs, London, UK
Ms Mary Colligan	National Marine Fisheries Service, Gloucester, Massachusetts, USA
Mr Richard Cowan	Department of Environment, Fisheries and Rural Affairs, London, UK
Mr Roger Furniss	South West Rivers Association, Exeter, UK
Dr Paddy Gargan	Central Fisheries Board, Dublin, Ireland
Mr Gerard Gough	Electricity Supply Board Fisheries Conservation, Ardnacrusha, Co Clare, Ireland
Mr Ian Gregg	Association of Rivers Trusts, Penrith, Cumbria, England, UK
Mr John Gregory	Institute of Fisheries Management, Powys, Wales, UK
Mr Guðmundur B Helgason	Ministry of Agriculture, Reykjavik, Iceland
Mr Timothy Hoggarth	Atlantic Salmon Trust, Surrey, England, UK

Dr Peter Hutchinson	Assistant Secretary, NASCO
Dr Detlev Ingendahl	State Inland Agency of Ecology NRW, Kirchhundem, Germany
Mr Arni Isaksson	Directorate of Freshwater Fisheries, Reykjavik, Iceland
Mr Paul Knight	Salmon and Trout Association, London, UK
Mr Bjornulf Kristiansen	(Co-Chair), Norges Bondelag (Norwegian Farmers Union), Oslo, Norway
Dr Svetlana Krylova	Murmanrybvod, Murmansk, Russia
Ms Patricia Kurkul	National Oceanic and Atmospheric Administration Fisheries, Gloucester, Massachusetts, USA
Mr Nick Marriner	North-West Regional Fisheries Ecology and Recreation Advisory Committee, Warwick on Eden, Carlisle, UK
Mr Patrick Martin	Fondation Saumon, Langeac, France
Dr Ursula Monnerjahn	Information Centre for Biological Diversity (IBV)/ZADI, Bonn, Germany
Major Gen. Seymour Monro	Atlantic Salmon Trust, Pitlochry, Perthshire, Scotland, UK
Mr Armin Nemitz	Fisheries Association of Northrhine-Westfalia, Germany
Mr George O'Doherty	Department of Communications, Marine and Natural Resources, Dublin, Ireland
Mr Chris Poupard	Chairman of NGOs, Truro, UK
Dr Boris Prischepa	Murmanrybvod, Murmansk, Russia
Ms Elena Samoylova	PINRO, Murmansk, Russia
Dr H Schulze-Wiehenbrauck	Ministry of Environment of Northrhine-Westfalia, Dusseldorf , Germany
Mr Boris Temkin	Association of Tourist Enterprises of Murmansk Region, Murmansk, Russia
Mr Andrew Thomson	(Co-Chair), European Commission, Brussels, Belgium
Mr Ole Tougaard	European Commission, Brussels, Belgium
Dr Ken Whelan	Marine Institute, Newport, Ireland
Mr Andrew Whitehead	North Atlantic Salmon Fund (UK), Kinross, Scotland, UK
Mr Godfrey Williams	Environment Agency, Cumbria, England, UK
Dr Malcolm Windsor	Secretary, NASCO

Mr J Humphrey A. Wood	South West Rivers Association, London, UK
Mr Tim Young	Department of Fisheries and Oceans, Ottawa, Ontario, Canada

Portland, 25 January 2005

Mr Lorne Anderson	Canadian Aquaculture Industry Alliance, Ottawa, Ontario, Canada
Mr Edward Baum	Atlantic Salmon Unlimited, Hermon, Maine, USA
Mr Sebastian Belle	Maine Aquaculture Association, Hallowell, Maine, USA
Ms Kimberly Blankenbeker	National Marine Fisheries Service (SF4), Silver Spring, Maryland, USA
Mr Scott Burns	(Co Chair) World Wildlife Fund, Washington DC, USA
Ms Mary Colligan	National Marine Fisheries Service, Gloucester, Massachusetts, USA
Mr Peter Cronin	New Brunswick Department of Natural Resources, Fredericton, New Brunswick, Canada
Mr Colin Cunningham, Jr	New England Fishery Management Council and Massachusetts Marine Fisheries Commission, Boston, Massachusetts, USA
Dr Adria Elskus	United States Geological Survey, Orono, Maine, USA
Dr Kevin Friedland	University of Massachusetts Amherst and the National Oceanic and Atmospheric Administration, Cooperative Marine Education and Research Programme, Amherst, Massachusetts, USA
Dr Jaime Geiger	United States Fish and Wildlife Service, Hadley, Massachusetts, USA
Mr Stephen Gephard	State of Connecticut, Department of Environmental Protection, Inland Fisheries Division, Old Lyme, Connecticut, USA
Mr Andrew Goode	Atlantic Salmon Federation, Brunswick, Maine, USA
Dr Peter Hutchinson	Assistant Secretary, NASCO
Mr Ralph Keef	Maine Council, ASF, Hermon, Maine, USA
Mr Patrick Keliher	Maine Atlantic Salmon Commission, Augusta, Maine, USA
Ms Patricia Kurkul	(Co-Chair), National Oceanic and Atmospheric Administration Fisheries, Gloucester, Massachusetts, USA

Mr George Lapointe	Maine Department of Marine Resources, Augusta, Maine, USA
Mr Sandy McGeachy	New Brunswick Department of Agriculture, Fisheries and Aquaculture, Fredericton, New Brunswick, Canada
Mr Joseph McKeon	United States Fish and Wildlife Service, Nashua, New Hampshire, USA
Dr Niall O'Maoileidigh	Marine Institute, Dublin, Ireland
Mr Chris Poupard	Chairman of NGOs, Truro, UK
Mr David Reid	Nova Scotia Salmon Association, Bedford, Nova Scotia, Canada
Mr Steve Rideout	United States Geological Survey, Leetown Science Center, Turners Fall, Massachusetts, USA
Mr Gordon Russell	United States Fish and Wildlife Service, Old Town, Maine, USA
Mr Jacob van de Sande	Downeast Salmon Federation, Columbia Falls, Maine, USA
Mr Dwayne Shaw	Downeast Salmon Federation, Columbia Falls, Maine, USA
Mr Andrew Thomson	European Commission, Brussels, Belgium
Mr Clinton Townsend	Maine Rivers, Skowhegan, Maine, USA
Ms Joan Trial	Maine Atlantic Salmon Commission, Bangor, Maine, USA
Dr Ken Whelan	Marine Institute, Newport, Ireland
Dr Malcolm Windsor	Secretary, NASCO
Mr Jed Wright	United States Fish and Wildlife Service, Portland, Maine, USA
Mr Tim Young	Department of Fisheries and Oceans, Ottawa, Ontario, Canada
Dr Gerard Zegers	Downeast Salmon Federation, Machias, Maine, USA

NASCO at 20 years

The wild salmon brings many jobs and brings pleasure to many who will never fish it. It symbolises environmental quality. Over 2,000 salmon rivers flow into the North Atlantic and the wild stocks migrate widely. Rational management of the North Atlantic salmon can therefore only be achieved through international cooperation. Since 1984, NASCO has provided that forum for conservation, restoration, enhancement and rational management of Atlantic salmon. This 20-year period has, however, proved a difficult one, since stock abundance has declined. Environmental changes, particularly at sea, may have very significant impacts on abundance. In this situation, stringent management measures have been required on all factors that might impact on the resource. The milestones in the 20-year period follow:

- NASCO's Convention prohibited fishing for salmon beyond areas of fisheries jurisdiction and in most parts of the North Atlantic beyond 12 nautical miles, and thereby created a large protected zone free of fisheries in the North Atlantic;

- NASCO successfully addressed the problem of fishing for salmon in international waters by non-Contracting Parties but there is a need for vigilance as market demand for wild salmon could increase;

- NASCO agreements greatly reduced the interception by a Party of salmon originating in the rivers of other Parties. These fisheries accounted for 30% of the total harvest at their peak prior to 1984, but for less than 0.5% of the harvest in 2003;

- These NASCO regulatory measures stimulated management measures in "home water" fisheries which have also greatly reduced harvests. There is a requirement under the Convention which effectively requires the process of 'putting your own house in order' before expecting others to make sacrifices;

- NASCO considerably broadened its base from an organization which focused only on the fisheries to one which is now addressing a very wide range of threats to the resource (see below);

- NASCO introduced the concepts of the Precautionary Approach to all of its work so as to give priority to conserving the productive capacity of the resource and avoid irreversible change. In this regard, NASCO developed guidelines/agreements in relation to:

    - management of North Atlantic salmon fisheries;
    - habitat protection and restoration;
    - by-catch;
    - stock rebuilding programmes;
    - salmon aquaculture;
    - introductions and transfers;
    - and transgenics.

- NASCO identified all the social and economic values of the wild Atlantic salmon and is now developing guidelines on how to incorporate socio-economic factors in application of the Precautionary Approach without undermining its effectiveness;

- NASCO took steps to prevent the further spread of the parasite *Gyrodactylus salaris*;

- NASCO stimulated scientific research and advice so as to provide a basis for its actions;

- NASCO introduced a minimum standard for catch statistics, it has analysed the sources of unreported catches on an annual basis, and it has encouraged measures to minimise unreported catch;

- NASCO developed guidelines for catch and release fishing and for the establishment of gene banks;

- NASCO stimulated an exchange of statistics and information among the Parties and has established a number of databases related to the salmon and its conservation;

- recognising that a major factor influencing salmon abundance is increased mortality at sea and that the causes of this are poorly understood, NASCO established an International Atlantic Salmon Research Board in order to stimulate research and links with NGOs and with the private sector on this issue;

- NASCO established a Liaison Group with the international salmon farming industry with a view to developing agreements on how to minimise impacts of this industry on the wild stocks;

- NASCO developed its transparency and admitted 30 observer organizations, a very much larger number than most fishery organizations, to its meetings. The contributions they make have been welcomed;

- NASCO is considered to be a very stable organization financially and one which has made excellent investments for the future;

- In NASCO, over 100 delegates, all with differing experience and backgrounds in wild salmon, gather annually in a cooperative international spirit to do their best to conserve the wild stocks.

None of these elements existed prior to NASCO and not many international inter-governmental organizations have come this far in this timescale. Nonetheless, the situation for the wild stocks is still serious and the Organization will now consider how to monitor implementation of its agreements and how it can ensure its effectiveness for the next decade.

NSCM(05)6

Next Steps for NASCO

A Joint Response from the Non-Governmental Observer Organisations

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Introduction

The North Atlantic Salmon Conservation Organization (NASCO) was formed in 1984. Over the succeeding 20 years wild Atlantic salmon have continued to decline and in some parts of their range are in an endangered state. These bare facts have been used by some observers as justification of their claim that NASCO has failed as an organization. This criticism is unfair, because in those 20 years a number of new threats to salmon have emerged or been identified that did not appear relevant or significant when NASCO was formed. In 1984 the primary cause of concern was exploitation of salmon in their feeding grounds on the high seas, and the NASCO mandate was constructed specifically to deal with that threat. In this respect, NASCO has been successful; illegal fishing for salmon on the high seas has been virtually eliminated, and exploitation in the principal feeding grounds at West Greenland and the Faroes has either been suspended or reduced to a minimum for subsistence consumption. NASCO's success has been built on scientific advice from ICES, tough negotiation and a growing trust between the Parties, with assistance over the years by various private initiatives brokered by the North Atlantic Salmon Fund (NASF).

During the past 20 years NASCO has done its best to respond to the new threats to salmon as they have emerged. It has adopted the principle of the Precautionary Approach to the management of salmon stocks and developed guidelines for habitat restoration, the impact of aquaculture, introductions and re-stocking. These are laudable initiatives, but to outside observers the pace at which they have been introduced and the rate at which they have been applied by the Parties leaves much to be desired; and salmon stocks have continued to decline.

At the 20th anniversary meeting in Reykjavik in June 2004, the WWF and ASF published a critical Review of NASCO's work, together with a Vision for the future of the organisation. This document was independently authored by four individuals from quite different backgrounds with long experience of NASCO. Their central conclusion was that the work of the Organization was constrained by the original mandate, and they called on the Council of NASCO to set up a working party to consider the future of the Organization. This recommendation was supported by all the NGOs present in Iceland, in addition to a number of specific recommendations, which will be discussed later. A parallel paper, tabled by the USA, suggested a review of NASCO meetings and procedures.

NASCO was formed out of an idea put forward by some NGOs in 1979. We felt that 25 years on, it was highly appropriate that a new direction for the Organization should again be stimulated by an initiative put forward by NGOs.

At Reykjavik, the Council of NASCO agreed to set up a working party, the "Next Steps" process, and invited representatives of the NGOs to contribute to a discussion about the format and content of the consultation exercise in Dunkeld, Scotland in October 2004. As a result, two consultation meetings, open to all with an interest in wild Atlantic salmon, are to be held in London on January 19th 2005 and Portland, Maine on January 25th 2005. The meetings will be co-chaired by representatives of the Contracting Parties and the NGOs.

The NGOs applaud the positive and open way in which NASCO has set up the consultation meetings, and we look forward to making a significant contribution to the "Next Steps" process.

GENERAL PRINCIPLES

1. Scope and objectives of Next Steps process

The NGOs have welcomed the open approach taken by NASCO and its Contracting Parties. However, there is always a danger in any organisation that the processes of the organisation can become more important than its objectives. The principal aim of NASCO should remain the conservation, restoration and improvement of Atlantic salmon stocks. This is the criterion on which NASCO will continue to be judged. The outcome of the consultation process and any changes to the way NASCO operates must be oriented towards improving performance in achieving these objectives.

Recommendation 1
The outcome of the consultation process and any changes to the way NASCO operates must be primarily oriented towards improving performance in the conservation, restoration and improvement of Atlantic salmon stocks.

2. The need for an ecosystem-based approach

It is now widely accepted that fisheries management cannot be successful without the adoption of an ecosystem-based approach. This principle was formally recognized in the FAO *Code of Conduct for Responsible Fisheries (1995)* and the ecosystem approach has had a fundamental influence on the *United Nations Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks.*

The ecosystem approach is highly relevant to the management of Atlantic salmon stocks, which have a complex life-cycle and are vulnerable to threats at each stage of their development, covering spawning areas, juvenile habitat, migration routes and feeding areas in the ocean. A major implication of this approach is that all the complex interactions from human activity – including water abstraction, agricultural practice, industrial processes, urban run-off, hydro-power generation, angling, aquaculture, net fishing and so on, – must be addressed by NASCO and its Contracting Parties.

The eco-system approach is particularly relevant to NASCO in terms of its international role in addressing the impact of fishing, and not just fishing targeted on salmon, but fishing for other species in areas of salmon migration or high seas feeding grounds (see section 10).

Recommendation 2
The role of NASCO must be based on the ecosystem-based approach to the management of Atlantic salmon stocks.

3. Adoption of the Precautionary Approach

NASCO has led the way, compared with other international fishery organisations, in developing a precautionary approach to the management of wild Atlantic salmon stocks, approving the principles in 1998.

However, to observers, the pace of progress by the Parties in applying these principles has been very slow. This has been described as applying the Precautionary Approach to its implementation. For example, there are growing concerns, first highlighted by the NGOs at NASCO in 1998, that pelagic trawlers in the North and Norwegian Seas may be taking a

substantial by-catch of salmon post-smolts. The Precautionary Approach clearly states that "*the absence of scientific proof should not be used as an excuse to avoid taking management action"*, yet NASCO's response to this potentially serious threat has been simply to take a lead in co-ordinating research into the subject (see 10 & 11).

Recommendation 3
NASCO must apply the Precautionary Approach with much greater urgency and vigour.

IMPROVING THE EFFECTIVENESS of NASCO

4. The need for a broader mandate

The main conclusion of the *Vision* document was that NASCO required a new mandate to enable it to address the range of new threats to Atlantic salmon. The document argued that NASCO's authority to carry out its treaty obligations was limited by Article 4.2. This rules out any decision concerning "*the management of salmon harvest within the area of fisheries jurisdiction of a Party"*. In practice this has meant that the Council of NASCO can do no more than make recommendations on such issues as the Precautionary Approach to fisheries management, regulation of aquaculture and exploitation of salmon in home waters.

A good example has been given by the Secretary: interception of Spanish salmon in Faroese waters is within NASCO jurisdiction; interception of Spanish salmon in Irish waters is not. This is clearly a nonsense in terms of international salmon management.

Despite these limitations, NASCO has done its best in tackling a wide range of threats to salmon beyond its original mandate. It has adopted the principle of the Precautionary Approach to the management of salmon stocks and developed guidelines for habitat restoration, reducing the impact of aquaculture, introductions and re-stocking. However, progress has been entirely dependent on the voluntary adoption of these measures by the Parties, which has been extremely variable in terms of both scope and speed of implementation.

Reporting procedures have been similarly mixed and there has been little critical examination of such reports by other Parties. Often, individual Parties have managed to present a smokescreen, obscuring their lack of action; in some instances, Parties have simply not reported at all. The impact of attempts by NGOs to highlight these failures have been reduced, in the early days by lack of co-ordination, by time constraints on opening statements and the limited participative opportunities currently available during the NASCO annual meeting (see section 20). Even in Special Sessions, lack of structure in the meetings and crowded agendas have militated against robust criticism.

In short, NASCO has no teeth to require the implementation of its guidelines.

This is not good enough when there has been a continued decline of salmon stocks across the North Atlantic. This situation must be addressed as part of this Review.

The NASCO Working Party (which only comprises representatives of the Parties) has concluded, in advance of this Review, that a new mandate is not required. They point out that opening up the Treaty for revision would be a time-consuming process; that any changes would require unanimous adoption and they highlight the danger of the "*law of unintended*

consequences" – that ultimately unfavourable changes might be incorporated during the revision process.

The NGOs do not consider this to be a serious risk. Any changes require unanimous approval by the Parties. While our suggestions would strengthen the mandate, counter-arguments which might weaken the mandate would also require unanimity, and we believe such negative changes would be unlikely to gain approval.

NASCO Action Plans

As an alternative, the Parties have suggested that "*Commitments might be made which would achieve a similar result to changing the Convention. For example, the NASCO Parties could produce action plans relating to the NASCO agreements which would commit them to achieve implementation of elements of these agreements by certain dates. These action plans would be submitted to the Council of NASCO for its consideration."*

Other options were suggested to improve implementation and reporting:

- Restructure the format of annual meetings, with alternate years focussing on reporting on implementation of agreements, so as to allow for a review of progress, with perhaps an intense focus on particular agreements every few years.
- Progress reports to be made at *Special Sessions of Council* which would extend NGO participation. The programme for such sessions could be developed well in advance to include fundamental questions to assess the extent of implementation.
- Reconsider reporting formats to facilitate comprehensive reports (rather than just new measures) and facilitate database entry of information.
- Commission an independent panel to undertake a critical external review of the actions taken by Parties to implement agreements.

In addition, the NGOs recommend that a new protocol to the Convention, specifying the obligations of the Parties to report to NASCO under existing agreements, should be drawn up. This would ensure that

(i) Reporting requirements are formal requirements under the Treaty;
(ii) The reporting requirements are adequate in scope, with the types of measures to be reported clearly defined; and
(iii) That the data reported can be readily measured against targets and timescales.

The response from ASF and WWF will provide more detail in this area.

The NGOs recognize one particular problem associated with opening the Convention - the timescales involved, and time is not on our side. We believe that the suggestions made by the NASCO Working Party represent an immediate way forward and should be adopted as soon as possible.

If these new measures are adopted, their success will be judged by how enthusiastically the Parties embrace them. The NGOs hope to play a key role in their critical evaluation.

Changing the mandate

Unfortunately, without mandate change, these measures remain voluntary, and the question of what action can be taken against Parties who fail to meet targets remains. The NGOs do not believe that the idea of mandate change should be discarded. We understand that the process of amending the Convention is straightforward: any of the Parties may propose an amendment 90 days before a meeting. Achieving unanimity may be more difficult, but if broadening the mandate is essential to the Organization achieving its purpose, it should be difficult for any Party to justify a vote against this change.

The principal reason for changing the mandate is to give NASCO the regulatory authority in regard to the broader issues on which it can only currently make recommendations. We believe this could be achieved by simple amendments to Articles 1 and 4.2 of the Convention. Our colleagues in North America are formulating more detailed proposals.

The idea that NASCO could "interfere" in the management of salmon in home waters is likely to be viewed with apprehension by some Parties, but in practice, of course, it will be the Parties who continue to manage their own stocks; but instead of discretion to implement NASCO agreements there would be a measure of compulsion. We believe such a change would actually help some governments faced with difficult political decisions at home, for example in the case of management of mixed stock fisheries or the regulation of aquaculture.

The NGOs therefore propose a "**twin-track"** approach:

A. Immediate adoption of the NASCO Working Party suggestions for the introduction of **action plans,** requiring the Parties to develop commitments for the introduction of NASCO agreements, with timescales, together with robust reporting mechanisms and a critical review process.

B. Establish a small working group, including representatives from the Secretariat, Parties and NGOs, to examine the mechanisms for and feasibility of **mandate change.**

It is important to remember that mandate change may be required if the new measures proposed are ineffective, new threats to salmon emerge, or the stock situation deteriorates drastically (e.g. major climatic event), and opening the Convention may need to be implemented as a matter of urgency.

Recommendation 4
The NGOs recommend a **"twin-track" approach**:

A. Immediate adoption of the NASCO Working Party suggestions for the introduction of **action plans,** requiring the Parties to develop commitments for the introduction of NASCO agreements, with timescales, together with robust reporting mechanisms and a critical review process, as follows:

4.1 Require each Party to develop a plan of action for implementation of all NASCO's agreements, including milestones for implementation. Such Plans should establish quantifiable goals for implementation of particular elements of an agreement in a given time frame.

4.2 Restructure the format of annual meetings, with alternate years focussing on reporting on implementation of agreements, so as to allow for a review of progress, with an intense focus on particular agreements every few years. Where appropriate, more use could be made of inter-sessional meetings to speed up the reporting and implementation process.

4.3 Require reports to be made at *Special Sessions of Council,* which would extend NGO participation. The programme for such sessions could be developed well in advance to include fundamental questions to assess the extent of implementation.

4.4 In addition, the NGOs recommend that a new protocol to the Convention, specifying the obligations of the Parties to report to NASCO under existing agreements, should be drawn up. This would ensure that

(i) Reporting requirements are formal requirements under the Treaty;

(ii) The reporting requirements are adequate in scope, with the types of measures to be reported clearly defined, and

(iii) That the data reported can be readily measured against targets and timescales.

4.5.1 Commission an independent peer review panel to undertake a critical external review of the actions taken by Parties to implement agreements. Representatives of NGOs should be invited to participate in this panel.

B. Establish a small working group, including representatives from the Secretariat, Parties and NGOs to examine the mechanisms for and feasibility of **mandate change.**

5. Other ideas to improve implementation by the Parties

Enhancing the status of NASCO agreements

Parties should give greater weight to NASCO agreements by recognizing them as binding International Directives.

An example is the European Union Water Framework Directive. This sets out a framework for member countries to achieve good ecological status in all surface waters by 2015. It is up to EU member countries how they implement the Directive. Countries not meeting the timetable, or standards required, may be subject to infraction proceedings.

EU member countries have a treaty obligation to the EU and the member countries are signed up to the Directive. The NASCO Parties have already signed up to the Convention and it would be up to them whether they chose to agree to an enhanced designation for particular NASCO agreements, but this would not involve mandate change. An obvious weakness is that NASCO would not be able to institute infraction proceedings. In practice, some member governments already treat NASCO agreements as Directives, so this is a question of emphasis rather than enforcement.

Species/stock/catchment designation

Atlantic salmon are already designated under the EU Habitats Directive in fresh water. This gives a measure of protection to the species throughout its European range. In addition, some river systems are designated as Special Areas of Conservation (SACs) for a range of features which often include salmon.

- In Norway, 50 salmon rivers are in the process of designation as National Salmon Rivers and 31 aquaculture exclusion zones are being developed as National Salmon Fjords.

On the north and east coasts of Scotland there is a presumption against aquaculture development, though expansion of existing farms has been permitted.

In the USA, a number of salmon stocks have been given endangered status.

Such measures are promoted by individual Parties, but they make it much simpler to promote internal regulation measures and conservation of salmon, so they must be encouraged.

Recommendation 5

5.1 The Parties should recognize NASCO agreements as binding International Directives.

5.2 The EU should consider designating Atlantic salmon as a protected species across its range in both fresh and sea water (within EU waters) to enhance the ability of EU member governments to protect and conserve Atlantic salmon stocks. We would urge other Parties to also adopt this approach

5.3 The NGOs commend Norwegian initiatives in creating National Salmon Rivers and Fjords. We urge other Parties to adopt this process and welcome the suggestion from the working party to create Salmon Heritage Rivers. NASCO should play a key role in co-ordinating this process.

5.4 The NGOs have already called for a NASCO initiative on endangered populations. We support the suggestion from the working party to seek identification of threatened or endangered populations and /or special measures introduced for their protection, and establish and maintain an inventory of this information.

REVIEW of NASCO ACTIONS

6. Habitat protection and restoration

The *Vision* document called for NASCO to strengthen its role in habitat conservation and restoration.

NASCO has already established itself as the international forum for discussion and dissemination of methods for salmonid habitat protection and restoration. NASCO should continue to refine its guidelines with the aim of establishing best practice and encouraging implementation by the Parties.

The EU Water Framework Directive could well provide a template for comparative measurement of improvements in habitat across the waters of the Parties. The threats posed by diffuse pollution and acid rain must be emphasized. The need for more rapid reform of agricultural and forestry practice as part of this process must be included.

NASCO must also take note of threats posed by small hydro-power plants and windfarms as they affect water catchments across Europe and North America. The drive for renewable energy has resulted in legislation promoting small hydro-schemes with little or no protection for salmon, eels and other species. We urge the Parties to take note of these concerns and impose additional measures.

NGOs support regular reporting to Special Sessions of Council as suggested by the working party.

Recommendation 6
NASCO should continue to refine its habitat guidelines with a view to promoting best practice. We highlight the dangers of diffuse pollution and acid rain, and draw attention to the threat posed by some small hydro-schemes and the construction of wind farms.

7. Predation

Predation is an integral part of ecosystem management and its omission as a topic from the briefing paper is a glaring omission.

Predation of juvenile salmon and pre-smolts by fish-eating birds and other fish species contribute to substantial mortality in many countries. Predation by seals is also of serious concern across the North Atlantic. Just because the topic is contentious or politically sensitive does not mean it should be omitted.

A programme bringing together bird and fisheries scientists (REDCAFE/INTERCAFE) has been proceeding in Europe for four years, with the eventual aim of creating a Europe-wide management plan for the European cormorant. While derogations are possible throughout Europe to allow for protection of designated species (such as salmon in fresh water) by shooting specified numbers of birds, the only sustainable solution in the long-term is a Europe-wide plan.

The growth of the seal population in both Europe and North America gives rise to problems not only with salmon but also white fish stocks.

Such problems may be politically difficult but they are not going to go away. We believe that NASCO should provide the forum at an international level for sharing information about predator numbers, impacts on salmon and control measures.

Recommendation 7
NASCO should provide the international forum for sharing information about predator numbers and impacts on salmon, as well as control measures**.**

8. Management of home-water fisheries

The NASCO Working Party recognised that not all mixed stock fisheries are subject to regulatory measures, and called for a fair balance between the management of distant and home-water fisheries. The NGOs have been arguing for such fairness since before NASCO was created.

In distant waters we recognise the restraint shown by Greenland and the Faroes in restricting fishing to a subsistence level or not fishing at all. While we recognise the right of such communities to fish, any future quotas must be sustainable and based firmly on scientific advice. In home waters certain Parties have been notoriously slow in implementing regulatory measures, mostly for domestic political reasons, where taking more rapid action would be unpopular with some sections of society.

While the NASCO decision structure on management of home-water fisheries is a valuable tool, it is of course entirely voluntary; its use is also confounded by allowing the Parties to determine what constitutes a mixed stock fishery.

The use of genetic fingerprinting should be introduced as soon as possible to help identify mixed stock fisheries and aid Parties in their application of the Decision Structure.

Exploitation of salmon in mixed stock fisheries has long been condemned as bad fisheries management and for many successive years ICES has called for no exploitation of mixed stocks of southern European salmon in home waters. We applaud the actions of the USA, Canada, Norway and the UK in reducing commercial exploitation. The fact that substantial exploitation of such mixed stocks still continues in the home-waters of some Parties is a disgrace and NASCO must ensure that the practice ends as soon as possible.

The NGOs call on the Parties to commit to close all mixed stock salmon fisheries in home waters, and to phase out all commercial salmon fisheries where individual stocks are not meeting their conservation limit. Where appropriate, fair compensation must be paid, and due note should be taken of the value of private/public partnerships in fund-raising as demonstrated by previous NASF-led initiatives.

If implemented, this would achieve fairness with distant-water fisheries at a stroke.

This topic will be the one on which the success of the NASCO Review will probably be judged first by external stakeholders.

Rod fisheries where stocks are not meeting their conservation limit must also be subject to controls. Conservation limits are essential tools to enable managers to determine sustainable levels of exploitation. NGOs urge the adoption of this or similar measures on all catchments supporting or capable of supporting Atlantic salmon.

Recommendation 8

8.1 The NGOs suggest that genetic fingerprinting should be incorporated into the NASCO decision structure on management of home-water fisheries.

8.2 The NGOs call on the Parties to commit to close all mixed stock salmon fisheries in home waters, and to phase out all commercial salmon fisheries where individual stocks are not meeting their conservation limit, with fair compensation as appropriate. Rod fisheries where stocks are not meeting their conservation limit must also be subject to controls.

9. Regulation of aquaculture

The introduction of the *Oslo Resolution (*1994*)* aimed at minimising the impact of aquaculture on wild Atlantic salmon was a major step forward for NASCO and the incorporation of other related measures in the *Williamsburg Resolution* (2000) augmented that process.

The Oslo Resolution demonstrated the best and worst of NASCO. A laudable attempt at imposing a set of international standards on the aquaculture industry, let down by poor reporting by the Parties, clearly illustrating NASCO's lack of teeth.

As a result, it would be foolish to claim that the industry is properly regulated and that impacts on wild fish have been minimised. However, after a slow start and noticeable reluctance from the industry, the position has improved, though it is far from perfect.

This is a clear case where firmer action by NASCO, commitments from Parties with timescales, and better reporting, should be beneficial (see also section 4).

The NGOs believe that a framework for international regulation of the aquaculture industry should be welcomed by the Parties. In some countries, the aquaculture industry represents a powerful economic force and political lobby. Governments are therefore often unable or unwilling to regulate the industry to the standards set in Williamsburg. The existence of an internationally accepted framework should ease that internal political process considerably.

However, the standards set by NASCO resolutions must continue to be best practice, and not represent the lowest common denominator accepted by the industry.

NASCO already acts as a forum for debate with the industry through the International Salmon Farming Liaison Group; this should offer further opportunities to share best practice in regulation with all countries where salmon aquaculture is practised. Unfortunately, NGOs are currently excluded from this Group. Our membership is supported by the Parties but opposed by the industry. We believe this is a short-sighted approach. The NASCO NGOs are not opposed to salmon farming, we support dialogue with the industry aimed, like NASCO, at creating a sustainable industry with minimal impacts on wild fish. Dialogue in Scotland and Norway has led to significant co-operation between farming and wild fish interests resulting in better regulation.

The NGOs call on the Parties, and particularly on the International Salmon Farmers Association, to support representative NGO attendance at Liaison Group meetings. We regard Industry agreement to our participation as an indicator of their intentions to meet the aspirations of both NASCO and the NGOs to move towards a sustainable salmon farming industry.

Recommendation 9

9.1 NASCO should continue to develop the *Williamsburg Resolution* as an international framework for the regulation of salmon aquaculture. Firm commitments should be sought from the Parties to establish action plans with targets and timescales (see 4), using NASCO as a forum to establish best practice. This should be accompanied by introduction of a transparent reporting system which can be critically assessed.

9.2 The NGOs, the principal representatives of wild salmon interests, believe that their continued exclusion from the Liaison Group is indefensible. We urge the Parties to exert maximum pressure for our inclusion, or consider their future involvement in the Liaison Group.

10. By-catch

NGOs first raised the issue of by-catch at the NASCO annual meeting in 1998. A Russian trawler operating in the North Norwegian Sea had reported a by-catch of post-smolts, which if extrapolated across the mackerel fishery would have amounted to a large proportion of the annual northern European smolt output. Subsequent reporting to NASCO in succeeding years confirmed the possibility of a substantial by-catch in the pelagic fishery, but despite a programme of locating observers on Russian trawlers over a two-year period (2001- 2003), it has not so far been possible to establish quantifiable data within reasonable limits of confidence.

NASCO formed the International Atlantic Salmon Research Board (IASRB) in 2001 (see 11) and agreed that the by-catch problem should be given high priority. Although existing research data are now being co-ordinated, some data sets remain to be included, and the comprehensive research programme promoted by the IASRB and designed to establish the place of wild Atlantic salmon in the marine food web is unlikely to get underway before 2005. There are, of course, substantial funding implications.

In the information circulated by NASCO prior to this Review, it is claimed that NASCO has addressed the by-catch issue. The NGOs believe this is misleading. We are extremely disappointed that NASCO has taken so long to come to grips with an international problem which only it as an organization can address. We refer earlier to the application of the eco-system approach to salmon management; the *Vision* document calls for close co-operation with NEAFC and NAFO on this issue, and we believe that neither NASCO, nor the individual Parties concerned, have approached these other organisations with the robustness and urgency required. We also refer to the Precautionary Approach, which has not been applied in this case.

Recommendation 10
NASCO should continue to address the by-catch issue as a high priority as part of the IASRB programme but must make more urgent and robust approaches to NEAFC and NAFO to ensure their co-operation, citing the application of the Precautionary Approach.

11. International Atlantic Salmon Research Board

From its inception in 2001 as a vehicle for co-ordinating international research on salmon, the scope of the Board's work has expanded, first to prioritise work, and now to actively promote a co-ordinated programme of research across the North Atlantic and to raise funds to support it. While this is a sensible evolution, the NGOs remain concerned at the time taken with this process.

Initially NGOs were excluded from the Board, but after intensive lobbying, in 2003 one representative was admitted to the Board, and one representative to the Scientific Advisory Group. We believe that NGOs have much to offer the IASRB in terms of advice on programme content and priorities, fund-raising and media awareness. In a crowded market place a close dialogue with NGOs is essential, and we urge NASCO to develop closer links and contributions from NGOs in this area.

Recommendation 11
NASCO should build on the initial contributions by NGOs to the IASRB by establishing a partnership aimed at increasing their involvement and contribution.

12. Introductions and movements (including *Gyrodactylus*)

The protocols developed by NASCO for the various Commissions represent a best practice manual, and again provide a clear case where NASCO has, and should continue to, develop international or Regional frameworks for implementation by Parties.

The NGOs remain extremely concerned by the threat posed by *Gyrodactylus salaris.* In particular the NGOs are concerned at regulation of fish movements within and by the aquaculture industry. It is alleged, though never proven, that ISA (Infectious Salmon Anaemia) was introduced to Scotland from Norway in 1998 by well-boat. In this respect the

NGOs express concern at the potential relaxation of EU Fish Health regulations in support of the aquaculture industry. We urge the relevant authorities to remain vigilant.

NGOs call for a *Gyrodactylus* eradication programme in the countries affected, and the allocation of sufficient funds to implement it. There is also a clear case for a targeted public awareness campaign amongst the angling public and visitors to infected areas in Norway, Sweden and Finland.

Recommendation 12

12.1 NASCO should continue to refine its protocols for introduction and movements.

12.2 The NGOS continue to express their concern at the threat posed by *Gyrodactylus salaris* and the regulation of fish movements by and within the aquaculture industry. We suggest a public awareness campaign targeted at the angling community.

13. Stock rebuilding programmes

The subject of re-stocking is contentious on many river systems. The NGOs express their support for the stock rebuilding protocols developed by NASCO. Again, these illustrate best practice and provide an international framework for implementation by the Parties.

Recommendation 13

NASCO should continue to refine its protocols for stock rebuilding programmes**.**

14. Transgenics

The NGOs remain fundamentally opposed to the practical application of genetically modified salmon in aquaculture. In our view, even in land-based systems, risks of escape and contamination of the wild gene pool will remain.

The introduction of transgenic salmon into sea cage systems must be prevented at all costs. We remain highly nervous about the current application in the USA, and call on NASCO and the relevant Parties to do all they can to influence the process and secure its refusal.

Recommendation 14

The NGOs are fundamentally opposed to the practical application of transgenic salmon. We urge both NASCO and the relevant Parties to resist the current US application.

THE FUTURE for NASCO

15. International role and relationship with NASF and other NGOs

The criticism of NASCO's performance referred to in the Introduction has been taken further by some observers who suggest that the Organization should be replaced by an unspecified new body based on the principle of concerted voluntary action developed by NASF.

This represents a somewhat monocular vision and perhaps a lack of understanding of the international political process. Salmon conservation transcends national boundaries, and any organization dedicated to that objective requires a forum in which decisions on necessary measures can be taken, which are binding on member governments and will be acted upon in law. It follows that an effective salmon organisation must therefore be inter-governmental, rather than non-governmental.

Governments also need sound science on which to base those decisions. In this respect, the value of ICES advice and the contribution from research cannot be over-estimated, but, as we argue elsewhere, it must be co-ordinated, well-targeted and urgently applied.

This does not mean there is no role for either NASF or other salmon-oriented NGOs. On the contrary, NASF has played a lead role in highlighting the international decline of salmon, developed ground-breaking initiatives pioneering the "quota buy-out" concept, and led the way in raising very substantial funds in pursuit of those objectives, often in partnership with governments.

The NASCO NGOs have persisted, albeit with a much lower profile, keeping the pressure on NASCO and particular Parties, slowly making progress towards the conservation objectives we all share. It is arguable that the current Review would not have happened without the WWF/ASF initiative. The challenge for NASCO is to respond positively to this Review and address the major failing highlighted above – the need for binding agreements on the Parties. The suggestions made by the NASCO working party (see section 4) are a step in the right direction, and are supported by the NGOs as an interim measure. However, NASCO will be judged on whether it can make the new ideas work, speed up its labyrinthine processes, and ultimately, whether it can build on recent encouraging signs of a stock recovery in some parts of the North Atlantic.

Recommendation 15
NASCO is the inter-governmental treaty organization for Atlantic salmon conservation and all NGOs should work in partnership with it to improve its effectiveness.

16. Future focus

The NASCO working party has suggested that NASCO should focus on the following topics in future:

- Research on survival of salmon at sea (including by-catch)
- Habitat restoration
- Impacts of aquaculture
- Transgenics
- *Gyrodactylus salaris*
- Social and economic factors

The NGOs remain concerned that Predation (section 7) has been omitted from this list.

Recommendation 16
The NGOs support the working party topics, with the important addition of predation.

17. Identification of, and response to, emerging threats

NGOs agree that NASCO has shown an ability to identify and respond to new threats to salmon, with the issue of transgenics as a notable example. NGOs agree with the three suggestions from the working party, *viz*

- An annual Council agenda item on the subject
- Seeking advice from the Standing Scientific Committee

- Using the NASCO website to publicise new threats

Recommendation 17
In addition to the measures identified by the working party, NASCO should encourage NGOs and other stakeholders to identify and report new or emerging threats to Atlantic salmon, including management failures.

18. Obtaining and using comprehensive knowledge

The NASCO working party has suggested a number of options in this regard, including:

Social and economic factors

- Greater emphasis on social and economic aspects, and the establishment of a new socio-economic working group to advise on these issues.

This is an important and developing area for NASCO, from which the NGOs have so far been excluded. Yet the NGO community, many of whom actually manage salmon fisheries and have promoted or taken part in government studies on the subject, are intimately familiar with the socio-economic importance of salmon. There is a clear case for working in partnership.

Recommendation 18.1
NASCO should invite representatives of the NGOs to participate in the working group developing the application of social and economic factors to salmon management.

ICES advice

- Continued liaison with ICES, but development of regulatory measures on a biennial basis, with improvements to quality and clarity of presentation.

NGOs have already stressed the importance of ICES advice; over the past few years salmon stocks have been relatively stable at an historically low base, showing a slow decline. There is a clear risk, particularly from accelerating climate change, that a move to biennial reporting might allow significant changes in the salmon stock to escape scrutiny. We appreciate the motives, in terms of cost saving and freeing-up time during Council meetings, but believe a Precautionary Approach should be applied.

Recommendation 18.2
NGOs urge caution before changing the frequency of ICES reporting.

International Atlantic Salmon Research Board

NGOs have already expressed their support for, and wish for a closer involvement with, the IASRB (see Recommendation 11).

19. Resources of the NASCO Secretariat

Recommendation 19
Following the outcome of the Next Steps process it will be important to ensure that the NASCO Secretariat has sufficient resources to continue running the Organization efficiently.

20. NGO participation

The history of NGO participation at NASCO until very recently has been one of slow attrition. Until 2002, the NGOs were restricted to a very brief opening statement to Council, extended in 2003 to include an opening statement to each of the three Commissions. There are 28 accredited NGOs, of whom some 20 or so regularly attend the Annual Meeting. Since there are no more than 30 minutes in which to deliver Opening Statements, the NGOs have evolved a growing co-operation and organisation, generally promoting one joint statement to Council (and now the Commissions) highlighting major issues of concern; written statements are used to amplify those concerns in detail. The ability to participate in "Special Sessions of Council" has been intermittent, but valuable. In 2004, for the first time, the President of NASCO declared an individual Council item as a *Special Session* to permit NGO participation. This process of evolution has led, despite some inevitable hiccups, to a growing trust between the NASCO NGOs, the NASCO Secretariat, and the Parties.

The NGOs, through their organisations, represent many millions of stakeholders with a direct and indirect interest in the wild salmon resource. NGOs also represent a huge pool of expertise in all areas, from salmon science and practical fisheries management to media relations. The lack of full engagement by NASCO with the NGO community over the past 20 years represents a missed opportunity for all parties and salmon in particular.

The NGOs therefore welcome the suggestions from the working party, which recognise the potential contribution of NGOs to the NASCO process. We also note the cautionary comments, which highlight the difference between NASCO, as an inter-governmental body and the NGOs, as non-governmental organisations. The NGOs recognize that their primary role is to criticize and pressurise governments in to taking appropriate action in respect of their published objectives. The role of Government is to make legislative and subsequently executive decisions on the scope and timescale of such actions, bearing in mind their socio-economic implications. NASCO has the added complication, as an international body, of reaching agreement on measures with member governments. It is the nature of this debate that NASCO will never go as far, or as quickly, as the NGOs would like, but it is the NGOs role to continue to press for those actions. In examining the role that NGOs have to play at NASCO, it is important to create a framework for debate, which maximises their contribution to the decision-making process, without compromising the legislative and executive responsibilities of the Parties. It must be based on the principles of openness and transparency.

The NASCO working party has made a number of suggestions, which the NGOs support:

Recommendation 20

20.1 **Council**. NGO participation at Council should be encouraged by allowing interventions from the Chairman of the NGO Group, or his/her designated spokesperson at the discretion of the President.

20.2 **Special Sessions**. NGOs should be consulted on future topics for Special sessions. If Special Sessions are adopted for thorough evaluation of the Parties' performance on certain topics, full consultation should take place with the NGOs during agenda preparation.

20.3 **Media and public relations**. Detailed recommendations are made in section 21.

In addition the NGOs have already recommended:

20.4 External Review. NGOs should be invited to participate in any panel established to review the performance of the Parties in implementation of action plans (see 4.5).

20.5 Salmon farming liaison group. NGOs request full participation (see 9).

20.6 IASRB. NASCO should develop a closer partnership strategy with NGOs (see 11).

20.7 Socio-economic working group. NGOs should be invited to participate (see 18.1).

21. Public awareness and media relations

It is widely accepted that NASCO requires an effective public relations strategy aimed at increasing public awareness of its fundamental role and progress by Nations in salmon conservation and in meeting agreements.

The NGOs support the working party conclusions, which call for a commitment to a new public relations strategy and make some 16 detailed recommendations.

In particular the NGOs support the call for a partnership between NASCO and its NGOs to develop a media strategy. It is accepted that some NGOs have considerable in-house media expertise, and partnerships should be explored before committing NASCO to budgetary expenditure in this area.

Recommendation 21

21.1 NGOs urge NASCO to consider setting up a small working group consisting of representatives of the Parties, NGOs and Secretariat, to explore joint working on a media strategy. This group would consider all 16 ideas put forward by the working party and determine which areas were suitable for co-operation and advise on the employment of third parties.

21.2 Re-design of the NASCO web-site is an important component of the public outreach programme. We draw attention to detailed proposals by ASF and WWF in this regard.

21.3 NASCO should consider issuing an annual report, in plain English, on the status of Atlantic salmon stocks and a brief summary of its work over the previous year. This was the final recommendation of the WWF/ASF *Vision* document.

NSCM(05)7

The reintroduction of Atlantic salmon in the River Rhine catchment, Germany – a project of the diadromous fish programme of the Ministry of Environment and Conservation, Agriculture and Consumer Protection of the Federal State of North Rhine-Westphalia (NRW) and the Fisheries Association NRW

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Abstract

The re-introduction of Atlantic salmon into the River Rhine started 15 years ago. Since then 20 million juveniles have been stocked in selected tributaries and 2,500 upstream-migrating salmon have been recorded. Recent investigations showed that the return rate from smolt to adult is probably less than 1%. In the context of high mortality during freshwater downstream and upstream migration as well as salmon mortality during the ocean phase, the reintroduction of salmon to European rivers will be a difficult and long-term task. For this reintroduction to succeed, advice is needed from NASCO to coordinate all activities aiming at higher survival rates of salmon at every stage of its complex life-cycle.

Introduction

Only 100 years ago the River Rhine was one of the most important salmon rivers in Europe with a maximum of 250,000 salmon reported caught in 1885. But from the beginning of the 20th century a dramatic decline was observed and by the end of the 1950s the salmon was extinct throughout the Rhine catchment. Since the 1980s the use of modern sewage treatment has led to a significant improvement in water quality and to an ecological recovery at least to some extent.

In the framework of measures intended to favour ecological rehabilitation of the River Rhine, a reintroduction project for Atlantic salmon started in North Rhine-Westphalia in 1988 and was extended to tributaries of the River Rhine in other countries. To date, 20 million salmon juveniles have been stocked in the River Rhine catchment. During the last 5 years, more than two million juveniles were stocked annually. The first adult salmon was captured as early as 1990 in a small tributary of the River Sieg, which flows into the River Rhine. The first natural reproduction of salmon was observed in the spawning season 1993/94 in the same river.

First results

Since 1990 more than 2,500 adult salmon have been recorded on their spawning migration in the River Rhine. Since the year 2000 permanent monitoring stations have recorded salmon in the River Sieg at Buisdorf and in the upper part of the River Rhine at the fish passage facility in the Iffezheim weir at the French-German border. Since then, annual adult salmon records

increased to about 500 per year (mean for the period 2000-2003). During this period other migratory species such as sea and river lamprey, sea trout and some individuals of the formerly extinct allis shad have reoccurred within the catchment.

These first, and encouraging, results have been obtained due to the huge and on-going stocking activities in several parts of the Rhine system. The actual habitat area available for juvenile salmon is estimated to be in the range of 323 hectares, but not all of this area may be colonized by returning adults due to the presence of dams which lack appropriate fish passage facilities. Spawning grounds and successful natural reproduction have been identified in several tributaries of the River Rhine, but until now natural spawning has proved to be insufficient to sustain the population in a significant way. The proportion of natural reproduction to smolt output appears to be less than 10%. Stocking activities, therefore, will probably have to be continued for many years.

In many parts of the River Rhine stocking of salmon has been combined with measures aimed at enhancing fish migration (construction of fish passes, eradication of old redundant dams) and restoring riverine habitats for all migratory fish species. Mortality of down-stream migrating smolts due to hydropower turbines is now considered a major problem for the restoration of salmon in many of the tributaries as well as in the upper part of the Rhine itself. Effective gear at the inflows to protect migratory fish is still lacking at most hydropower plants.

Actual status of the reintroduction

During the years 2000-2002 a smolt monitoring programme was conducted in order to estimate the smolt output of the River Sieg, with the most intense stocking activities in North Rhine-Westphalia. The number of smolts ranged between 47,000 in 2002 and a maximum of 85,000 in 2000 based on mark-recapture experiments. In comparison with the number of up-stream migrating adult salmon in corresponding years, the rate of smolt-to-adult return is less 0.7 per cent for all years investigated. This rate is, of course, lower than in salmon rivers with a native genetically adapted population. In the River Rhine catchment a variety of different donor strains from Ireland, France and Sweden is used at present. But it may turn out that this rate is far too low to conduct a salmon restoration project successfully during the next years. Until now the number of up-stream migrating adults has even been too low to sustain egg production by stripping the returners for stocking all available habitat capacity in tributaries with a high stocking intensity. Therefore the importation of salmon eggs from ranched or freshwater-reared salmon will continue in future.

During the next years financial and logistic support by the public for large stocking activities may decrease if the number of returning adults does not increase to expected levels. Even if a good ecological state of rivers is required by EU legislation, ambitious projects aimed at the rehabilitation of migrating fish species may be difficult to maintain due to a lack of immediate success directly visible by the public. Therefore an array of concerted national and international activities is needed in the near future to continue and improve restoration success in the River Rhine.

Future actions

In order to increase the number of adult salmon and the return rate for a new salmon stock in the River Rhine, action is urgently needed in a number of areas:

- Improvement of stock(-ing) management: secure good quality of stocked juveniles, optimization of smolt stocking, reconditioning of returners for multiple stripping; exchange of rearing techniques is required
- Enhancement of fish migration: facilitate access of salmon to spawning areas in all tributaries where stocking takes place; protection of salmon smolts during downstream migration at hydropower plants; information about new developments in the field of fish-saving technology research for hydroelectric power plants should be gathered and interchanged
- Reduction of smolt and adult salmon mortality during freshwater migration: cooperation with the Netherlands to monitor migration in the Rhine delta and to take action to reduce by-catches in commercial and non-commercial fisheries
- International cooperation through NASCO and other institutions to assess causes of increased marine mortality and to reduce mixed stock exploitation for example in drift net fisheries in Ireland
- Improvement of exchange of information on salmon tagging.

In future the diadromous fish programme of North Rhine-Westphalia is willing to contribute via the Ministry and EU to good cooperation in NASCO and is asking NASCO to consider the special implications of salmon reintroduction programmes in Europe when discussing and addressing the state of Atlantic salmon, especially management and conservation of populations.

NASCO is asked to consider the implementation of a (sub-) working group on salmon reintroduction projects and to organize in the near future a scientific workshop or conference about advances in salmon restoration.

Fig. 1: Number of juvenile salmon stocked in different Federal states of Germany and countries along the River Rhine 1999-2003

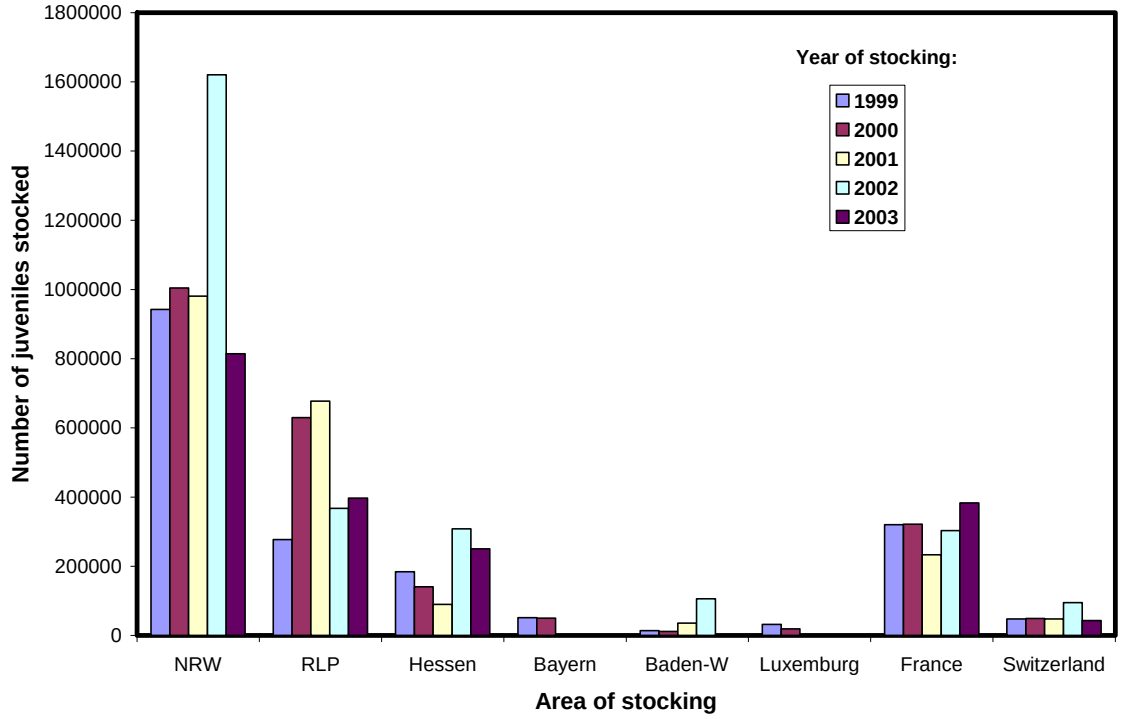
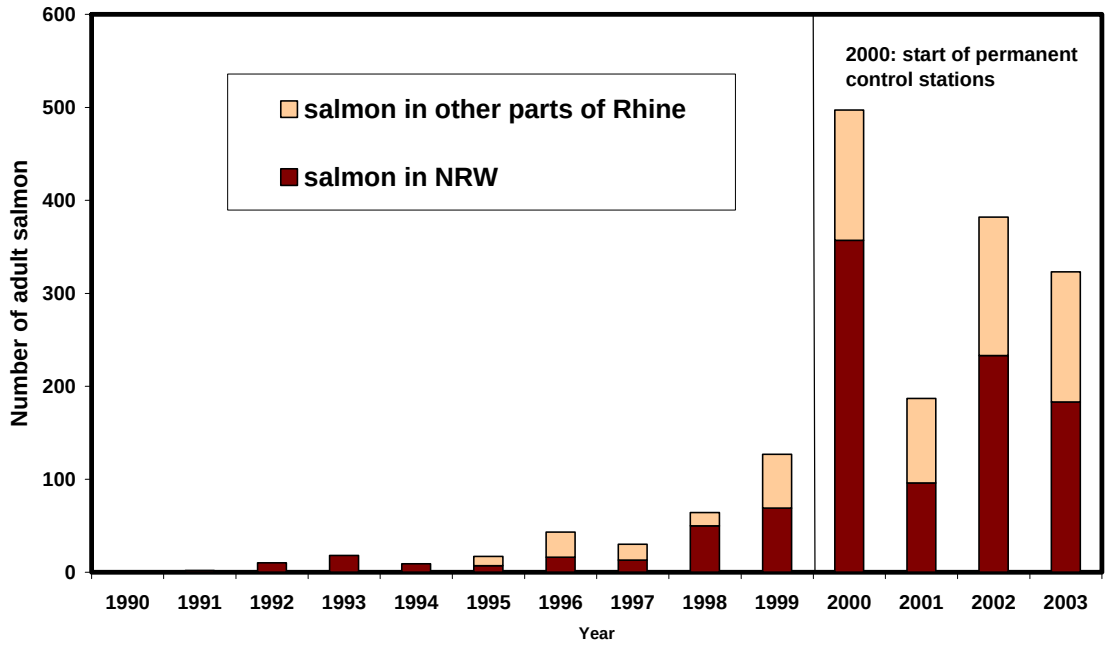


Fig. 2: Number of adult salmon recorded in the River Rhine 1990-2003 (catches by fyke-nets, electrofishing and trap stations)



NSCM(05)11

Contribution to the Next Steps for NASCO Consultation Meetings from Dr Oystein Aas, Norwegian Institute for Nature Research (NINA)

Having had the opportunity to review the report of the meeting of the Next Steps for NASCO Working Group held in Dunkeld, Scotland during 5-8 October 2004, I would like to offer the following personal thoughts on the options developed.

1. There are too many focus areas which are too bureaucratic and not important enough according to the challenges that face wild Atlantic salmon. There should be fewer, more focused themes and themes such as research and socio-economics should not be focus areas in their own right, as they primarily should be supportive of core issues for NASCO.

2. NASCO's current role needs to be expanded through giving it a stronger mandate to act on issues that are currently being addressed by its Contracting Parties. This is important for the Organization's future given that, at least for the time being, the issue of harvests in distant water fisheries has been addressed.

3. Expanded role on harvest regulations: NASCO could be given a role in regulating fisheries in Contracting Parties' "home waters" where these fisheries intercept salmon from more than one country (e.g. the Irish drift net fishery, the bend net fishery in Finnmark, Norway).

4. Expanded role on habitat protection: NASCO should designate international salmon heritage rivers and consideration should be given to a role for NASCO in protecting these rivers in a similar way that wetlands are designated and managed by RAMSAR with the RAMSAR Secretariat, responding to threats to designated wetland as these arise. Intervention from NASCO with regard to a decision that could adversely affect a designated salmon river will hopefully have more impact than intervention from the local authorities.

5. Generally, the work of NASCO is in essence political. The NGOs have a considerable responsibility for making NASCO relevant and political but the international aspects of wild salmon management are not high up the political agenda at present. There should be greater involvement of politicians in the work of NASCO.

These suggestions are offered in support of NASCO and the wild Atlantic salmon. The opinions are those of Dr Aas personally, and not necessarily those of NINA.

NSCM(05)8

Next Steps for NASCO - NASCO's activity and its development

Pentti Munne, Ministry of Agriculture and Forestry, Dept of Fisheries and Game, Helsinki, Finland

Finland considers the activity of NASCO highly important. NASCO was established only a couple of decades ago, but it has already made significant contributions to the measures and efforts concerning the conservation and restoration of salmon stocks in many sectors. We can justifiably say that NASCO has occupied a central position in the conservation of North Atlantic salmon, while the fact that the salmon stocks have not yet recovered as was hoped for, poses a challenge for the future activity of NASCO. When evaluating the achievements of NASCO to date it should be borne in mind that all the factors influencing the survival of salmon are not yet fully known. In addition to this, the countries involved have different kinds of decision-making and implementation procedures, which take their own time.

From the Finnish perspective the activity of NASCO in reducing the mortality of salmon at sea has been particularly valuable.

In the opinion of some, NASCO has been considered to lack real influence, because it cannot issue binding orders to the Member States but only recommendations, whose implementation depends on the will and possibilities of the members. However, in my view the fact that NASCO has been capable of taking rapid action to combat new threats to the survival of salmon stocks is due to the recommendations which all the stakeholders have considered important. Stricter and more binding recommendations would very likely lead to slower and increasingly complex decision-making. If the status of the NASCO's recommendations is changed to make them more binding, the actions must be directed at particular, clearly defined sectors.

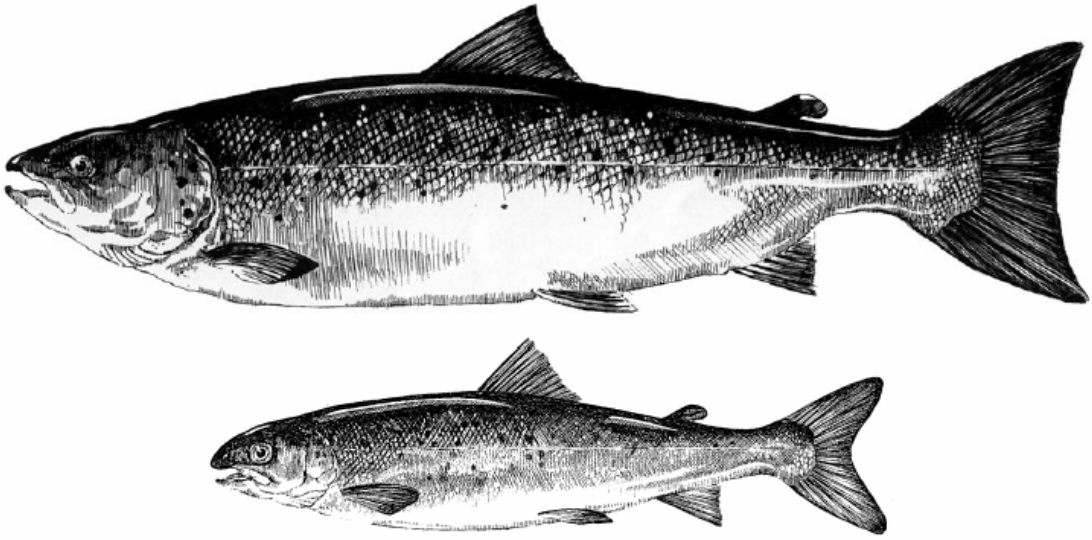
NASCO's most important and natural territory of operation is the sea, except for the coastal waters, and the sea should continue to be the key area in the future as well. Proposals have also been made on the extension of NASCO's activities to the Baltic Sea. However, I do not consider this to be necessary or appropriate, because the Baltic Sea has salmon stocks and decision-making procedures of its own, as well as extensive salmon stocking activity. Obviously we need to cooperate in matters where there are common interests or problems, such as combating the parasite *Gyrodactylus salaris*.

It is very useful to discuss the possibilities to develop the activity of any organization from time to time, and this applies to NASCO as well. I do not see any need for major changes in the activity. In my view the Organization functions quite well at present. During its 20-year existence NASCO has gradually expanded its operations and changed its practices, for example by increasing its work between annual meetings. However, the list below presents some issues within the NASCO operations which, in my view, would call for development:

- Drawing up national action plans to implement NASCO recommendations, including timetables and deadlines.
- Development of reporting from annual reports to more comprehensive reports which cover a certain time period.
- Annual meetings every second year, sessions on specific themes between these.
- Increased cooperation with NGOs.
- Making NASCO's activities better known to the public at large through annual newsletters and surveys, providing that this will not cause too extensive a workload to the small but efficient Secretariat.

The development of NASCO's activities need not take place all at once, but it should be a gradual process carried through on the basis of a definite plan.

NEXT STEPS FOR NASCO



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NSCM(05)9

Three Proposals for "Next Steps"

World Wildlife Fund and Atlantic Salmon Federation

In creating the Working Group on "The Next Steps for NASCO," NASCO has indicated its willingness to seriously consider new initiatives for making the Organization more effective in meeting the daunting challenges facing conservation of wild Atlantic salmon. In *NASCO's Future: A Vision Statement,* four individuals with long experience in NASCO have put forward a number of ideas in its "agenda for action" that are worthy of consideration by this Working Group. This paper develops in further detail the proposals in that document for amending the Convention to strengthen the Organization's mandate, for an improved system of reporting and for an initiative to increase public awareness.

1. Amending the Convention to Strengthen the NASCO Mandate

NASCO's Future: A Vision Statement notes that the NASCO Council lacks legal authority to make decisions on some of the most important issues now facing the Organization. Article 1 limits the Convention's authority to "salmon stocks which migrate beyond areas of fisheries jurisdiction of coastal states." Article 4.2 of the Convention limits the scope of the Organization's authority to make recommendations by providing that "no recommendation shall be made concerning the management of salmon harvests within the area of fisheries jurisdiction of a Party." Thus NASCO has no legal mandate to make "recommendations" on issues such as habitat protection, conservation limits and aquaculture management that clearly pertain to the stocks within the jurisdiction of a Party to the Convention. The Secretariat's note in the Working Group paper NS(04)3 confirms that point. "It is important to recognize," it says, "that NASCO does not have regulatory authority with regard to the broader aspects of work involved [with the preceding issues] but has provided guidance to the Parties on recommendations to minimize damage to the wild salmon stocks."

Given the general acceptance among the Parties that the threats to wild Atlantic salmon are no longer confined to fisheries outside the jurisdiction of the Parties but are now focused largely within those jurisdictions, it is timely to make adjustments to NASCO's mandate. To ensure the integrity of the consultation process, we recommend that the Working Group keep all avenues of change on the table. The Working Group should not assume as is stated in the Discussion Document from Stakeholder Consultation Meetings "that NASCO is well positioned to meet the challenges that face Atlantic salmon today and into the future", until all avenues and perspectives are well considered. It is important to proceed with the consideration of strengthening NASCO by revising the treaty's language to broaden its legal mandate.

Article 19 of the Convention provides a straightforward process for amending the Convention. We understand that the Convention would require changes to articles 1 and 4.2. For example, changing Article 4.2 would entail deleting the phrase that reads "provided that no recommendation shall be made concerning the management of salmon harvests within the area of fisheries jurisdiction of a Party". That amendment would make it clear that the Council can speak authoritatively on issues affecting salmon stocks within a Party's jurisdiction. Article 1 would have to be amended to similar effect. Other language could be

drafted to the Convention, such as adding the new issues to the Council's mandate, but this is not necessary to achieve the required broadening of its authority.

Article 19 indicates that one or more Parties must propose the amendment at least 90 days before the meeting at which the amendment is to be considered, and it must be approved by all the Parties present, and casting an affirmative or negative vote, to be adopted. Getting unanimity for such a change in the Convention is obviously a major challenge. However, broadening the mandate of the Council is so important to the Organization's ability to achieve its purpose that it would be difficult for any Party to justify a vote against this change. It would obviously be inconsistent with the fundamental purpose of NASCO to explicitly prevent it from making formal recommendations on the very issues that are acknowledged to be central to its work.

An argument raised against proposing an amendment to the treaty is that it could backfire. The Secretariat warns, "Other organizations have re-opened their conventions, sometimes with unintended, and perhaps undesirable, consequences." It should be noted, however, that offering an amendment to the Convention does not "reopen" the treaty in any legal sense, since the treaty is always open for amendment in any case. The implication of this argument against an amendment is that, if a proposal is made for revising the language of the treaty to broaden the mandate, another proposal might be made to *weaken* its authority. We believe that the danger of a move to weaken the treaty in response to the amendment changes is very slight. Proponents of such a weakening amendment would also have to obtain unanimous approval for it, and we are confident that such a proposal could not succeed.

While urging an in-depth and serious consideration by NASCO of mandate change, we recognize that there are other more immediate steps that could and should be taken to assist Parties to the Convention in being more accountable in their home jurisdictions to the agreements they have reached at NASCO. One of these methods is to adopt a new protocol on reporting that would eliminate any ambiguity about whether compliance is voluntary or not and provide information in a very transparent and factual way on how well Parties to the Convention are implementing the agreements they have made at NASCO.

2. A Protocol on Reporting of Implementation of NASCO Agreements

The four authors of "NASCO's Future: A Vision Statement" have proposed that the Organization require "more transparent reporting" by Parties to the Convention. We suggest that this idea might best be implemented by adopting a new protocol on reporting of progress in implementing existing NASCO agreements.

The Secretariat paper on the Working Group on "The Next Steps for NASCO" highlights the importance of reporting "in a concise, meaningful and interesting way on the measures taken" by NASCO. It suggests that the Working Group "consider how progress in implementing our various guidelines and agreements can best be reported and experiences shared and how to make this process stimulating, useful and transparent." The paper notes that annual returns "can be opaque" and suggests a more informal workshop approach to reporting.

We agree that the form in which reporting has been done up to now has not provided either NASCO or the citizens of Parties to the Convention with a clear idea of the degree to which they have achieved the specific elements of each agreement. Substituting informal discussion within NASCO for public reporting, however, would only reduce the transparency of the reporting system, and the system would be unable to fulfill its primary function of holding

state Parties accountable. The availability to the public of the data reported by state Parties is centrally important to the success of NASCO in meeting the challenges it faces in conserving salmon stocks, must be a top priority for the Working Group on "Next Steps."

What is needed, therefore, is a system of reporting in which: (1) reporting requirements are clearly understood to be formal commitments under the treaty; (2) reporting requirements are adequate in scope and clearly defined as to the types of measures to be reported (legislation, regulatory requirements, monitoring and enforcement activities); and (3) the data from the reporting can be readily converted into a clear, concise and visual presentation of the progress made and remaining to be achieved.

Based on these three requirements, we recommend that a new protocol to the Convention for the Conservation of Salmon in the North Atlantic Ocean specify the obligations of Parties to the Convention to report to NASCO on the main NASCO agreements: the Williamsburg Resolution, the Plan of Action for Application of the Precautionary Approach to the Protection and Restoration of Atlantic Salmon Habitat, and the Decision Structure for the Management of North Atlantic Salmon Fisheries. Adopting such a protocol would make it clear that reporting on the progress on these agreements in accordance with specified formats in each case is not merely recommended but required under the Convention.

The Working Group should revisit the reporting requirements for each NASCO agreement to ensure that they are adequate in scope and in specificity. The present format for reporting under the Williamsburg Resolution, for example, does not distinguish between actions taken by industry voluntarily and measures enacted by governments to regulate industries. Although reporting on voluntary initiatives by industry that support norms in the Resolution are certainly welcome, they should not be regarded as a substitute for reporting of government actions called for by the Resolution. The reporting requirements should therefore specify, where appropriate, that Parties to the Convention are to report on their own legislation and regulations and their systems for monitoring and enforcement of such official requirements, as well as industry performance on the relevant norms.

Another area in which current reporting requirements are weak is *compliance* with official rules and regulations. A Party to the Convention may report that a particular law has been adopted in accordance with a NASCO agreement, but NASCO has no way of knowing how much difference that law will make without detailed reporting on what is being done to ensure compliance and the degree of compliance actually achieved. The reporting requirements for the Williamsburg Resolution, for example, do not require Parties to report on aquaculture industry compliance with regulations on fish husbandry and fish escapes. Some governments keep confidential all information on compliance with regulations of central importance to the health of wild salmon. The lack of reporting on monitoring, enforcement and compliance substantially reduces the transparency of the entire reporting system on the Williamsburg Resolution.

The reporting protocol should require data that is specific enough to distinguish among different degrees of achievement of desired results. For example, the reporting format for the Williamsburg Resolution should require specific information, not only on the legal status of regulation of fish husbandry practices, but on the degree of rigor of those requirements, such as length of fallowing and stocking density limits. Such data would provide a more meaningful description of the adequacy of measures taken to minimize impacts of aquaculture on wild salmon.

The protocol should establish a commitment by NASCO to make public all the data reported under this protocol in a form that is accessible and that accurately portrays the level of achievement of the provisions of NASCO agreements. A provision covering the publication of data reported would be a mandate for a new format for presenting the status of progress in implementing the main NASCO agreements in the most accurate and meaningful way possible.

WWF and ASF used one such system of presenting data in 2003 in its report on progress in implementing the NASCO agreement on aquaculture management for the protection of wild salmon. (See *Protecting Wild Atlantic Salmon from Impacts of Salmon Aquaculture: a Country-by-country Progress Report*, WWF and ASF, May 2003). That system tried to measure quantitatively how effective measures taken by Parties had been for each of ten criteria drawn directly from the Oslo Resolution. That quantitative system for measuring progress allowed the data on implementation to be presented in a way that showed clearly where NASCO stood at that point in carrying out the Oslo Resolution. We recognize that there are other ways to organize and present the data, but we suggest that the Working Group discuss and adopt not only a format for reporting specific to each agreement, but a format for presenting the data reported that will be clear, concise and informative.

3. An Initiative to Increase Public Awareness

As the "Vision Statement" has observed, and the NASCO Secretariat has agreed, NASCO has not given sufficient attention to public awareness of the need to do more to conserve and restore North Atlantic salmon populations. The Secretariat has welcomed the suggestion in the Working Group document for a NASCO initiative for public awareness in partnership with NGOs. Such an initiative could have three main components, which would be closely related and mutually supportive: (1) a media outreach program, (2) publication of regular reports on the "State of Salmon" and how NASCO signatories are progressing in meeting the obligations of the Organization's agreements, and (3) redesign of the NASCO website to support the media and public outreach. These activities would help increase public knowledge of the issues confronting NASCO and increase public support for the actions needed to save and rebuild salmon populations, which is crucial to the success of NASCO's work.

The first step in a public awareness initiative would be to create a special NASCO Working Group on public outreach to include representatives of the Secretariat, the Parties and NGOs, with a mandate to prepare a work plan for Council approval.

A media outreach program

The first component of a NASCO public awareness initiative would be a program for promoting greater media coverage of problems facing the conservation of salmon, of the programs that NASCO has adopted, and the actual progress that has been made toward conserving salmon. Increased media coverage of Atlantic salmon issues and NASCO programs would raise the profile of efforts in each NASCO Party and thus give greater impetus to measures to protect and restore the remaining wild Atlantic salmon populations.

The planning and implementation of such a media outreach program should be based on a recognition that any news coverage on wild Atlantic salmon issues and of the role of NASCO in conservation will help NASCO accomplish its mission, unless the coverage dismisses the Organization as irrelevant. NASCO should therefore be prepared to go beyond a public

relations exercise that presents the rosiest possible picture of progress in implementing NASCO policies and programs. NASCO will receive the respect and support of the citizens of the Parties to the Convention when its media releases reflect issues of substance and report authoritatively and accurately on both progress and lack of it. A media outreach program should also represent a partnership among member governments, NGOs and the NASCO Secretariat.

The working group on public outreach should first agree on a few priority issues and programs that are likely to have the greatest potential news value. The members of the working group would then work out a strategy to maximize coverage in print and electronic media within the NASCO Parties. They could agree on a division of labor in making media contacts based on their personal and institutional knowledge of and access to each of the targeted media. A media outreach program should result in a new level of media interest in both the status of wild salmon in each NASCO country as well as what each NASCO member government is doing to implement one or two NASCO agreements, such as habitat restoration and protection or regulation of aquaculture to protect wild salmon.

A logical corollary to this media outreach program would be a relaxation of existing rules governing participation in NASCO meetings, which forbid NGOs who attend the meetings from talking to the media and public during the annual meeting. NASCO cannot pursue a media outreach strategy while at the same time enforcing a gag order on its meetings. It should be welcoming, rather than discouraging, media attention.

Regular Report on the "State of Salmon" and Conservation Progress by Nations

As the "Vision Statement" suggests, NASCO should issue a regular report on the status of wild Atlantic salmon stocks that documents trends, including any changes, favorable or unfavorable, that have taken place in the period since the previous report. The report would draw on the scientific data gathered in the reports by the ICES Advisory Committee on Fisheries Management to NASCO each year, but it should translate that data into language that can be readily understood by non-specialist readers and utilize eye-catching graphics.

In addition to reporting on the state of salmon stocks throughout the range of North Atlantic salmon, the reports could also provide progress accounts of the major initiatives that NASCO has taken to protect and rehabilitate salmon habitats, establish and enforce systematic river-by-river conservation limits, and protect wild salmon from aquaculture operations, introductions and transfers and transgenics. The progress reports should be provided in a public- and media-friendly format, which shows at a glance how a state Party's progress compares both with that of other state Parties and with the NASCO requirements for that issue.

The 2003 report on the Oslo Resolution was released to the public by WWF and ASF and received a significant amount of media interest. We urge NASCO to release to the media the reports on the outcomes of the implementation of NASCO agreements by member states. We urge NASCO to adopt its own system for organizing and presenting the data on progress in implementing NASCO agreements that truly informs the public and provides an incentive for state Parties to improve their performance.

The regular publication of the "State of Salmon" reports, including the data on progress in NASCO agreements on salmon conservation, would mark a major step forward in media and public awareness of NASCO. Once a report has been published and has achieved media

coverage, it would help establish name recognition for NASCO among print and electronic media. That would in turn make it easier for NASCO to get media coverage of stories about the status of salmon and what is being done to improve it in each Party to the Convention in the future.

Redesigning the NASCO website

The final component of a public outreach program would be a transformation of the NASCO website from an essentially intra-NASCO communication device into a vehicle for reaching a much wider audience. NASCO's low profile results in individuals being unaware that the Organization has a salmon information website and, when they do utilize search engines to find NASCO, much higher profile organizations with the same acronym come up. Making the website into an effective outreach tool would require redesign of the site so that it becomes very useful, i.e. a site that various types of people access to get relevant, up-to-date information that is presented factually and in a straightforward, interesting and readable manner. The redesign could utilize interactivity, attractive graphics, short features on the latest happenings in the salmon world, suggestions for ways that people can get involved, and links to other sites with pertinent information on wild Atlantic salmon. The redesign of the site should be aimed at both maximizing the number of people who use it and whetting the appetite of those who are concerned or merely curious about wild Atlantic salmon.

A program for outreach to selected interest groups, including the media, and institutions could draw the attention of thousands of people to the website as a way of engaging them further in salmon issues and conservation. The reports on the state of salmon and progress by Parties towards obligations made in NASCO agreements would be a featured attraction of the website. The site could provide a dynamic, international accounting of "what is going on" in salmon conservation, including conferences, research, government and NGO initiatives, and provide contact lists for those involved in salmon conservation. Consideration should be given to translating the material to ensure that as many people around the North Atlantic as possible can utilize the site.

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NORTH ATLANTIC SALMON CONSERVATION ORGANIZATION

"NEXT STEPS FOR NASCO"

STAKEHOLDER CONSULTATION MEETING

THE ABORIGINAL FISHERY AND THE WORK OF NASCO

SUBMISSION

January 25, 2005 Portland, Maine, USA

NSCM(05)10

The Aboriginal Fishery and the Work of NASCO

Overview

NASCO's 20 years of effort to regulate and improve the management of wild salmon stocks, particularly while at sea, deserves to be applauded, particularly in addressing such challenges as non-Party commercial fishing and the elimination of all commercial fishing by the Parties beyond the 12 mile limit.

As a mature organization, NASCO is now looking to refine its mandate and activities, as proposed in the Discussion Document, NSCM(05)4 and its Annex. In doing this, it will be important that developments in respect of domestic law concerning Aboriginal rights over the past two decades be taken directly into account and, moreover, taken advantage of in order to expand the effectiveness of measures to restore salmon stocks, protect salmon habitat and refine management and co-management structures.

In Canada, from Labrador to New Brunswick, there is not a salmon stream or river that is not within claimed aboriginal rights, title or Treaty territories, and which has not been utilized and been made a part of Aboriginal culture and society over the course of thousands of years. As a result, the devastating losses to the wild salmon stock have and continue to wreck an intimate and intense impact on our peoples, our societies, and our economies. From any vantage – including traditional knowledge, social and cultural dependence on the resource, or priority resource rights – Aboriginal people must be at the centre of any successful salmon management regime, locally, regionally, nationally and internationally.

The New Brunswick Aboriginal Peoples Council (NBAPC) wishes to advance NASCO's success in the future by commenting on the various options proposed by the Working Group for the consideration of stakeholders. More specifically, our comments and recommendations are framed by three broad principles:

- Aboriginal management efforts and knowledge should be progressively incorporated into the formulation and implementation of NASCO guidelines and North American Commission regulations, both in relation to harvesting and to enhance habitat protection and restoration efforts;

- Aboriginal authorities should be better integrated into the processes of NASCO and the North American Commission's decision-making, as has occurred in relation to the management of Pacific salmon, particularly in order to enhance the ability of guidelines and regulations to be implemented in full respect of Aboriginal and Treaty rights; and

- In the short term, the effectiveness of international and regional salmon protection and management decisions can be promoted by giving Aboriginal salmon fishery rights, and goals, a priority focus in NASCO's planning efforts.

Background

The New Brunswick Aboriginal Peoples Council represents Mi'kmaq, Maliseet and Passamaquoddy communities outside of the *Indian Act* reserve system: a population that constitutes the majority of First Nation people in the province, living adjacent to and utilizing all the wild salmon streams and rivers in the province. Some of these, such as the Mirimichi, remain world-class salmon rivers under threat due to habitat erosion as well as low returns of spawning stock due to offshore losses. Others, such as the St. John, were once considered world-class but have seen the devastating impacts of poor habitat management in the face of logging and hydro developments.

Along with the reserve-based communities in the province, NBAPC has been participating in the Aboriginal Fishery Strategy (AFS) introduced by Canada in 1992 after the Canadian Supreme Court upheld aboriginal fishing rights for subsistence, cultural and ceremonial purposes as the first priority in law after conservation. The AFS, under-funded and increasingly falling behind the co-management entitlements of Aboriginal peoples, has been able to make only modest advances on the goals of habitat restoration and stock re-building. As a program, it has too often been focussed locally, and failed to address watershed-based management needs, something that is now, however, tentatively being recognized in the new Aboriginal Aquatic Resource and Oceans Management Program (AAROM). At best, in relation to wild salmon, the AFS to date has provided a modest vehicle for Aboriginal participation in managing the very difficult social and economic transition from extensive reliance upon salmon for food and for trade or sale to limited social and subsistence catches. Aboriginal peoples have often borne the greatest brunt of the destruction of salmon stocks, whether by off-shore over-fishing, or by habitat destruction.

As most NASCO participants will know, the Supreme Court expanded the protections for Aboriginal fishing rights considerably in its decision in *Marshall*, in 1999, which upheld our Treaty right to trade or sell fish for a moderate livelihood, as a priority call on the stock after conservation and ahead of recreational or commercial uses of the resource. This clarification of the law has raised even greater pressures on our communities, and on our internal capacities for resource management – and poses challenges for any successful international, regional or national resource management regime.

Of importance to east-coast salmon fishery management, Canada has now accepted the comprehensive claim asserted jointly by the NBAPC and the fifteen reserve communities via the two reserve-based tribal councils – MAWIW and the Union of New Brunswick Indians (UNBI). Over the coming years, this will mean the development of a number of interim and negotiated arrangements – including ones on fisheries co-management. As a result, NBAPC looks forward to an increased role in the management of the salmon fishery, and to sponsoring measures to enhance the increase in stocks, commensurate with our constitutional authorities.

Specific Comments

The Working Group has proposed a number of options for achieving NASCO's objectives in the coming years. NBAPC's comments on these follow:

(a) Implementation of agreements and effective reporting procedures

- Requirements for more timely and transparent implementation plans are essential, but need to emphasise the consultative obligations of the Parties with respect to Aboriginal peoples, where the latter have rights or legal interests at stake, such as for both Parties to the North American Commission;
- Auditing implementation activities via an independent panel is key to accountability, but should include Aboriginal expertise that is itself accountable to interested and involved Aboriginal NGOs and governmental entities;
- The designation of Salmon Heritage Rivers with special protection is supported, subject to the requirement that all Aboriginal interests in respect of such rivers must be fully consulted and respected; and
- Dispute resolution mechanisms, whether generally or in relation specifically to international trade agreements, should include the consideration of Aboriginal interests, and the formal participation in dispute resolution of Aboriginal authorities where their powers or interests are directly involved.

(b) External relations, public and political support

- Aboriginal peoples have frequently felt the brunt of negative public or media attention, and in some cases this has emerged as a result of salmon fishery interests active within NASCO. While supportive of additional public relations efforts by NASCO – which are essential to garner support for added resources for restorative measures – NBAPC would call for the involvement of Aboriginal NGOs in any media/public relations considerations.
- Greater liaison and sharing of best-practices with other international organizations, such as the Pacific Salmon Commission, is encouraged, noting in particular the direct role that First Nations play in the latter commission, out of respect for their Treaty entitlements to both terminal and coastal fisheries; and
- Regarding practical efforts to publicize NASCO's efforts, the NBAPC would encourage such measures as web-based links to our own site and enhancing information for Aboriginal fishermen about NASCO's Tag Return Incentive Scheme.

(c) Enhanced NGO and other stakeholder involvement

- While respecting the inter-state nature of NASCO, Aboriginal interests in the salmon fishery are unique, as governmental or collective in nature. Accordingly, while NBAPC does encourage enhanced involvement of non-Party stakeholders, we take the view as well that Aboriginal representation and interests require direct acknowledgement in the work of NASCO and the North American Commission. We also note that this is a practical matter as well as a legal or jurisdictional one. Aboriginal interests in the salmon fishery are essential to the effective implementation of NASCO's work, particularly in relation to restorative measures. As co-managers, with collective interests and the right of self-government in relation to our resources, it is essential we be fully involved in all levels of management;
- NBAPC would recommend in particular that a special session be developed bringing together the indigenous organizations and authorities along the

Atlantic coasts in order to address such matters as co-management, habitat protection and regulatory measures to respect indigenous interests in the resource and capacities to enhance stock restoration; and

- It is recommended that a special Aboriginal or Indigenous Sub-Committee, Council or Liaison Group be formed within NASCO, and within the North American Commission, in order to regularize the flow of information and cooperation between the NASCO and the many Aboriginal interests concerned in the management of wild salmon and related fisheries, including aquaculture.

(d) Identification of, and responsiveness to, new or emerging threats

- Responsiveness in identifying new threats is essential. New threats are often identified at the local level – in terminal fisheries for example – in which Aboriginal people are heavily engaged. Given the combination of Aboriginal monitoring capacities and indigenous traditional knowledge, it is recommended that the Standing Scientific Committee include expertise in this area, in consultation with Aboriginal NGOs;
- NBAPC notes in particular a growing concern with aquaculture – whether of farmed Atlantic salmon or of Pacific species – and the controversies surrounding the adequacy of contemporary measures to avoid transfers, transgenics and competition between wild and introduced species. As Aboriginal peoples are increasingly considering entering into aquaculture (with federal government support) we are quite concerned to ensure that aquaculture management be more closely supervised and informed by the best science. While this has been the topic of NASCO guidelines in the past, we feel it must be considered as an on-going threat requiring constant vigilance and oversight.

(e) Obtaining and using comprehensive knowledge

- Aboriginal peoples are very concerned with decisions on conservation – not only in order to ensure the survival and re-establishment of the stocks, but in order to determine what levels of subsistence, Treaty-based, recreational and/or commercial effort are sustainable, and/or required. Accordingly, we are very strongly of the view that Aboriginal perspectives, needs and positions be given special emphasis in the development of comprehensive scientific and socio-economic information to inform NASCO decisions.

(f) Management of fisheries

- Aboriginal organizations such as NBAPC are engaged in collective mixed-stock fisheries, at present entirely in coastal waters. However, by far the greatest involvement of relevance to salmon is in terminal fisheries, and as a result it is with watershed and river habitat protection and restoration that we are most concerned. Accordingly, we have a direct concern with how distant-water fisheries might impact on salmon stocks originating in our rivers. We therefore encourage the inclusion of Aboriginal interests in assigning any determination of fairness or balance in management of such fisheries.

(g) Changes to the Convention

- As suggested by the Working Group, strengthening NASCO's mandate by amending the Convention would seem a requirement if recommendations concerning the implementation of guidelines are not pursued or prove insufficient. However, should the Convention be re-opened, it is recommended that specific attention to the recognition, respect for and reflection of Aboriginal rights and related Treaties and agreements be included within the Organization's mandate, and within the mandate provisions for those Commissions in which Aboriginal peoples are present; and
- In respect of any dispute resolution mechanism, it would be important for those Parties with Aboriginal peoples to be encouraged to consult with them in respect of any dispute within the Convention's mandate that may reasonably have an impact on Aboriginal interests.

CONCLUDING POINTS

The NBAPC recommends that NASCO, as well as the North American Commission, advance the involvement and participation in decision-making of Aboriginal peoples. Aboriginal peoples are the still major stewards of the rivers in which salmon are spawned and return to spawn, and this stewardship will only witness an increase as historic and modern treaties concerning Aboriginal rights and claims are resolved.

- Accordingly, it is in NASCO's interest and in the interest of the salmon that Aboriginal management involvement, expertise and traditional knowledge become more effectively incorporated into the formulation and implementation of NASCO guidelines and North American Commission regulations, both in relation to harvesting and to enhance habitat protection and restoration efforts. As noted above, the establishment of a special Sub-Committee, Council or Liaison Group with Aboriginal organizations and authorities could advance this goal.

- Secondly, Aboriginal authorities should be better integrated into the decision-making processes of NASCO and the North American Commission, as has occurred in relation to the management of Pacific Salmon. This will enhance the ability of guidelines and regulations to be implemented in full respect of Aboriginal and Treaty rights.

- Finally, in the short term, NASCO can promote the effectiveness of international and regional salmon protection and management decisions by giving Aboriginal salmon fishery rights, and goals, a priority focus in its planning efforts.

- NBAPC looks forward to working with, and within, NASCO in order to further our common goal: to restore the Atlantic salmon to sustainable harvest levels in order to return this gift of the Creator to its rightful place in our cultures and economies.

ANNEX 15

Council

CNL(05)14

Report of the 'Next Steps for NASCO' Working Group

CNL(05)14

Report of the 'Next Steps for NASCO' Working Group

1. Last year, to mark NASCO's Twentieth Anniversary, the Heads of Delegations had asked the Secretary to review NASCO's working methods and structures. This review identified a wide range of issues for consideration and noted that it would be useful to further examine these in some depth. The US tabled a report entitled 'NASCO – the Past, Present and Future', and the Council also considered a 'Vision Statement for NASCO' which had been produced, under the auspices of the Atlantic Salmon Federation and the World Wildlife Fund (USA), by four authors, including the Chairman of NASCO's accredited NGOs.

2. In the light of the useful suggestions made, the Council had decided to establish a Working Group on the Next Steps for NASCO, with the aim of further developing and strengthening the Organization. The Terms of Reference for the Group included:

   - identifying the challenges facing NASCO in the management and conservation of wild Atlantic salmon, with particular reference to Article 3 of the Convention;

   - identifying ways to address these challenges;

   - conducting a review of the structure of NASCO;

   - discussing the current procedural aspects of NASCO and the relationship between the Organization, its Parties and stakeholders.

   The Working Group was asked to seek advice, as appropriate, from NASCO's accredited NGOs and other stakeholders and to organize and convene a consultation meeting with stakeholders. Mr Steinar Hermansen (Norway) was asked to chair the Working Group.

3. In order to address these Terms of Reference, the Working Group held two meetings, one in Dunkeld, Scotland, UK, during 5-8 October 2004 and another in Airlie, Warrenton, Virginia, USA, during 12-15 April 2005. Between these meetings the Working Group organised two stakeholder consultation meetings which were held in London, England, UK on 19 January 2005 and in Portland, Maine, USA on 25 January 2005. The report of these stakeholder consultation meetings is presented separately, CNL(05)13. NASCO is, we believe, the first international fishery Commission to undertake such an exercise. These consultations produced a useful, full and frank exchange of views and the feedback we received was very positive about the Organization's work. In the words of one participant who was attending his first NASCO meeting, "the goodwill evident during the consultations should be a cause for optimism about the future of the wild Atlantic salmon". There were, perhaps, two main themes that emerged from the consultations. Firstly, while NASCO has developed good agreements, there is a need for progress with regard to their implementation and on reporting on the measures taken. Secondly, while NASCO has an impressive record (see the document 'NASCO at Twenty Years',

NSCM(05)3), its work is not well enough known to stakeholders and resources should, therefore, be allocated to public relations.

4. The feedback from the consultation meetings was considered very carefully by the Working Group in developing its recommendations, which are contained in the attached report. In this report, the Working Group has developed a Strategic Approach for NASCO which first identifies the challenges facing NASCO in the management and conservation of wild Atlantic salmon, and then makes recommendations for meeting these challenges. The recommendations have been allocated to four areas for improvements, as follows:

- Commitments to NASCO's agreements and review in a challenging environment of progress with their implementation;
- Effective and efficient use of the time available to the Organization;
- Transparency and inclusivity so as to increase stakeholder involvement and improve NASCO's ability to meet its mandate;
- Raising NASCO's public and political profile to increase support for its work.

5. The Working Group's recommendations will be presented to the Council in an Open Session on the afternoon of Tuesday 7 June. At this Open Session all stakeholders will be invited to express their views on the Working Group's recommendations and put forward other ideas for NASCO's Next Steps before the Council makes its decisions. The Council will be asked to consider the Working Group's recommendations and the feedback from the Open Session in deciding on the Next Steps for NASCO.

Secretary
Edinburgh
4 May, 2005

NS(05)16

Report of the Second Meeting of the "Next Steps for NASCO" Working Group

Airlie Conference Centre, Warrenton, Virginia, USA
12 – 15 April 2005

1. Opening of the Meeting

1.1 The Chairman of the Working Group, Mr Steinar Hermansen (Norway), opened the meeting and welcomed participants to Airlie. He referred to the progress that had been made at the Group's first meeting in Dunkeld during which approaches had been developed to consolidate the progress made by NASCO in its first twenty years and to better achieve its objectives in the future. These approaches had been presented to stakeholders at consultation meetings held in London, UK, and Portland, Maine, USA, and he referred to the useful and frank exchange of views and the positive feedback that had been received at these meetings. He indicated that the challenge for the Working Group was now to take the various ideas that had been developed at the Group's first meeting and at the consultation meetings and decide on the recommendations it would make to the Council on the Next Steps for NASCO. He noted that the Group had before it many excellent draft recommendations which had been developed inter-sessionally and which he believed addressed three main issues. Firstly, there are NASCO's internal procedures and working arrangements, which he hoped would not be too difficult to resolve. These might not be of great interest outside NASCO but are important in ensuring the Organization can work effectively. Second, there are the arrangements for external relations with NASCO's stakeholders, which he also hoped could be resolved quickly. The third, and perhaps the major challenge, will be the question of how the profile of NASCO's work can be raised so that there is strong public and political support for the conservation of wild Atlantic salmon.

1.2 A list of participants is contained in Annex 1.

1.3 The report of the Working Group's first meeting is contained in Annex 2.

2. Adoption of the Agenda

2.1 The Working Group adopted its agenda, NS(05)17 (Annex 3), after amending item 4.3 to read "Conclusions on, and prioritisation of, recommendations".

3. Consideration of the Report of the Stakeholder Consultation Meetings

3.1 The Co-Chairman of the London consultation meeting, Mr Andrew Thomson (EU), presented a brief overview of the consultation meetings. He referred to the full report of the meeting, CNL(05)13, which has been distributed to all participants at the meetings and to a summary report, NS(05)2 (Annex 4), prepared by the Secretariat, which documents the main points arising from the meetings. He noted that there had been some trepidation among NASCO Parties in organising the consultation meetings but it was clear that NASCO's stakeholders welcomed being involved in the 'Next

Steps' process and are generally very pleased with the work of the Organization. The meetings had been very constructive and many interesting ideas had emerged. He felt that the exercise should be repeated on a regular basis in the future as part of NASCO's efforts to improve its external relations.

3.2 The Secretary suggested that the main messages arising from the consultation meetings were that:

- there is considerable goodwill and support among stakeholders for what NASCO has achieved;
- NASCO is 'hiding its light under a bushel' and needs to better promote and publicise its work since many stakeholders were unaware of what had been achieved;
- the Parties have developed good agreements in NASCO but there needs to be more urgency on implementation and improved reporting;
- NASCO's NGOs wish to be more involved in the Organization's work;
- the options developed by the Working Group at its first meeting for consolidating the progress made by NASCO to date, and to better ensure NASCO can meet its objectives in the future, were well received;
- there was considerable support for the work of NASCO's International Atlantic Salmon Research Board and widespread support for the focus areas for future NASCO work identified by the Working Group.

3.3 The Working Group welcomed the very positive feedback received from the consultation meetings. It was recognised that many stakeholders with a legitimate interest in the work of NASCO had not been represented at the meetings. However, in addition to the consultation meetings it was noted that some NASCO Parties involve stakeholders in their preparations for NASCO meetings and report back to them on the outcome of those meetings. The Working Group recognised that in the event that the Council decided to hold further consultation meetings it would be important to clarify the purpose of the meetings (e.g. an exercise in external relations, an opportunity to draw on stakeholder expertise) and to seek broader participation from interested parties.

4. Development of Recommendations

4.1 The Working Group reviewed background discussion documents prepared by the Parties, the Secretariat and the NGOs on the following topics:

- implementation and reporting, NS(05)3;
- identification of, and responsiveness to, new or emerging threats, NS(05)4;
- obtaining and using comprehensive knowledge, NS(05)5;
- fairness in management, NS(05)6;
- meetings structure and conduct, NS(05)7;
- focus areas, NS(05)8;
- public relations and cooperation with other organizations, NS(05)9;

- compliance, dispute settlement and other changes, NS(05)10;
- NGO and other stakeholder involvement in NASCO, NS(05)11, NS(05)13;
- the Convention, NS(05)12.

4.2 These documents contained draft recommendations to consolidate progress and better achieve NASCO's objectives and were based on the deliberations of the Working Group at its first meeting and ideas and suggestions arising from the consultation meetings. These draft recommendations were discussed extensively by the Working Group in formulating its proposals to the Council on the Next Steps for NASCO. At its first meeting the Working Group had discussed the need for changes to the Convention since the NGOs believe there is a need to give NASCO a stronger mandate and that failing to consider this option would be a wasted opportunity. The Group's initial view had been that commitments might be made to implement NASCO's agreements without the need to change the Convention. The Working Group again discussed this aspect and welcomed the discussion document from the EU and the US, NS(05)12, on this subject. It came to the view that the implementation plan approach should be used but that if, during a trial period, the implementation plans are not forthcoming or are not being adhered to, there should be further consideration of the interpretation of the Convention.

4.3 The Working Group identified a number of challenges for international cooperation. During the consultation meetings additional challenges were identified but the Working Group believes that these are addressed in the areas it has identified or by other recommendations proposed in this report.

4.4 The Working Group discussed the need to review the composition of the Standing Scientific Committee established by the Council in 1992 to develop the annual request to ICES for scientific advice. The Council's intention had been that this Committee should comprise a scientist and manager from each of NASCO's three regional Commissions and be chaired by the Assistant Secretary. However, the current Committee is made up predominantly of scientists. In the event that additional tasks are allocated to the Committee (e.g. preparing a brief overview, in simple terms, of the ICES advice) the Working Group suggests that the Council may wish to review its composition.

4.5 The Working Group believes that the Council should encourage exchange of information among the Parties on threatened or endangered salmon populations. The first task might be to further clarify the terms 'endangered', 'threatened', 'near-threatened' and 'vulnerable', and there could then be reporting by the Parties on the status of salmon populations and the measures being taken to conserve them, possibly in a Special Session dedicated to the subject. As a separate initiative, the Council might also wish to consider the feasibility of developing a programme for awarding the status of 'international salmon heritage rivers' on the basis of their international significance and conservation value. The intention would not be to downgrade the importance of other salmon rivers but to offer additional protection to designated rivers and encouragement to others. The designation of salmon heritage rivers might also assist in raising NASCO's profile.

4.6 In order to facilitate review of progress made by the Parties and their relevant jurisdictions in implementing NASCO's agreements, the Working Group has proposed in the Strategic Approach that the first step should be to establish an *ad hoc*

group to assist the President. In the event that this does not lead to more critical review of the measures taken, the Council may wish to consider the establishment of a standing Implementation Review Committee. A number of other Regional Fishery Organizations have established such committees, often called 'compliance committees'. These arrangements might serve as models for NASCO's work and might be reviewed by the Secretariat prior to consideration by the Council of an appropriate approach for NASCO.

4.7 The Working Group suggests that dispute settlement procedures might also be considered by NASCO. However, the Working Group notes that unlike other Regional Fishery Organizations, where the work is predominantly in relation to regulatory functions, NASCO has developed a wide range of non-binding agreements which provide guidance to the Parties but which are not prescriptive as to the nature of the measures to be taken. In these circumstances, a dispute settlement procedure might not be appropriate but, as a first step, the Secretariat could be asked to review the arrangements used by other organizations and their applicability to NASCO.

4.8 The present conditions for NGO accreditation to NASCO merely require that the organization applying has objectives compatible with those of NASCO and can show that it has a legitimate interest in NASCO's proceedings. The present NGOs have raised some concerns about this procedure. However, it is also clear that many significant stakeholders are not represented in NASCO and did not participate in the stakeholder consultation meetings. The Working Group therefore suggests that the issue of NGO/stakeholder accreditation to NASCO be given further consideration by the public relations group proposed in the Strategic Approach.

Consultations with the NGOs

4.9 After initial work in developing its draft recommendations, the Chairman welcomed Mr Chris Poupard (Chairman of NASCO's NGOs) and Mr Scott Burns (WWF) who had been invited to attend part of the meeting in order that the Working Group could present its initial ideas and seek their feedback. These representatives of the NGOs indicated that they welcomed the opportunity to take part in the on-going process of developing a future strategy for NASCO's work and applauded the transparent and inclusive way in which the process was being conducted. They had received all the papers for the meeting, which they welcomed, and on which they had no critical comments, although they recognised that the recommendations in these documents were still under consideration. They stated that NASCO had responded in an excellent manner to the Vision Statement tabled by the NGOs at the Organization's Twenty-First Annual Meeting and indicated that they looked forward to working with the Parties in order to strengthen a shared commitment to salmon conservation. They indicated that the main priorities which the NGOs wish to see introduced into NASCO's work are:

- development of implementation plans for NASCO's agreements with focused reporting;
- establishment of goals for implementation of agreements and of procedures to measure progress in achieving these;
- increased NGO participation in NASCO's work.

4.10 While the NGO representatives recognised that there are many models by which implementation and compliance issues can be addressed they felt that it is important to have some mechanism for critically reviewing progress on implementation of NASCO's agreements on the basis of the returns made by the Parties. They indicated that they believed that there had been a natural progression of increasing NGO involvement in NASCO and that they would now welcome the opportunity to contribute to the Council's deliberations. The NGOs fully recognise that commitment is a two-way process and that while their role in NASCO is different to that of the Parties, they wished to play an increasing role in the Organization's work in support of the Parties. The NGO representatives were then invited to meet with a sub-group established to develop recommendations on enhancing the role of NGOs in NASCO's work.

4.11 The Working Group considered the existing rules governing NGO participation, particularly the rule prohibiting the issuance of press releases after the close of the opening session until NASCO has agreed its own press release. With respect to this rule, it was clarified that the intention was to ensure an effective and efficient meeting process, not to diminish the effectiveness of stakeholder involvement in the work of NASCO or to limit the ability of NGOs to offer constructive criticism. The Parties underscored the common interests between NASCO, accredited NGOs, and certain other stakeholders and recognised the key role they play in helping NASCO fulfill its mandate. The Working Group urged the Council to strongly encourage those NGOs that have not already done so to reconsider acceptance of the communications rule, particularly in the light of the progress made during the Next Steps process.

Conclusion on, and prioritisation of, Recommendations

The Next Steps for NASCO Vision Statement and Strategic Approach

4.12 The Working Group recognised that NASCO had made great progress in the past 20 years but felt that the Organization's objectives and achievements could be more strategically organised and presented so as to better achieve NASCO's mandate and improve communication with NGOs, stakeholders and the public. The Working Group therefore recommends that the Council considers adopting a 'vision' for NASCO which will more clearly demonstrate its overall goal, along with the key approaches that will be adopted in working to achieve it. The Working Group further recommends that the future activities of NASCO should be framed in the form of a Strategic Approach which should highlight the main actions required for realising the Vision, under the headings of 'Commitments', 'Effectiveness and Efficiency', 'Transparency and Inclusivity', and 'Raising NASCO's Profile'. The Strategic Approach for NASCO's Next Steps, NS(05)15, is contained in Annex 5. The Working Group recommends the adoption of this Strategic Approach by the Council.

4.13 The Working Group considers that an Implementation Plan, as referred to in the Strategic Approach, is a document summarising a series of actions taken or planned by a Party or relevant jurisdiction which aims to achieve the objectives of NASCO's agreements and guidelines on:

- management of salmon fisheries (reference Decision Structure, SCPA(02)16);
- habitat protection and restoration (reference Plan of Action, CNL(01)51);

- minimising impacts of aquaculture, introductions and transfers and transgenics (reference Williamsburg Resolution, CNL(04)54(revised)).

Information on the use of the Council's socio-economic guidelines in relation to each of the agreements above should be included. Implementation Plans should demonstrate which elements have already been achieved and give a timeframe for those that have not yet been achieved. A list of objectives and elements for discussion should be developed and issued by the Council one year prior to any reporting Special Session. These might consist of questions and discussion points considered by the Council, after consultations with the NGOs, to be relevant to the review, which enable an assessment to be made of the extent of implementation of each of NASCO's agreements, and which enable the review to be conducted in a challenging environment. This should facilitate exchange of information on the effectiveness of the actions taken.

Priorities

4.14 The Working Group believes that of the recommendations presented in the Strategic Approach, the following should be considered the immediate priority areas for NASCO:

- strengthening its mechanisms for implementing its agreements and for assessing their effectiveness;
- improving its inclusivity and transparency;
- raising the profile of the conservation work carried out by NASCO and its Parties so as to gain more public and political support for this work.

Budgetary implications

4.15 The Working Group wishes to bring to the attention of the Council the fact that adoption of the recommendations in the Strategic Approach will have implications for the Organization's budget and possibly, in the longer term, its staffing level. In particular, if the Organization is to raise its profile, which was a major theme from the consultation meetings and an important component of the Strategic Approach, there will be a need to engage the services of a competent and experienced firm of public relations advisors. They will need to work closely with the Secretariat to bring NASCO's work more to the attention of politicians, stakeholders and the public in a positive, informative and interesting manner. Professional support and advice will also be needed in order to make NASCO's website more attractive, informative and interactive. The Working Group therefore recommends to the Council that it makes budgetary provision for these activities in the Organization's 2006 budget. There may be other budgetary implications from recommendations in the Strategic Approach which the Working Group has not been able to consider at this stage.

5. Arrangements for the Open Session during NASCO's Twenty-Second Annual Meeting

5.1 The Secretary advised the Working Group that the Open Session on the 'Next Steps for NASCO' has been scheduled for the afternoon of Tuesday 7 June and that all who had attended the consultation meetings have been invited to participate in this Open Session and the Opening Session of the Council. The whole of the afternoon has been allocated to the Open Session which will provide an opportunity for presentation of

the Working Group's recommendations to stakeholders so as to allow them to offer any feedback and further ideas prior to the Council deciding, later in the week, on the appropriate Next Steps for NASCO. The Working Group's report will be made available to all attending the Open Session before the meeting, although it seems unlikely that many stakeholders other than the NASCO delegations and the accredited NGOs will participate in it. It will therefore be important to communicate the Council's decisions on the Next Steps for NASCO to all who participated in the consultation meetings and to the general public.

5.2 The Working Group recognised that if the Commissions agreed biennial measures at their Annual Meetings in 2005 there may be an opportunity to hold a reporting Special Session in 2006. It was noted that there had been discussions at the 2004 West Greenland Commission meeting on the possibility of establishing a two-year regulatory measure and the Commissions could decide to adopt such measures prior to resolution by the Council of the Next Steps for NASCO. The implications of a biennial request for scientific advice on the work of the ICES Working Group on North Atlantic Salmon (WGNAS) had been raised with the Chairman of the Advisory Committee on Fishery Management by the Secretary. In an initial response, ICES had welcomed this arrangement since it would allow additional time for the scientists to consider new approaches to the development of the advice. However, there is a possibility that in years when there is no request for advice some countries may not be willing to send their biologists to the ICES meeting. The Working Group agreed that it would be important to signify to ICES and to NASCO's Parties that continuation of the work of the WGNAS in years when no advice is sought by NASCO is important.

6. Any other business

6.1 There was no other business.

7. Report for the Working Group to the Council

7.1 The Working Group agreed the report of its meeting.

8. Close of the Meeting

8.1 The Chairman referred to the considerable progress made by the Working Group in planning out the future course for NASCO's work and to the excellent spirit of cooperation that had characterised the Group's two meetings. He thanked all participants for their contributions and closed the meeting.

Second Meeting of the 'Next Steps for NASCO' Working Group

List of Participants

CANADA

Mr Guy Beaupré	Department of Fisheries and Oceans, Ottawa, Ontario
Mr Serge Tremblay	Societé de la Faune et des parcs du Quebec, Quebec
Mr Tim Young	Department of Fisheries and Oceans, Ottawa, Ontario

DENMARK (IN RESPECT OF THE FAROE ISLANDS AND GREENLAND)

Mr Kaj P Mortensen	Ministry of Foreign Affairs, Torshavn, Faroe Islands
Mr Einar Lemche	Greenland Home Rule, Copenhagen, Denmark

EUROPEAN UNION

Mr David Dunkley	SEERAD, Edinburgh, UK
Mr Pentti Munne	Ministry of Agriculture and Forestry, Department of Fisheries and Game, Helsinki, Finland
Mr George O'Doherty	Department of Communications, Marine and Natural Resources, Dublin, Ireland
Mr Trevor Perfect	DEFRA, London, UK
Mr Ted Potter	Centre for Environment, Fisheries and Aquaculture Science, Lowestoft, UK
Mr Andrew Thomson	European Commission, Brussels, Belgium

ICELAND

Mr Guðmundur B Helgason	Ministry of Agriculture, Reykjavik, Iceland
Mr Arni Isaksson	Directorate of Freshwater Fisheries, Reykjavik

NORWAY

Raoul Bierach	Directorate for Nature Management, Trondheim
Mr Arne Eggereide	Directorate for Nature Management, Trondheim

Mr Steinar Hermansen (Chairman)	The Royal Ministry of Environment, Oslo

RUSSIAN FEDERATION

Dr Svetlana Krylova	Murmanrybvod, Murmansk
Dr Boris Prischepa	Murmanrybvod, Murmansk
Ms Elena Samoylova	PINRO, Murmansk
Dr Alexander Zubchenko	PINRO, Murmansk

USA

Ms Kimberly Blankenbeker	National Marine Fisheries Service, Silver Spring, Maryland
Ms Nikki Brajevich	US Department of State, Office of Marine Conservation, Washington, DC
Ms Mary Colligan	National Marine Fisheries Service, Gloucester, Massachusetts
Ms Patricia Kurkul	NOAA Fisheries, Gloucester, Massachusetts

NON-GOVERNMENT ORGANIZATIONS (13^{th} (pm) and 14^{th} (am) April only)

Mr Scott Burns	World Wildlife Fund, Washington DC, USA
Mr Chris Poupard	Chairman of NASCO's NGOs

SECRETARIAT

Dr Malcolm Windsor	Secretary
Dr Peter Hutchinson	Assistant Secretary

NS(04)9

Report of the First Meeting of the Working Group on 'The Next Steps for NASCO'

Hilton Dunkeld House Hotel, Dunkeld, Scotland
5-8 October, 2004

1. Introduction

1.1 The Chairman of the Working Group, Mr Steinar Hermansen (Norway), opened the meeting and welcomed delegates to Dunkeld. He referred to the important task before the group. He noted that over the last 20 years NASCO had developed into an effective and well-respected international organization which had performed extraordinarily well in a very complex international field. He indicated that the task before the Group is to ensure that NASCO continues to perform well and to make it function even better in future, since the situation facing wild Atlantic stocks is very serious.

1.2 The Secretary added his welcome to that of the Chairman and referred to the advantages of international cooperation on salmon conservation and management. These include strength through unity, burden-sharing, better coordinated research, effective information exchange and better output when developing approaches to, for example, the Precautionary Approach. He referred to some of the challenges facing the Organization and stressed that just as adaptability is the key to species survival, it may also be the key to focusing the work of NASCO and its Contracting Parties.

1.3 A message of encouragement to the Working Group from the President of NASCO was distributed.

1.4 A list of participants is contained in Annex 1.

2. Ideas to improve NASCO's work

2.1 The Group held wide-ranging discussions on the options available to improve NASCO's work and an initial discussion document, NS(04)6, was developed reflecting this discussion. The Group agreed that this document provided a useful basis for its continuing work but that it would need considerable amendment prior to its distribution to stakeholders. A number of suggestions for changes were made by the Parties and the Group asked the Secretary to take these into account in developing the final document for distribution to stakeholders. The revised discussion document, NSCM(05)4, is contained in Annex 2. The Group considered that it might be useful to have slightly different documents for those who know NASCO well, such as its NGOs, and those who are new to its work.

3. Arrangements for Consultation Meetings

3.1 In its Terms of Reference the Group was asked by the Council to organize and convene a consultative meeting with stakeholders, to summarise the input it receives

from these stakeholders and to make this summary available to the stakeholders. Document NS(04)4, outlining a possible approach to the stakeholder consultation meeting, was presented. The Working Group decided, in consultation with the NGO representatives present at the meeting, to hold one-day consultation meetings in London, UK, on 19 January 2005, and in Boston, USA, on 25 January 2005. The venues will be resolved by the Secretary in consultation with the Chairmen.

3.2 Each Contracting Party agreed to provide to the Secretariat by 20 October a list of stakeholders to be invited to participate in the consultation meetings. It was estimated that in the region of 150 invitations would be issued. A document which would form the basis for an invitation to the consultation meetings was agreed by the Working Group, NSCM(05)2 (Annex 3). The invitations will be issued by the Secretary together with the document "NASCO at 20 years" which provides background on NASCO's achievements to date. The Working Group also agreed an agenda for the consultation meetings, NSCM(05)1 (Annex 4). The invitation and other documentation will also be made available on the Organization's website with an invitation to those stakeholders who cannot attend either of the consultation meetings to offer comments on the future challenges for NASCO. The Secretariat will not advertise the consultation meetings but it was recognized that the Parties and NASCO's NGOs might wish to do so. The consultation meetings will be open to all, subject to any restrictions on space.

3.3 The Working Group agreed that the consultation meetings should allow for an open dialogue between the Contracting Parties and the stakeholders. A report of the meetings will be prepared, including all the comments and suggestions received, and stakeholders will be given the opportunity to comment on the report and to include any additional statements in the light of the consultation meetings. The additional statements would be required within 10 days of the consultation meetings. The Group agreed that the media should be allowed to attend the consultation meetings but that recording equipment would not be permitted. The Working Group did not resolve whether or not the stakeholders should be invited to participate in its next meeting but agreed that it would recommend to the Council that a session open to all stakeholders who participated in the consultation meetings be held during the Twenty-Second Annual Meeting in June 2005 so as to allow for input from stakeholders when the final report from the Group is presented.

3.4 The Working Group felt that it would be desirable for the consultation meetings to be co-chaired by representatives of the Parties and of the NGOs. Mr Andrew Thomson (EU) was appointed Chairman for the London meeting and Ms Pat Kurkul was appointed Chairman for the Boston meeting. These Chairmen will liaise with the NGOs on the appointment of Co-Chairmen. The Group recognized that it would be desirable for the NASCO Chairmen to attend both consultation meetings.

4. Views from NASCO's NGOs

4.1 The Chairman welcomed Mr Chris Poupard (Chairman of NASCO's accredited NGOs) and Mr Bjornulf Kristiansen (Norwegian Farmers Union) to the meeting. Together with Dr Andrew Rosenberg (USA) and Dr Wilfred Carter (Canada), they had co-authored the document 'NASCO's Future – a Vision Statement' which had been presented at NASCO's Twenty-First Annual Meeting. The Secretary presented to the NGO representatives an overview of the Working Group's initial ideas on

approaches to improve the work of NASCO in future, as contained in document NS(04)6. A number of comments were made by the NGO representatives but these were provisional as they had not been able to consult their NGO colleagues. The Chairman indicated that these initial comments would be considered in developing further the Group's ideas.

4.2 The NGO representatives also offered a number of helpful suggestions in relation to arrangements for the consultation meetings. It was suggested that the NGOs might liaise with the Parties in developing a list of organizations to be invited to the consultation meetings and that the NGOs could assist in advertising the consultation meetings. It was noted that there may be a need to structure the agenda depending on the numbers of stakeholders attending the meetings. In this regard the Group was advised that NASCO's accredited NGOs intend to submit one written statement to the consultation meetings where there is a common view. The Group agreed that it would be useful if there was a cooperative approach with regard to developing a media strategy to publicize its work and asked that the Secretary and Co-Chairmen of the consultation meetings and the Chairman of NASCO's NGOs liaise on this aspect.

5. Future work programme

5.1 The Working Group agreed that in order to further develop its initial ideas on approaches for improvements to the way NASCO conducts its work, the Secretariat and Parties should develop background papers for consideration at the Group's next meeting. These documents should take into account any ideas arising from the consultation meetings. Any suggestions for new areas of work not already under consideration by the Group would be included on the agenda for its next meeting to allow for their consideration. While each Party could contribute background papers, the Group assigned particular areas of its work to the Parties and Secretariat as follows:

Discussion document to be developed	Responsibility
Implementation and reporting	Secretariat
Public relations and cooperation with other organizations	EU
NGO involvement	Russia/Canada/NGOs
Responsiveness to threats	Secretariat
More complete knowledge	Secretariat/Iceland
Management of fisheries	Denmark (Faroe Islands & Greenland)
Focus areas	Norway
Convention/Protocol, etc.	US/EU
Meeting structure	Secretariat/US
Other changes (e.g. dispute settlement procedures)	EU
Commitments	Secretariat

5.2 The Working Group aims to hold its next meeting during the week beginning 7 March 2005 assuming that the consultation meetings take place as planned and that venues are available. Discussion documents incorporating any new ideas arising from the consultations meetings should be sent to the Secretariat at least two weeks before the Group's next meeting. The Secretary will liaise with the Parties on the date and venue of its next meeting. To enable the Group to communicate prior to its next meeting, the Secretary was asked to issue an e-mail circulation list to all participants.

6. Close of Meeting

6.1 The Chairman closed the meeting and thanked the Parties for their contributions.

Annex 1 of NS(04)9

First Meeting of the Working Group on 'The Next Steps for NASCO'

List of Participants

CANADA

Mr David Meerburg	Department of Fisheries and Oceans, Ottawa, Ontario
Mr Tim Young	Department of Fisheries and Oceans, Ottawa, Ontario

DENMARK (IN RESPECT OF THE FAROE ISLANDS AND GREENLAND)

Mr Einar Lemche	Greenland Home Rule, Copenhagen
Mr Kaj P Mortensen	Ministry of Foreign Affairs, Faroe Islands

EUROPEAN UNION

Mr Richard Cowan	DEFRA, London, UK
Mr David Dunkley	SEERAD, Edinburgh, UK
Mr Andrew Thomson	European Commission, Brussels, Belgium

ICELAND

Mr Guðmundur B Helgason	Ministry of Agriculture, Reykjavik
Mr Arni Isaksson	Directorate of Freshwater Fisheries, Reykjavik

NORWAY

Raoul Bierach	Directorate for Nature Management, Trondheim
Mr Arne Eggereide	Directorate for Nature Management, Trondheim
Mr Steinar Hermansen (Chairman)	The Royal Ministry of Environment, Oslo

RUSSIAN FEDERATION

Dr Svetlana Krylova	Murmanrybvod, Murmansk
Dr Boris Prischepa	Murmanrybvod, Murmansk
Ms Elena Samoylova	PINRO, Murmansk
Dr Alexander Zubchenko	PINRO, Murmansk

USA

Ms Mary Colligan	National Marine Fisheries Service, Gloucester, Massachusetts
Ms Patricia Kurkul	NOAA Fisheries, Gloucester, Massachusetts

NON-GOVERNMENT ORGANIZATIONS (7 October only)

Mr Chris Poupard	European Anglers Alliance and Chairman of NASCO's NGOs
Mr Bjornulf Kristiansen	Norges Bondelag (Norwegian Farmers Union), Norway

SECRETARIAT

Dr Malcolm Windsor	Secretary
Dr Peter Hutchinson	Assistant Secretary

Next Steps for NASCO

Discussion Document
Stakeholder Consultation Meetings

Introduction

NASCO is the international, inter-governmental treaty Organization charged with contributing through international cooperation to the conservation, restoration, enhancement and rational management of salmon stocks in the North Atlantic Ocean. All the North Atlantic governments with salmon interests are members of NASCO. NASCO also has about 30 non-government organizations as observers.

Recognising that many of the factors influencing abundance of Atlantic salmon stocks may be natural phenomena which may not be amenable to management action, NASCO has set the following goal for its work:

To conserve and, wherever possible, restore the natural capacity for salmon production to ensure that:

- salmon habitat is fully utilised by salmon;
- the salmon stocks provide the greatest possible benefits to society and individuals.

Although NASCO started out with an intense focus on the development of regulatory measures for fisheries, it has greatly broadened its work over the last 20 years. The reason for this is that we believe that the problems facing Atlantic salmon are wide-ranging and complex. So, we have looked at all the many threats that might have an impact. NASCO has therefore developed guidelines for:

- management of all homewater fisheries;
- habitat protection and restoration;
- proper control and management of aquaculture, introductions and transfers and transgenics;
- stock rebuilding programmes;
- minimizing by-catch of salmon in pelagic fisheries;
- incorporating social and economic factors into management decisions.

These and other steps are summarised in the document 'NASCO at 20 years' (NSCM(05)3). However, in spite of all this effort and of the sacrifices made around the North Atlantic, many salmon stocks have continued to decline. In such a situation we need to review our efforts to protect this valuable and highly prized species.

To mark its 20th Anniversary, NASCO has decided that it will not only look back but, more importantly, look forward to the next decade to ensure that it can anticipate and respond to future challenges. A Working Group has, therefore, been established to examine the future challenges for the management of Atlantic salmon and the ability of NASCO to respond to those challenges. If NASCO is to deliver to the international, national and local communities

what they need to conserve and restore wild salmon stocks then we would like to seek all the support and guidance that we can obtain from the stakeholders interested in the management and conservation of Atlantic salmon, e.g. recreational, commercial and subsistence fishermen, those who care about the wild Atlantic salmon, and those whose activities depend on, or could impact, the resource.

The Working Group has reviewed the work being carried out by NASCO and considers that the Organization has in fact developed its own 'radar' to detect new threats to the species as they arise and has broadened its base soundly to address them. It is already working well on the major threats to the conservation of wild salmon stocks. NASCO will, however, need to consider carefully:

Future focus - ***areas to which we should give a particular focus in future;***

For the next few years, the Working Group believes that, besides managing salmon fisheries, the major focus might be on the following areas, most of which are of a continuing nature:

- Research on salmon at sea (including studies of by-catch of salmon);
- Aquaculture, introductions and transfers and transgenics;
- Habitat protection and restoration;
- Initiatives for endangered populations;
- Social and economic aspects of Atlantic salmon;
- *Gyrodactylus salaris*.

Consolidating progress – *how we can consolidate progress and better achieve our objectives;*

The Working Group believes that NASCO is well positioned to meet the challenges that face Atlantic salmon today and into the future, but has developed a list of options (see Annex 1) to improve the way that NASCO conducts its business to ensure that it remains a productive and valuable international fisheries organization. It has also considered what fundamental changes in procedures might be required. The Working Group stresses that at this stage these are all still options, none of which have been decided upon.

In developing these options, we are very grateful to our NGOs who have contributed ideas, papers and statements on the future direction for NASCO. We have considered these very carefully in our initial review.

NASCO's role - ***the most effective use of NASCO's international role, bearing in mind that much action to manage and conserve salmon is taken at national, regional and local levels;***

The Working Group has examined the unique role which NASCO can play in complementing and strengthening the efforts of the Contracting Parties. NASCO is the forum for facilitating information-sharing on the status of salmon stocks and the challenges facing salmon management. It also provides the forum for developing internationally accepted views and agreements on what should be done, how it might be done and by whom.

Stakeholders' role - ***enhancing NGO and other stakeholder involvement in the Organization where this can make it more effective in managing and conserving wild stocks.***

We believe it is important to benefit from the wealth of experience which exists in NASCO's NGOs and other stakeholders, and to engage them as fully as possible in the work of NASCO. However, there is a need to maintain a balance between increasing transparency and maintaining a forum in which effective and sometimes delicate negotiations and decision-making can take place.

The consultations

At the two consultation meetings we would like to ask the stakeholders to:

- ***comment on the work that NASCO has done in its first 20 years (see paper NSCM(05)3);***
- ***advise on where the Organization might focus its efforts in the next decade;***
- ***consider the options and ideas to consolidate progress and better achieve objectives (Annex 1 of this paper);***
- ***suggest new ideas for managing and conserving salmon stocks and for the work of the Organization.***

Annex 1 to NSCM(05)4

Approaches to consolidating progress and to better achieve NASCO's objectives

The Working Group discussed a range of options for consolidating the progress made so far, and for assisting NASCO to better achieve its objectives in the future. The Working Group believes that NASCO should aim for a high degree of flexibility in its procedures and structures. The Working Group identified the following list of options, which is not definitive, and which we hope will be expanded by stakeholders:

(a) ***Implementation of agreements and effective reporting procedures***

There is a need to ensure that NASCO agreements referred to in the introduction to this document are implemented by the Contracting Parties in a given timescale, and that reporting back to the Council is comprehensive, transparent and conducted in a challenging environment. With the existing reporting procedures, it is difficult to determine to what extent they have been implemented, and the procedures do not facilitate information exchange. The following options were developed to improve cooperation, implementation and reporting:

- Require each Party to develop a plan of action for implementation of all NASCO's agreements, including milestones for implementation. Such plans could establish quantifiable goals for implementation of particular elements of an agreement in a given timeframe;
- Restructure the format of Annual Meetings, with alternate years focusing on reporting on implementation of the agreements so as to allow for review of progress;
- Rather than a brief annual review there could be a more intense focus on each agreement every few years to assess progress;
- These reports on progress on implementation of agreements could be made at Special Sessions of the Council (i.e. sessions at which all participants at the Council meeting can contribute to the discussion) so as to extend NGO participation and allow for a thorough critical review;
- Develop and issue well in advance of the Special Session at which an agreement will be reviewed, a list of fundamental questions to assess the extent of implementation;
- Commission an independent panel to undertake a critical external review of the actions taken by the Parties to implement agreements;
- Reconsider reporting formats so as to facilitate comprehensive reports (rather than new measures only) and so as to facilitate database entry of information provided;
- Seek reports from the Parties on identification of threatened or endangered populations and on special measures introduced for their protection, and establish and maintain an inventory of this information;
- Designate internationally recognised Salmon Heritage Rivers which would have special protection;
- Resolve any conflicts which might occur between measures to conserve wild stocks of Atlantic salmon and international trade agreements.

(b) External relations, public and political support

Public and political support for salmon conservation is essential. The Working Group believes that NASCO could do better in the field of external relations and public relations. There may be possibilities to develop partnerships. The following options were developed to improve external relations of, and public and political support for, NASCO's work:

- Commit to a new public relations strategy and make budgetary provision for professional support to operate the strategy;
- Issue Press Releases in relation to specific achievements throughout the year, not just following the Annual Meeting;
- Explore possibilities for partnerships with accredited NGOs on a media strategy;
- Develop, on an annual or biennial basis, reports on activities, on stock status and on social and economic aspects of the Atlantic salmon;
- Issue a brief, attractive brochure presenting NASCO's activities and distribute widely;
- Liaise and strengthen links with other relevant international fisheries bodies and also regional seas organizations;
- Organise joint meetings with other international salmon Commissions in the Pacific Ocean and Baltic Sea on subjects of mutual interest;
- Seek guidance from the Council on issues to raise with other international fisheries organizations;
- Further develop the Organization's website as an information base and educational tool, and establish reciprocal links to NGO websites;
- Expand the website to encompass a summary of the spiritual, cultural, heritage and economic values of Atlantic salmon;
- Develop educational materials, for example a video or brochure, to be used in stimulating the interest of young people in the Atlantic salmon and its conservation;
- Use fishing lodges, outfitters, aquaria, etc. for the distribution of information about NASCO and its work for salmon;
- Better publicise the awards in the NASCO Tag Return Incentive Scheme and, for example, send an item bearing the NASCO logo to all fishermen returning tags for inclusion in the Scheme;
- Develop other promotional items;
- Encourage the Contracting Parties to publicise the work of NASCO within their own territories;
- Establish a fund to obtain publicity for NASCO's work through commissioning articles, posters, etc., to recognise exceptional contributions to salmon conservation and to support relevant projects.

(c) Enhanced NGO and other stakeholder involvement

The use of the knowledge and experience of the NGOs and other stakeholders can contribute to improve NASCO's work and its effectiveness. However, NASCO is an inter-governmental body and it is essential to maintain the appropriate atmosphere and environment. The following options were identified to enhance NASCO's relationship with its NGOs and other stakeholders:

- Seek NGO cooperation in developing the public relations strategy;

- Hold more Special Sessions to encourage presentations by NGOs on, for example, their own work and habitat issues, so as to increase their involvement and draw on their expertise;
- Consult NGOs on topics for Special Sessions;
- Allow interventions at the meetings of the Council by the Chairman of the accredited NGOs or his/her designated spokesman at the discretion of the President of NASCO;
- Seek improved contact with major stakeholders who are not currently NGOs to NASCO;
- Improve the effectiveness and openness of the Liaison Group with the North Atlantic salmon farming industry.

(d) Identification of, and responsiveness to, new or emerging threats

The Working Group believes that NASCO has shown that it can anticipate threats to the resource and respond effectively to them. It will be important to maintain and improve this responsiveness and the following options were identified:

- Build on NASCO's track record of identifying and responding to new threats to the resource by including an annual Council agenda item on identification of new or emerging threats to salmon conservation and management;
- Seek advice from the Standing Scientific Committee (SSC) on new and emerging threats on the basis of a review of the ACFM advice and the compilation of salmon-related literature;
- Use the NASCO website to report on new threats to the resource and the measures taken by NASCO and its Contracting Parties.

(e) Obtaining and using comprehensive knowledge

NASCO and its Contracting Parties are committed to basing management decisions on the best available information. There are some significant gaps in the scientific and socio-economic information available to managers. There is a need to continue to acquire and share scientific information, particularly with regard to salmon at sea. On the other hand, some of the scientific advice provided to NASCO is similar from one year to the next. There is a need to make the best use of resources to ensure that a sound basis exists for rational management. The following options were identified:

- Give greater emphasis to social and economic aspects, including further consideration of bio-economic modelling approaches;
- Establish a new socio-economic Working Group to advise on these issues in parallel with the advice received on biological issues;
- If regulatory measures are developed on a biennial basis, consider requesting scientific advice in every other year. Any cost saving could be used in support of research on salmon at sea;
- Support the work of NASCO's International Atlantic Salmon Research Board in coordinating and funding research on mortality of salmon at sea;
- Seek NGO cooperation and support in fund-raising for research on salmon at sea;
- Continue to liaise with ICES to ensure timeliness of the advice and the quality and clarity of its presentation;
- Request that NASCO's SSC review the scientific advice and provide a brief overview in simple terms;

- Develop procedures to communicate information and advice more effectively to those within NASCO and elsewhere whose first language is not English;

(f) Management of fisheries

Some, but not all, mixed-stock fisheries are subject to the establishment of regulatory measures in NASCO. The Working Group recognises the need to review the balance and fairness between management of distant-water and homewater fisheries. There is a need to share information on management measures to ensure that they are equitable. The following options were developed:

- States of Origin should communicate clearly and succinctly to the Commissions or Council on the measures taken to implement and enforce conservation and management measures so that these can be taken into account in the establishment of regulatory or other measures;
- Comprehensive reporting on the use of the Decision Structure on the Management of North Atlantic Salmon Fisheries should be used to demonstrate actions taken in relation to management of all fisheries;
- Request ICES to advise on the stock composition of harvests in mixed stock fisheries given recent improvements in stock identification methods;
- Seek further ideas to improve the 'fairness' and balance in management of distant-water fisheries;
- Consider establishing regulatory measures on a biennial basis.

(g) Changes to the Convention

It has been suggested by NASCO's NGOs that it may be beneficial to change the Convention so as to give NASCO a stronger mandate.

- In the light of the options identified in paragraphs (a) to (f) above, the Working Group's present view is that for NASCO to achieve its objectives there is no need to change the Convention or the Organization's Rules of Procedure. Indeed, the Working Group is aware of certain risks when a Convention is re-opened. However, no decision has been made and the Working Group will consider the pros and cons of such action in the light of the consultation meetings;

- Commitments might be made which would achieve a similar result to changing the Convention. For example, the NASCO Parties could produce action plans relating to the NASCO agreements which would commit them to achieve implementation of elements of these agreements by certain dates (see paragraph (a) above). These action plans would be submitted to the Council of NASCO for its consideration;

- There may be a need to consider a mechanism for dispute settlement.

An invitation to all stakeholders interested in the future of the North Atlantic salmon

"Next Steps for NASCO"

Future challenges in the management and conservation of Atlantic Salmon

The North Atlantic Salmon Conservation Organization (NASCO) was established in 1984 with the objective of contributing to the conservation, restoration, enhancement and rational management of Atlantic salmon through international cooperation. NASCO is an inter-governmental organization with the following Contracting Parties: Canada, Denmark (in respect of the Faroe Islands and Greenland), the European Union, Iceland, Norway, the Russian Federation and the United States of America. NASCO also has twenty-three accredited non-government organizations which have observer status. Details of the work of the Organization can be found in the accompanying document 'NASCO at 20 Years' and on our website at www.nasco.int. In spite of all the sacrifices made and the hard work by many organizations and individuals, the stocks have continued to decline. The reasons for this decline are complex and poorly understood.

To mark the Twentieth Anniversary of NASCO, we are doing something quite new. We are undertaking a review of all the challenges NASCO faces in the management and conservation of wild Atlantic salmon and ways in which these challenges may be met in the coming decade. We call this the 'Next Steps for NASCO' and a Working Group has been established to advise the Council of NASCO. We will not only consider how to meet current and future management challenges but also the relationship with our stakeholders. In the accompanying discussion document (NSCM(05)4) some initial options, developed by the Working Group to consolidate progress and better achieve NASCO's objectives, are outlined.

In undertaking this review, we are seeking input from all stakeholders interested in the management and conservation of Atlantic salmon, e.g. recreational, commercial and subsistence fishermen, those who care about the wild Atlantic salmon, and those whose activities depend on, or could impact, the resource. To facilitate this process, we are organising consultation meetings in London, England, and in or in the vicinity of Boston, USA.

Place	**Probable Date**	**Time**
London, England	19 January 2005	10.00hrs
Boston, USA	25 January 2005	10.00hrs

*The venues will be confirmed nearer the time.

An agenda for these meetings is attached but it is intended only as a guide. Our intention is that these consultations will be inclusive, free-thinking, creative and open-minded. No views will be excluded and all views will be listed and presented to the Council of NASCO. We encourage submission of papers either before, during, or within 10 days after the consultation meetings. All papers received will be distributed to the Council of NASCO. The Working Group will consider these views before the next Annual Meeting of NASCO and will make its own recommendations on the appropriate next steps for the Organization. These

recommendations will be presented to the Council of NASCO at an open session during its Annual Meeting in June 2005. All who have attended the consultation meetings may participate in this open session. If you would like to take part in one of the two consultation meetings, please advise the NASCO Secretariat using the enclosed registration form. The consultation meetings will be open to all, subject to any restrictions on space.

These consultation meetings are an opportunity for all those with an interest in the management and conservation of Atlantic salmon to have their say and we do hope you will consider attending one of the meetings. If you can't attend, we would still very much like to hear your views on the future challenges facing NASCO and the Atlantic salmon, and you can send these to us via our website.

We sincerely hope that you will take this opportunity to help us to focus our future work in the best way to ensure that NASCO is a productive and valuable international organization and that wild salmon stocks have the best possible support from NASCO, its Contracting Parties and all the stakeholders.

‘Next Steps for NASCO’

Future challenges in the management and conservation of Atlantic salmon - an invitation to stakeholders

Registration

I wish to participate in the consultation meetings on the ‘Next Steps for NASCO’ and would like to receive any further information that may be issued.

Name:……...

Organization:……

……..……

Address:…….…...

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Consultation Meeting Choice:		
		London, England, 19 January 2005
		Boston, USA, 25 January 2005

Please complete this form and return, if possible, by **7 January 2005** to:

NASCO, 11 Rutland Square, Edinburgh EH1 2AS
Tel: Int +44 131-228-2551 Fax: Int +44 131-228-4384
or send an e-mail to hq@nasco.int

NS(04)Registration

Stakeholder Consultation Meetings on the 'Next Steps for NASCO'

London, England, 19 January 2005 and Boston, USA, 25 January 2005 (Venues to be advised)

Agenda

1. Opening of the Meeting

2. Report on Progress by the Next Steps Working Group

The Working Group has discussed a number of options to ensure that NASCO is well positioned to meet future challenges in relation to salmon conservation and management. We would like to share these with stakeholders (see attached discussion document NSCM(05)4) and we would welcome comments and feedback on the options presented in that document.

3. Views from Stakeholders

The views of stakeholders are warmly invited, not just on the options presented in document NSCM(05)4, but also on any other ideas for NASCO, to ensure that it can meet its objectives and future challenges. This part of the meeting will be structured in the light of the number of presentations. We may need to limit the time for oral presentations at the meeting but we encourage submission of papers either before, during or within 10 days after the consultation meeting. All papers submitted will be made available to the Council of NASCO.

4. General Discussions and Dialogue

We seek to encourage a dialogue with stakeholders on the future challenges for NASCO and time will be allocated for what we hope will be open and frank discussions. These discussions will be summarized and reported back to the Council of NASCO together with all written statements submitted.

5. Report of the Meeting

The draft report of the consultation meeting will be submitted to those stakeholders who were present to ensure that the views reported are accurately expressed. Stakeholders will also be invited to submit additional views and comments in the light of what they have heard at the consultation meetings. The final report will be sent to all participants and will be presented to the Council of NASCO at its Twenty-Second Annual Meeting during a session that will be open to all who have participated in the consultation meetings.

6. Close of Consultation Meeting

NS(05)17

Second Meeting of the 'Next Steps for NASCO' Working Group

Airlie Centre, Warrenton, Virginia, USA
12-15 April 2005

Agenda

1. Opening of the Meeting

2. Adoption of the Agenda

3. Consideration of the Report of the Stakeholder Consultation Meetings

4. Development of Recommendations:

    4.1 Development of Draft Recommendations on:

    (a) Implementation of agreements and effective reporting procedures
    (b) External relations, public and political support
    (c) Enhanced NGO and other stakeholder involvement
    (d) Identification of, and responsiveness to, new or emerging threats
    (e) Obtaining and using more comprehensive knowledge
    (f) Management of fisheries
    (g) Changes to the Convention
    (h) Changes to Meeting Structure
    (i) Future focus areas
    (j) Ecosystem approach to salmon management
    (k) Other recommendations (e.g. dispute settlement procedures)

    4.2 Consultations with NGOs on the Draft Recommendations

    4.3 Conclusions on, and Prioritisation of, Recommendations

5. Arrangements for the Open Session during NASCO's Twenty-Second Annual Meeting

6. Any other business

7. Report from the Working Group to the Council

8. Close of the meeting

Note: The meeting will commence at 10.00hrs on Tuesday 12 April. Representatives of the NGOs and the non-NASCO Co-Chairs of the Consultation Meetings have been invited to participate in the meeting on the afternoon of Wednesday 13 April and the morning of Thursday 14 April for agenda items 4.2 and 5. The intention is that the meeting will conclude around midday on Friday 15 April.

NS(05)2

Summary Report of the Next Steps for NASCO Consultation Meetings

Introduction

1. NASCO is, we believe, the first international fishery commission to undertake consultations with its stakeholders on the future challenges for the Organization. Two meetings were held in London, UK, and Portland, Maine, USA, and were attended by 44 and 35 participants respectively. The report of the consultation meetings is presented separately in document CNL(05)13. There was a useful, full and frank exchange of views and the feedback we received was very positive about the Organization's work. In the words of one participant who was attending his first NASCO meeting, "the goodwill evident during the consultations should be a cause for optimism about the future of the wild Atlantic salmon". The central theme was that the agreements and guidelines developed in NASCO, for example under the Precautionary Approach, were very good but that there was a need for progress with regard to their implementation and reporting of the measures taken. Another major theme was that NASCO had an impressive record but that its work was not well known to stakeholders and resources should be allocated to public relations. The approaches developed by the Next Steps for NASCO Working Group to consolidate progress and to better achieve NASCO's objectives were generally well received, although different views were expressed about the need for mandate change. These approaches are contained in Annex 1 to this summary.

2. In this overview we have attempted to summarise the suggestions made, both in written submissions and verbally at the meetings. We have grouped the suggestions according to the main areas where the Working Group had developed approaches for consolidating progress to date and for ensuring that NASCO can effectively achieve its objectives (see Annex 1).

(a) *Implementation of agreements and effective reporting procedures*

- There was recognition that NASCO had developed good agreements but concern was expressed by some participants that NASCO lacks 'teeth' to ensure that its agreements are implemented. The need for improved accountability of the Parties with regard to implementation of NASCO's agreements was stressed.

- Some felt that there was a moral obligation to implement the agreements and that the NGOs could play an important role in ensuring that commitments made in NASCO are adhered to by the Parties. Mandate change to allow development of binding agreements may be not be appropriate, since regulatory agreements could take a long time to develop and, even with such agreements, it could be difficult to ensure compliance.

- NASCO's NGOs felt that it was inappropriate to rely on the moral obligation, and would like NASCO to review its mandate (see paragraph (g) below). In the meantime, they supported action plans for implementing NASCO agreements, with

quantifiable goals and timescales, together with robust mechanisms for reporting and a critical review process. They suggested a new protocol to the Convention specifying the obligation of the Parties to report to NASCO on its agreements. They recommend that the Working Group review the reporting format for each agreement to ensure it is adequate in scope and specificity and that there should be reporting on monitoring, enforcement and compliance. The protocol should require provision of data that is specific enough to distinguish among different degrees of achievement of desired results. The protocol should also establish a commitment to make all data reported public.

- Consistent with an adaptive management approach, the effectiveness of NASCO's agreements should be monitored and refinements made as necessary.

- There was support for less frequent (perhaps a 3-year cycle), but much more challenging, reporting on each major agreement, with greater emphasis on the effectiveness, or otherwise, of the measures introduced. Evaluation of progress in implementing agreements could be undertaken by the Parties, by the NGOs, by a 'compliance committee' comprising representatives of the Parties and the NGOs, or through external 'independent' review. The NGOs support the establishment of an independent peer review panel. There was also support for a change in meeting structure with alternate years focussing on reporting and for more frequent Special Sessions.

- Problems of non-compliance occur in other international fishery organizations. There may be value in reviewing how these issues have been addressed in other organizations (e.g. the OECD Fishery Commission).

- While some supported the creation of salmon heritage rivers, others felt that this could inadvertently lower the profile of non-designated rivers, e.g. rivers under restoration.

(b) External relations, public and political support

- NASCO has worked well but has been 'hiding its light under a bushel'. An effective, well-funded public awareness and media strategy, based on credible and consistent statements, and focusing on the wild Atlantic salmon, would show that NASCO is taking appropriate action, and should increase public and political support for its work to give it more 'teeth'!

- There is a need to focus on the 'big picture' for public relations work. In this regard there is some good news to report, e.g. rivers that have been restored. On the other hand the NGOs stress the need to move beyond a public relations exercise that presents a rosy picture of progress in implementing NASCO agreements.

- The NGOs propose that a working group be established to explore a possible partnership on a media strategy; that the NASCO website be re-designed to appeal to a wider audience; that an annual layman's guide on the status of salmon stocks and NASCO's actions over the previous year be produced; and that there might be a relaxation of NASCO's rules concerning NGOs and the media during Annual Meetings. The contrary view was also expressed, however, that a joint NASCO/NGO media approach could de-legitimise NASCO.

- NASCO should continue to serve as an 'honest broker' for disseminating reliable and consistent information, e.g. on social and economic values of salmon.

- NASCO should place greater emphasis on education and communication, and consider holding consultation meetings with stakeholders on a regular basis. The value of meeting in different countries, in communities close to salmon rivers, was noted. The NGOs proposed a public awareness campaign targeted at the angling community to advise of the threats posed by *Gyrodactylus salaris*.

(c) Enhanced NGO and other stakeholder involvement

- The NGOs want to create a framework to maximise their involvement and, more specifically, they seek to participate more in Council meetings through interventions by a designated spokesperson at the discretion of the President; to be consulted on topics for Special Sessions; to participate in any panel established to review implementation of NASCO agreements; to participate in the salmon farming Liaison Group; to develop a partnership strategy for the International Atlantic Salmon Research Board; to contribute to any working group that is established on socio-economic aspects; and to participate in development of a media strategy.

- All NGOs should work in partnership with NASCO to improve its effectiveness. In this regard NGOs can play an important role in reinforcing the moral obligation on the Parties to implement NASCO agreements. Some Parties felt that they would have concerns about greater NGO involvement if NASCO was developing binding agreements on the broader aspects of its work. NGOs can also pay an important role in fund-raising for research on salmon at sea.

- Many stakeholders are not currently involved with NASCO, e.g. tourism, agriculture interests, etc. A 'quality control' system might be considered for admitting NGOs as accredited observers to NASCO.

- Aboriginal peoples seek involvement and participation in the formulation and implementation of NASCO's agreements. An Aboriginal Sub-Committee or Liaison Group might also be established and a Special Session organised to bring together indigenous organizations to consider topical issues.

- Salmon farming industry representatives in North America do not support NGO involvement in the Liaison Group for the time being.

(d) Identification of, and responsiveness to, new or emerging threats

- The NGOs, including those representing Aboriginal peoples, have an important role to play in bringing examples of local problems, and best practice in addressing them, to NASCO's attention, and in identifying new and emerging threats to the resource.

(e) Obtaining and using comprehensive knowledge

- International support in NASCO for salmon research is important in ensuring that it receives appropriate support domestically.

- The NGOs urge caution before changing the frequency of ICES scientific advice. Alternative reporting arrangements for statistical information might be required in years when ICES advice is not sought. Some aspects of the work of the North Atlantic Salmon Working Group (e.g. trajectories for stock rebuilding) might need to be continued in other fora within ICES if NASCO did not seek annual advice. On the other hand, less frequent requests for advice might give ICES time to develop robust scientific analyses.

(f) Management of fisheries

- The NGOs seek closure of all mixed stock salmon fisheries in home waters and the phase-out of all commercial salmon fisheries where the exploited stocks are not meeting conservation limits, with fair compensation as appropriate. Rod fisheries where stocks are not meeting conservation limits should also be subject to controls. Genetic fingerprinting should be incorporated into the Decision Structure on management of fisheries. There is a need to clearly define the terms 'interception fishery' and 'mixed stock fishery'.

- The NGOs made reference to the value of the Special Session on salmon fisheries in the EU and Norway held at NASCO's Twenty-First Annual Meeting. They referred to the failure to implement ICES advice regarding mixed stock salmon fisheries.

- NASCO could play a role in compensation agreements or in developing alternative economic activities for salmon fishermen.

- While there was recognition of the sacrifices made by Greenland and the Faroe Islands, concern was expressed that any increase in the West Greenland fishery could severely impact endangered US stocks.

- Reference was made to the greater socio-economic value derived from salmon caught in the recreational fishery or spawning in rivers under restoration compared to their value when harvested for food.

- NASCO might establish regulatory measures for two- or three-year periods rather than annually so as to allocate more time at Annual Meetings to non-regulatory aspects of its work, and to allow ICES time to develop more robust models and scientific analyses.

(g) Changes to the Convention

- The NGOs propose that a small Working Party be established to examine the mechanism for, and feasibility of, mandate change, since they consider NASCO has, at present, no legal mandate to make recommendations on issues such as habitat protection, aquaculture management and conservation limits that pertain to the stocks within the jurisdiction of a Party to the Convention.

- NASCO's mandate might be broadened to include other salmonids, particularly sea trout, and to allow participation by Chile because of its salmon farming interests, and its possible future use of transgenic salmon.

- Some Parties expressed reservations about changing the NASCO Convention, which would require unanimous agreement of the Parties and could take considerable time to achieve. The NGOs felt that the procedure under Article 19 of the Convention for amending the Convention would not 're-open' the Convention and need not be time-consuming.

Future focus - ***areas to which we should give a particular focus in future;***

- There was widespread support for the focus areas identified by the Next Steps for NASCO Working Group. There was particular support for research on salmon at sea, and the need for the Parties to support this initiative was stressed. Issues in fresh water and estuaries should not, however, be ignored.

- The following additional focus areas were identified:

- effects on wild Atlantic salmon of forage fish removal;
- predation of salmon so as to share information on predator numbers and their impacts on salmon, and to review predator management measures;
- diseases and parasites in addition to *Gyrodactylus salaris*, particularly sea lice and Infectious Salmon Anaemia;
- the implications of climate change for the wild Atlantic salmon;
- impacts of acid rain;
- education and communication;
- ecosystem-based approach to management.

- The view was expressed that there should be fewer, 'more important', focus areas. However, there was also concern that if NASCO did not have a broad focus, then important aspects, including monitoring new and emerging threats and acting in response to these, might be given a low priority. Research and socio-economics should not be focus areas in their own right, but supportive of the key issues.

- In future, the focus should not just be on those stocks performing badly but on those that are doing well, so that lessons can be learned.

Other proposals

- A number of other suggestions were made, including the following:

- introduction of a certification scheme for developments (e.g. hydro-electric schemes) which are operated in a manner considered to be 'salmon-friendly';
- convening a workshop and establishing a working group on restoration of Atlantic salmon rivers;
- enhanced cooperation between fisheries departments and other government departments on salmon issues, particularly impacts of predation;
- the NGOs highlighted the dangers of diffuse pollution and acid rain and the threat posed by renewable energy projects (e.g. wind-farms, small-scale hydro-electricity facilities) to wild Atlantic salmon;
- enhanced involvement of all EU Member States with Atlantic salmon interests;
- the use of transgenic salmon, which might be less damaging to the wild stocks than present practices. However, the NGOs are fundamentally opposed to the practical application of transgenic salmon and suggest NASCO and its Parties resist the current

US licence application. Similarly, the salmon farming industry does not support the use of transgenic salmon;

- the NGOs wish to see by-catch of Atlantic salmon afforded a higher priority, and more urgent and robust approaches to NEAFC and NAFO to ensure their cooperation in relation to by-catch;
- NGOs support a NASCO initiative on endangered populations. The NGOs propose that the EU designate Atlantic salmon as a protected species and urge other Parties to adopt this approach;
- NASCO could establish a fund to promote habitat improvements which could also benefit other species.

Secretary
Edinburgh
8 March, 2005

Approaches to consolidating progress and to better achieve NASCO's objectives

The Working Group discussed a range of options for consolidating the progress made so far, and for assisting NASCO to better achieve its objectives in the future. The Working Group believes that NASCO should aim for a high degree of flexibility in its procedures and structures. The Working Group identified the following list of options, which is not definitive, and which we hope will be expanded by stakeholders:

(a) ***Implementation of agreements and effective reporting procedures***

There is a need to ensure that NASCO agreements referred to in the introduction to this document are implemented by the Contracting Parties in a given timescale, and that reporting back to the Council is comprehensive, transparent and conducted in a challenging environment. With the existing reporting procedures, it is difficult to determine to what extent they have been implemented, and the procedures do not facilitate information exchange. The following options were developed to improve cooperation, implementation and reporting:

- Require each Party to develop a plan of action for implementation of all NASCO's agreements, including milestones for implementation. Such plans could establish quantifiable goals for implementation of particular elements of an agreement in a given timeframe;
- Restructure the format of Annual Meetings, with alternate years focusing on reporting on implementation of the agreements so as to allow for review of progress;
- Rather than a brief annual review there could be a more intense focus on each agreement every few years to assess progress;
- These reports on progress on implementation of agreements could be made at Special Sessions of the Council (i.e. sessions at which all participants at the Council meeting can contribute to the discussion) so as to extend NGO participation and allow for a thorough critical review;
- Develop and issue well in advance of the Special Session at which an agreement will be reviewed, a list of fundamental questions to assess the extent of implementation;
- Commission an independent panel to undertake a critical external review of the actions taken by the Parties to implement agreements;
- Reconsider reporting formats so as to facilitate comprehensive reports (rather than new measures only) and so as to facilitate database entry of information provided;
- Seek reports from the Parties on identification of threatened or endangered populations and on special measures introduced for their protection, and establish and maintain an inventory of this information;
- Designate internationally recognised Salmon Heritage Rivers which would have special protection;
- Resolve any conflicts which might occur between measures to conserve wild stocks of Atlantic salmon and international trade agreements.

(b) External relations, public and political support

Public and political support for salmon conservation is essential. The Working Group believes that NASCO could do better in the field of external relations and public relations. There may be possibilities to develop partnerships. The following options were developed to improve external relations of, and public and political support for, NASCO's work:

- Commit to a new public relations strategy and make budgetary provision for professional support to operate the strategy;
- Issue Press Releases in relation to specific achievements throughout the year, not just following the Annual Meeting;
- Explore possibilities for partnerships with accredited NGOs on a media strategy;
- Develop, on an annual or biennial basis, reports on activities, on stock status and on social and economic aspects of the Atlantic salmon;
- Issue a brief, attractive brochure presenting NASCO's activities and distribute widely;
- Liaise and strengthen links with other relevant international fisheries bodies and also regional seas organizations;
- Organise joint meetings with other international salmon Commissions in the Pacific Ocean and Baltic Sea on subjects of mutual interest;
- Seek guidance from the Council on issues to raise with other international fisheries organizations;
- Further develop the Organization's website as an information base and educational tool, and establish reciprocal links to NGO websites;
- Expand the website to encompass a summary of the spiritual, cultural, heritage and economic values of Atlantic salmon;
- Develop educational materials, for example a video or brochure, to be used in stimulating the interest of young people in the Atlantic salmon and its conservation;
- Use fishing lodges, outfitters, aquaria, etc. for the distribution of information about NASCO and its work for salmon;
- Better publicise the awards in the NASCO Tag Return Incentive Scheme and, for example, send an item bearing the NASCO logo to all fishermen returning tags for inclusion in the Scheme;
- Develop other promotional items;
- Encourage the Contracting Parties to publicise the work of NASCO within their own territories;
- Establish a fund to obtain publicity for NASCO's work through commissioning articles, posters, etc., to recognise exceptional contributions to salmon conservation and to support relevant projects.

(c) Enhanced NGO and other stakeholder involvement

The use of the knowledge and experience of the NGOs and other stakeholders can contribute to improve NASCO's work and its effectiveness. However, NASCO is an inter-governmental body and it is essential to maintain the appropriate atmosphere and environment. The following options were identified to enhance NASCO's relationship with its NGOs and other stakeholders:

- Seek NGO cooperation in developing the public relations strategy;

- Hold more Special Sessions to encourage presentations by NGOs on, for example, their own work and habitat issues, so as to increase their involvement and draw on their expertise;
- Consult NGOs on topics for Special Sessions;
- Allow interventions at the meetings of the Council by the Chairman of the accredited NGOs or his/her designated spokesman at the discretion of the President of NASCO;
- Seek improved contact with major stakeholders who are not currently NGOs to NASCO;
- Improve the effectiveness and openness of the Liaison Group with the North Atlantic salmon farming industry.

(d) Identification of, and responsiveness to, new or emerging threats

The Working Group believes that NASCO has shown that it can anticipate threats to the resource and respond effectively to them. It will be important to maintain and improve this responsiveness and the following options were identified:

- Build on NASCO's track record of identifying and responding to new threats to the resource by including an annual Council agenda item on identification of new or emerging threats to salmon conservation and management;
- Seek advice from the Standing Scientific Committee (SSC) on new and emerging threats on the basis of a review of the ACFM advice and the compilation of salmon-related literature;
- Use the NASCO website to report on new threats to the resource and the measures taken by NASCO and its Contracting Parties.

(e) Obtaining and using comprehensive knowledge

NASCO and its Contracting Parties are committed to basing management decisions on the best available information. There are some significant gaps in the scientific and socio-economic information available to managers. There is a need to continue to acquire and share scientific information, particularly with regard to salmon at sea. On the other hand, some of the scientific advice provided to NASCO is similar from one year to the next. There is a need to make the best use of resources to ensure that a sound basis exists for rational management. The following options were identified:

- Give greater emphasis to social and economic aspects, including further consideration of bio-economic modelling approaches;
- Establish a new socio-economic Working Group to advise on these issues in parallel with the advice received on biological issues;
- If regulatory measures are developed on a biennial basis, consider requesting scientific advice in every other year. Any cost saving could be used in support of research on salmon at sea;
- Support the work of NASCO's International Atlantic Salmon Research Board in coordinating and funding research on mortality of salmon at sea;
- Seek NGO cooperation and support in fund-raising for research on salmon at sea;
- Continue to liaise with ICES to ensure timeliness of the advice and the quality and clarity of its presentation;
- Request that NASCO's SSC review the scientific advice and provide a brief overview in simple terms;

- Develop procedures to communicate information and advice more effectively to those within NASCO and elsewhere whose first language is not English.

(f) Management of fisheries

Some, but not all, mixed-stock fisheries are subject to the establishment of regulatory measures in NASCO. The Working Group recognises the need to review the balance and fairness between management of distant-water and homewater fisheries. There is a need to share information on management measures to ensure that they are equitable. The following options were developed:

- States of Origin should communicate clearly and succinctly to the Commissions or Council on the measures taken to implement and enforce conservation and management measures so that these can be taken into account in the establishment of regulatory or other measures;
- Comprehensive reporting on the use of the Decision Structure on the Management of North Atlantic Salmon Fisheries should be used to demonstrate actions taken in relation to management of all fisheries;
- Request ICES to advise on the stock composition of harvests in mixed stock fisheries given recent improvements in stock identification methods;
- Seek further ideas to improve the 'fairness' and balance in management of distant-water fisheries;
- Consider establishing regulatory measures on a biennial basis.

(g) Changes to the Convention

It has been suggested by NASCO's NGOs that it may be beneficial to change the Convention so as to give NASCO a stronger mandate.

- In the light of the options identified in paragraphs (a) to (f) above, the Working Group's present view is that for NASCO to achieve its objectives there is no need to change the Convention or the Organization's Rules of Procedure. Indeed, the Working Group is aware of certain risks when a Convention is re-opened. However, no decision has been made and the Working Group will consider the pros and cons of such action in the light of the consultation meetings;

- Commitments might be made which would achieve a similar result to changing the Convention. For example, the NASCO Parties could produce action plans relating to the NASCO agreements which would commit them to achieve implementation of elements of these agreements by certain dates (see paragraph (a) above). These action plans would be submitted to the Council of NASCO for its consideration;

- There may be a need to consider a mechanism for dispute settlement.

NS(05)15

Strategic Approach for NASCO's 'Next Steps'

The NASCO Vision

The North Atlantic Salmon Conservation Organization (NASCO) has made great progress in the past 20 years, but the Organization's objectives and achievements could be more strategically organised and presented, which would enhance NASCO's ability to achieve its mandate as well as improve communication with NGOs, stakeholders and the public. The following proposed 'vision' for NASCO clearly demonstrates its overall goal along with the key approaches that will be adopted in working to achieve it.

NASCO will pursue the restoration of abundant Atlantic salmon stocks throughout the species' range with the aim of providing the greatest possible benefits to society and individuals.

To achieve this vision, NASCO will:

- *be committed to the measures and agreements it develops and actively review progress with implementation plans;*
- *increase its effectiveness and efficiency by ensuring that it uses the best available knowledge to inform its actions and by actively seeking to identify and respond to new opportunities and threats;*
- *ensure transparency in its operations and enhance the use of NGO and stakeholder knowledge and experience;*
- *increase its visibility and raise its profile in international, national and local communities by developing its communications and public relations activities.*

The Strategic Approach

NASCO's work over the past 20 years provides a strong foundation for the development of a strategic approach to the future work of the Organization. Key elements of this foundation, which support the Vision Statement, are outlined below.

NASCO is an international, inter-governmental treaty Organization charged with contributing through international consultation and co-operation to the conservation, restoration, enhancement and rational management of salmon stocks in the North Atlantic Ocean, taking into account the best available scientific advice.

NASCO and its Parties have embraced the Precautionary Approach in the management of salmon stocks and are committed to basing management decisions on the best available scientific information, taking account of its uncertainties. They have also adopted an Ecosystem-based Approach, recognising the complex interaction of many activities that

affect salmon stocks as well as the effects of salmon management upon other activities. NASCO has based its management activities on these approaches.

NASCO is well positioned to identify and respond effectively to threats to the salmon resource and to seize new conservation opportunities. It will continue to identify these issues and prioritise activities to address them.

NASCO has a unique role to play in complementing and enhancing the efforts of its Parties. It is well-placed to provide a forum for sharing information on the status of stocks and the challenges facing salmon management and for developing and disseminating best practice.

NASCO wishes to demonstrate that its agreements are implemented by the Parties in a timely manner, and that reporting to the Council is comprehensive, transparent and conducted in a challenging environment.

NASCO has responsibilities for developing management measures for mixed-stock fisheries in Faroese and Greenlandic waters, but it recognises the need to review the balance and fairness between management of distant-water and homewater fisheries. There is a need to share information on management measures to ensure that they are equitable.

NASCO and its Parties need to collect and share information on salmon stocks, particularly in areas where information is currently sparse.

NASCO's NGOs, along with other stakeholders in the salmon resource, hold a wealth of knowledge and experience which is highly relevant to NASCO's aims and objectives and can contribute to improve NASCO's work and effectiveness. NASCO will therefore continue to engage with these groups as fully as possible, in order to make best use of this information. It is essential that these links are developed appropriately given NASCO's status as an inter-governmental body.

Public and political support are essential elements of effective salmon conservation, and NASCO must make full use of opportunities to develop external relations.

Challenges

The challenges facing NASCO in the management and conservation of wild Atlantic salmon and ways to address these challenges have been identified, specifically highlighting areas which would benefit from international cooperation and collaboration. The primary challenges are:

- Managing salmon fisheries;
- Social and economic aspects of Atlantic salmon;
- Research on salmon at sea (including studies of by-catch of salmon);
- Habitat protection and restoration;
- Aquaculture, introductions and transfers and transgenics (highlighting *Gyrodactylus salaris*);
- Initiatives for endangered populations.

Each of these challenges is described below. Suggesting these as challenges does not imply other areas are not important, but recognises that there is a need to prioritise given resource and personnel constraints.

Management of salmon fisheries

The goals for the management of salmon fisheries for NASCO and its Parties are to promote the diversity and abundance of salmon stocks and to maintain all stocks above their conservation limits (reference Action Plan for Application of the Precautionary Approach, CNL(99)48).

The key issues in relation to the management of salmon fisheries are to:

- maintain an effective prohibition on fishing for salmon beyond areas of fisheries jurisdiction;
- further improve the 'fairness' and balance in management of distant-water fisheries;
- explore possibilities for longer-term regulatory measures;
- exchange information and transfer expertise and knowledge between Parties and between NGOs and the authorities;
- further develop the knowledge basis for fisheries regulations.

Social and economic aspects of the Atlantic salmon

The goal for NASCO and its Parties on the social and economic aspects of the Atlantic salmon is to ensure that the salmon stocks provide the greatest possible benefits to society and individuals.

The key issues in relation to the social and economic aspects of the Atlantic salmon are to:

- ensure that appropriate emphasis is given to the social and economic aspects of the Atlantic salmon;
- strengthen the socio-economic data as a basis for managing Atlantic salmon;
- integrate social and economic aspects and considerations in an open and transparent way into the decision-making processes within NASCO;
- disseminate information on the social and economic aspects of the wild Atlantic salmon in order to ensure that they are given due weight compared to other important commercial and public interests.

Research on salmon at sea (including studies of by-catch of salmon)

The goal for NASCO and its Parties is to promote collaboration and cooperation on research into the causes of marine mortality of Atlantic salmon and the opportunities to counteract this mortality.

The key issues in relation to research on salmon at sea are to:

- develop an effective fund-raising strategy and identify and target potential sponsors;
- strengthen NGO involvement in, and support for, the Board and for its fund-raising activities.

Protection and restoration of Atlantic salmon habitat

The goal for NASCO and its Parties is to maintain and, where possible, increase the current productive capacity of Atlantic salmon habitat.

The key issues in relation to habitat protection and restoration are to:

- ensure effective implementation of NASCO's Plan of Action for Habitat Protection and Restoration, CNL(01)51;
- enhance sharing and exchange of information on habitat issues and best management practices between NASCO Parties and other relevant international bodies (i.e. International Baltic Sea Fishery Commission (IBSFC), North Pacific Anadromous Fish Commission (NPAFC), Pacific Salmon Commission (PSC));
- maintain the NASCO salmon rivers database.

Aquaculture, introductions and transfers and transgenics

The goal for NASCO and its Parties is to minimise the possible adverse impacts of aquaculture, introductions and transfers and transgenics on the wild stocks of Atlantic salmon, including working with industry stakeholders, where appropriate.

The key issues in relation to aquaculture, introduction and transfers and transgenics are to:

- determine the need for internationally agreed regulations or standards for aquaculture, introductions and transfers and transgenics;
- enhance public awareness of developments concerning aquaculture, introductions and transfers and transgenics;
- minimise the escape of farmed salmon to a level that is as close as practicable to zero;
- minimise any negative impacts of ranched salmon by utilizing, as far as possible, local stocks and developing and applying appropriate release and harvest strategies;
- minimise the adverse genetic and other biological interactions from salmon enhancement activities, including introductions and transfers;
- minimise the risk of transmission to wild salmon stocks of diseases and parasites from all aquaculture activities and from introductions and transfers;
- consider the consequences of aquaculture of Atlantic salmon in countries that are not parties to NASCO.

Gyrodactylus salaris

The goal for NASCO and its Parties is to prevent the further spread of this parasite and to eradicate it from infected areas, working with stakeholders, where appropriate.

The key issues in relation to *G. salaris* are to:

- minimise the threat posed by *G. salaris* to Atlantic salmon;
- enhance cooperation on monitoring, research and dissemination of information regarding *G. salaris*, with special regard to the lack of knowledge on distribution and ecology of the parasite; and
- strengthen international, national and regional legislation and guidelines to prevent the further spread of *G. salaris.*

Initiatives for endangered salmon populations

The goal for NASCO and its Parties is to cooperate internationally to protect and rebuild threatened and endangered salmon populations in order to preserve natural diversity.

The key issues in relation to endangered salmon populations are to:

- develop a common terminology to describe the level of threat (i.e. endangered, threatened, near-threatened, vulnerable);
- choose the appropriate strategy, management actions and conservation approaches;
- facilitate a regular exchange of know-how in this field;
- identify efficient stock monitoring techniques to measure success.

Recommendations on the Next Steps for NASCO

The recommendations that follow build on and strengthen the solid foundation that NASCO has developed over the past twenty years and provide tools to assist NASCO in achieving its vision. They are organised into the following four areas:

- Commitments;
- Effectiveness and efficiency;
- Transparency and inclusivity;
- Raising NASCO's profile.

The primary recommendations are presented in boxes followed by further explanatory text and possible methods and options for implementation.

Commitments

NASCO seeks to improve commitment to its agreements and to facilitate review, in a challenging environment, of progress on their implementation.

Implementation

Recommendation 1**:** Each Party or relevant jurisdiction should develop an implementation plan for meeting the objectives of NASCO's agreements. Each Party or relevant jurisdiction should then report on steps taken pursuant to the Plan. These approaches should be evaluated after a trial period.

The Implementation Plan would describe how the goals laid out in the various Council agreements will be addressed and would establish measurable goals for implementation in a given timeframe. The Parties could commit to these Implementation Plans pursuant to Article 15, paragraph 5(b) and report on their implementation also under Article 15.

If, after a trial period, it is determined that the Implementation Plans were not forthcoming and/or not being adhered to, then the Council could create a working party with representatives of the Parties, the Secretariat and the NGOs to further discuss the language in the Convention and the interpretation and application of that language to the work of

NASCO. If the Implementation Plans are being implemented, but not having the desired effect, then the Council could investigate the cause and take appropriate action.

Recommendation 2: The Council should keep its agreements under regular review and adapt them, in the light of new information as to their effectiveness.

As an example, the Council could consider whether there is a need to develop international guidelines for the North-East Atlantic Commission area on *Gyrodactylus salaris* or to amend the Williamsburg Resolution.

Recommendation 3: The Council should explore the feasibilty of arranging a Ministerial Conference to strengthen the Parties' commitment to the conservation of wild salmon through the NASCO Convention.

The arrangement of such a Ministerial Conference would also serve to raise the profile of NASCO's work.

Reporting in a challenging environment

Recommendation 4: Reporting to the Council on progress in achieving the objectives should be conducted in a Special Session so as to allow direct NGO involvement, greater opportunity for discussion, and critical review of the reports made by the Parties in implementation of agreements.

Reporting on implementation of NASCO's various agreements would be on a cycle of not more than 4 years so as to facilitate more detailed focus on best practice in relation to each agreement. This cycle might be, for example, as follows:

Year 1 Habitat protection and restoration
Year 2 Management of fisheries
Year 3 Minimising impacts of aquaculture, introductions and transfers and transgenics

Reporting in relation to application of the Council's socio-economic guidelines would be considered in relation to each of these areas.

The Council could agree on a list of objectives and elements for discussion to be issued the year before each reporting Special Session so as to assess the extent of implementation of the agreements and the effectiveness of the actions taken in achieving the objectives of the agreement.

These Special Sessions would not supplant the continued use of inter-sessional meetings and symposia as an effective way of making significant progress on complex or specific issues. In addition to the reporting Special Sessions recommended here, topical Special Sessions may continue to be held for general information exchange on relevant issues. The views of NASCO's NGOs are important with respect to the content and organization of Special Sessions; they could be encouraged to make presentations regarding relevant work they have undertaken.

Recommendation 5**:** The Council should establish an *ad hoc* group to support the President in determining the conclusions of the Special Sessions at which progress reports on Implementation Plans have been presented and reviewed.

The *ad hoc* group would assist the President in reviewing reports made by the Parties and their relevant jurisdictions on their progress in implementing NASCO's agreements and other conservation measures and in developing conclusions for consideration by the Council.

Fairness in management

Recommendation 6: The homewater Parties should inform the relevant NASCO Commission of the management measures established or envisaged and their expected effects.

In order that there is balance and fairness between management of distant-water and homewater fisheries, prior to a NASCO meeting at which regulatory measures are to be discussed the homewater Parties would inform the relevant Commisssion of the management measures established or envisaged and their expected effects. The Parties would take this information into account in establishing regulatory measures. The format of the information could be pre-agreed. Homewater Parties may take into account the regulatory measures agreed for distant-water fisheries in establishing measures for homewaters.

Effectiveness and efficiency

NASCO wishes to use the time available to it in the most efficient and effective way and in a manner that improves inclusivity and transparency.

Changes to meeting structure

Recommendation 7: The West Greenland and North-East Atlantic Commissions of NASCO should consider whether regulatory measures for the Greenland and Faroese fisheries could be adopted and scientific advice from ICES sought on a biennial or multi-year basis.

If biennial regulatory agreements can be reached, then meetings of the Commissions may be able to be very limited in alternate years allowing more time for discussion within the Council and in Special Sessions. In preparing the agendas for the Annual Meeting, all efforts should be made to reduce duplication of issues within Commissions and to ensure that common topics are instead discussed within the Council.

The Secretariat will need to liaise further with ICES through their annual management advisory group meetings to ensure the timeliness of the advice and to emphasize the importance of its quality and clarity of presentation. The implications of a biennial request for advice on the work of the North Atlantic Salmon Working Group will also need to be discussed with the ICES management advisory group.

In the event that regulatory measures are developed on a biennial basis, scientific advice could be requested every second year, i.e. for those years when regulatory measure are on the agenda. In alternative years, reporting on salmon stocks will continue under Articles 14 and 15 of the Convention.

Obtaining and using socio-economic information

Recommendation 8: The Council should continue and expand as necessary existing efforts to incorporate social and economic factors into its work.

NASCO's Standing Committee on the Precautionary Approach (SCPA) has developed guidelines outlining ways in which social and economic factors can be incorporated into management decisions under the Precautionary Approach. The Council has agreed that work should start on the development of a bio-economic model and a Technical Working Group meeting is planned. To more fully incorporate social and economic factors into NASCO's work, the Council should request the SCPA to review the recommendations of the Technical Working Group and to identify other actions deemed necessary.

Responsiveness to new or emerging opportunities and threats

Recommendation 9: The Council should include an item on its agenda entitled "New or emerging opportunities for, or threats to, salmon conservation and management" and request ICES and the NGOs to provide relevant information.

It is recognised that some actions may need to be taken by the Parties and some by NASCO in response to new opportunities for, or threats to, salmon conservation and management. In either case, there would need to be an agreed mechanism for responding rapidly.

The Organization's website and the stakeholder dialogue meetings could be used to disseminate and seek information on new and emerging opportunities for, or threats to, salmon conservation and management and the measures being taken by NASCO and its Parties.

Transparency and inclusivity

An environment of greater cooperation would improve NASCO's ability to meet its mandate by facilitating evaluation of the implementation and effectiveness of NASCO agreements; enhancing two-way information-sharing among NASCO and its membership, and other interested parties; and increasing stakeholder involvement in NASCO's work.

Recommendation 10: The Council should seek ways to increase NGO involvement in its meetings by amending current NGO observer rules to provide discretion to the NASCO President and Commission Chairmen to recognise requests for the floor by observers on any agenda item under discussion before and after debate by the Parties on that item, and soliciting stakeholder input on standing or *ad hoc* working groups as appropriate.

The President and Commission Chairmen could establish appropriate ground-rules governing such interventions, such as a time limit or a limit on the number of speakers, as deemed necessary to ensure effective and efficient running of meetings.

Greater involvement of stakeholders in working groups would be achieved by soliciting stakeholder input on issues to be considered by NASCO's standing or *ad hoc* working groups in advance of these meetings and ensuring timely reporting of the outcomes of such meetings to facilitate review by all interested parties in advance of the Annual Meeting at which the results will be considered. If the Chairman of a Working Group determines that there is a

need for direct involvement of outside experts in a working group, for example to address technical issues, stakeholders with relevant expertise may be invited to participate in relevant working group sessions.

Recommendation 11: The Council should continue to support broader stakeholder participation in the Liaison Group between NASCO and the North Atlantic salmon farming industry.

NASCO would like to see involvement of its accredited NGOs for all or part of the Liaison Group meetings as a confidence-building measure and to share information.

Recommendation 12: The Council should periodically conduct stakeholder dialogue meetings to improve outreach and education with regard to NASCO and its work and to seek information on ways to continue to improve the Organization's work.

These stakeholder dialogue meetings would be held across the NASCO membership area and an initial focus could be to report on the progress achieved during the Next Steps process. The timing and location(s) of the stakeholder dialogue meetings should be decided by the Council in consultation with its stakeholders.

Recommendation 13: The Council should encourage accredited NGOs and, as appropriate, other stakeholders to continue to improve their cooperation with NASCO.

Cooperation could be improved through the timely sharing by NGOs/stakeholders of relevant documents (such as reports resulting from participation in NASCO Annual Meetings) with the Council, dissemination of information concerning NASCO and its work by NGOs/stakeholders to their members, and support for the establishment of a reciprocal relationship between NASCO and stakeholder groups. In addition, recognizing that NGOs and other stakeholders are often involved in initiatives of relevance to NASCO's work, such as habitat improvement and public education efforts, and that stewardship programmes have, in some cases, encouraged NGO/stakeholder activities, accredited NGOs and other relevant stakeholders should be encouraged to share relevant experiences and expertise through venues such as Special Sessions. Stakeholders should be invited to provide further suggestions on ways to improve their cooperation with NASCO.

Recommendation 14: Seek input from NASCO's accredited NGOs to the development of the Organization's media strategy.

Some of NASCO's NGOs have considerable expertise in public relations and could provide valuable assistance to the Organization in its efforts to raise its profile.

Recommendation 15: Initial discussion of all agenda items should occur within the Council and Commissions. Decisions reached at the Heads of Delegations meetings, to the maximum extent possible, should be explained during the Council and Commission meetings, including relevant debate surrounding the issue and the rationale for the final decision.

Transparency in decision-making is important. Issues should only be referred to the Heads of Delegations when they cannot be resolved during normal Council and Commission discussions.

Raising NASCO's profile

NASCO seeks to raise its public and political profile in order to gain the support it needs to further its conservation work. One approach is to hold a Ministerial Conference, which is included as Recommendation 3.

Public relations

Recommendation 16: NASCO should develop and implement a clear public relations strategy, including the establishment of a public relations group, aimed at enhancing its profile and ensuring the most effective publicity for its work and achievements.

This strategy would focus primarily on how NASCO communicates its messages and should ensure, in as far as possible within its resource constraints, that the delivery of these messages is achieved using the best available communication methods.

The strategy could address keys issues including:

- What is NASCO?
- What are NASCO's aims?
- Why are these important?
- What has it done to date?
- What plans are there for future work?

The role of this group would be to identify and provide on-going advice on the best ways to communicate the work of NASCO to ensure that the Organization achieves and maintains a high public profile. The group will also provide a forum for the exchange of information on public relations campaigns and opportunities, and should seek input from NASCO's NGOs, where appropriate.

Recommendation 17: The Secretariat should engage professional expertise to produce media products and to develop a more relevant, attractive, informative and interactive website.

The content of media releases and the website could include items such as:

- Annual reports on the status of salmon stocks around the North Atlantic;
- Publicity for forthcoming events;
- Links to and from appropriate websites;
- Reports of meetings of the Council, Commissions and Working Groups;
- Resolutions, Protocols, Guidelines, Codes of Practice, and other documents reflecting best practice for salmon management and conservation;
- Information from national inventories;
- The NASCO salmon rivers database;
- Success stories, new threats and opportunities.

Recommendation 18: NASCO should develop links with educational programmes and establish the means to achieve mutual benefits from such alignment.

Educational initiatives for NASCO might include publicising appropriate educational schemes and developing a system of awards for novel or innovative means of sharing best practice.

Recommendation 19: The Council should consider the need for additional reports to improve the public understanding of information relevant to NASCO's activities.

Options for additional reports could include an annual summary of the ICES advice in simple terms and a status of Atlantic salmon stocks report which could include information on fisheries, habitat, aquaculture and socio-economics, to assist NASCO with its public relations work. Production of these reports could be a significant undertaking.

Co-operation with other organizations

Recommendation 20: The Council should review its relationships with other international organizations and explore areas of mutual interest.

Such a review could:

- explore ways to strengthen existing links with other international salmon management organizations such as the North Pacific Anadromous Fish Commission (NPAFC) and the Pacific Salmon Commission (PSC);
- identify methods to maintain close contact with organizations such as the International Council for the Exploration of the Sea (ICES), the North-East Atlantic Fisheries Commission (NEAFC), the Northwest Atlantic Fisheries Organization (NAFO), and the European Inland Fisheries Advisory Council (EIFAC) to ensure that issues such as fishing for prey species, the possibility of by-catch in pelagic fisheries, and environmental issues that may affect salmon and salmon fisheries are addressed;
- consider the need for further liaison with the World Trade Organisation and other appropriate organizations in relation to potential conflicts between measures to protect wild Atlantic salmon and international trade agreements;
- review ways to enhance cooperation with other international organizations on relevant matters, e.g. World Organization for Animal Health (OIE), Food and Agriculture Organization (FAO), Organization for Economic Co-operation and Development (OECD), Oslo and Paris Commission for the Protection of the Marine Environment of the North-East Atlantic (OSPAR).

ANNEX 16

Council

CNL(05)49

Strategic Approach for NASCO's 'Next Steps'

CNL(05)49

Strategic Approach for NASCO's 'Next Steps'

The NASCO Vision

The North Atlantic Salmon Conservation Organization (NASCO) has made great progress in the past 20 years, but the Organization's objectives and achievements could be more strategically organised and presented, which would enhance NASCO's ability to achieve its mandate as well as improve communication with NGOs, stakeholders and the public. The following 'vision' for NASCO clearly demonstrates its overall goal along with the key approaches that will be adopted in working to achieve it.

NASCO will pursue the restoration of abundant Atlantic salmon stocks throughout the species' range with the aim of providing the greatest possible benefits to society and individuals.

To achieve this vision, NASCO will:

- *be committed to the measures and agreements it develops and actively review progress with implementation plans;*

- *increase its effectiveness and efficiency by ensuring that it uses the best available knowledge to inform its actions and by actively seeking to identify and respond to new opportunities and threats;*

- *ensure transparency in its operations and enhance the use of NGO and stakeholder knowledge and experience;*

- *increase its visibility and raise its profile in international, national and local communities by developing its communications and public relations activities.*

The Strategic Approach

NASCO's work over the past 20 years provides a strong foundation for the development of a strategic approach to the future work of the Organization. Key elements of this foundation, which support the Vision Statement, are outlined below.

NASCO is an international, inter-governmental treaty Organization charged with contributing through international consultation and co-operation to the conservation, restoration, enhancement and rational management of salmon stocks in the North Atlantic Ocean, taking into account the best available scientific advice.

NASCO and its Parties have embraced the Precautionary Approach in the management of salmon stocks and are committed to basing management decisions on the best available scientific information, taking account of its uncertainties. They have also adopted an Ecosystem-based Approach, recognising the complex interaction of many activities that affect salmon stocks as well as the effects of salmon management upon other activities. NASCO has based its management activities on these approaches.

NASCO is well positioned to identify and respond effectively to threats to the salmon resource and to seize new conservation opportunities. It will continue to identify these issues and prioritise activities to address them.

NASCO has a unique role to play in complementing and enhancing the efforts of its Parties. It is well placed to provide a forum for sharing information on the status of stocks and the challenges facing salmon management and for developing and disseminating best practice.

NASCO wishes to demonstrate that its agreements are implemented by the Parties in a timely manner, and that reporting to the Council is comprehensive, transparent and conducted in a challenging environment.

NASCO has responsibilities for developing management measures for mixed-stock fisheries in Faroese and Greenlandic waters, but it recognises the need to review the balance and fairness between management of distant-water and homewater fisheries. There is a need to share information on management measures to ensure that they are equitable.

NASCO and its Parties need to collect and share information on salmon stocks, particularly in areas where information is currently sparse.

NASCO's NGOs, along with other stakeholders in the salmon resource, hold a wealth of knowledge and experience which is highly relevant to NASCO's aims and objectives and can contribute to improve NASCO's work and effectiveness. NASCO will therefore continue to engage with these groups as fully as possible, in order to make best use of this information. It is essential that these links are developed appropriately given NASCO's status as an inter-governmental body.

Public and political support are essential elements of effective salmon conservation, and NASCO must make full use of opportunities to develop external relations.

Challenges

The challenges facing NASCO in the management and conservation of wild Atlantic salmon and ways to address these challenges have been identified, specifically highlighting areas which would benefit from international cooperation and collaboration. The primary challenges are:

- Managing salmon fisheries;
- Social and economic aspects of Atlantic salmon;
- Research on salmon at sea (including studies of by-catch of salmon);
- Habitat protection and restoration;
- Aquaculture, introductions and transfers and transgenics (highlighting *Gyrodactylus salaris*);
- Initiatives for endangered populations.

Each of these challenges is described below. Suggesting these as challenges does not imply other areas are not important, but recognises that there is a need to prioritise given resource and personnel constraints.

Management of salmon fisheries

The goals for the management of salmon fisheries for NASCO and its Parties are to promote the diversity and abundance of salmon stocks and to maintain all stocks above their conservation limits (reference Action Plan for Application of the Precautionary Approach, CNL(99)48).

The key issues in relation to the management of salmon fisheries are to:

- maintain an effective prohibition on fishing for salmon beyond areas of fisheries jurisdiction;
- further improve the 'fairness' and balance in management of distant-water fisheries;
- explore possibilities for longer-term regulatory measures;
- exchange information and transfer expertise and knowledge between Parties and between NGOs and the authorities;
- further develop the knowledge basis for fisheries regulations.

Social and economic aspects of the Atlantic salmon

The goal for NASCO and its Parties on the social and economic aspects of the Atlantic salmon is to ensure that the salmon stocks provide the greatest possible benefits to society and individuals.

The key issues in relation to the social and economic aspects of the Atlantic salmon are to:

- ensure that appropriate emphasis is given to the social and economic aspects of the Atlantic salmon;
- strengthen the socio-economic data as a basis for managing Atlantic salmon;
- integrate social and economic aspects and considerations in an open and transparent way into the decision-making processes within NASCO;
- disseminate information on the social and economic aspects of the wild Atlantic salmon in order to ensure that they are given due weight compared to other important commercial and public interests.

Research on salmon at sea (including studies of by-catch of salmon)

The goal for NASCO and its Parties is to promote collaboration and cooperation on research into the causes of marine mortality of Atlantic salmon and the opportunities to counteract this mortality.

The key issues in relation to research on salmon at sea are to:

- develop an effective fund-raising strategy and identify and target potential sponsors;
- strengthen NGO involvement in, and support for, the Board and for its fund-raising activities.

Protection and restoration of Atlantic salmon habitat

The goal for NASCO and its Parties is to maintain and, where possible, increase the current productive capacity of Atlantic salmon habitat.

The key issues in relation to habitat protection and restoration are to:

- ensure effective implementation of NASCO's Plan of Action for Habitat Protection and Restoration, CNL(01)51;
- enhance sharing and exchange of information on habitat issues and best management practices between NASCO Parties and other relevant international bodies (i.e. International Baltic Sea Fishery Commission (IBSFC), North Pacific Anadromous Fish Commission (NPAFC), Pacific Salmon Commission (PSC));
- maintain the NASCO salmon rivers database.

Aquaculture, introductions and transfers and transgenics

The goal for NASCO and its Parties is to minimise the possible adverse impacts of aquaculture, introductions and transfers and transgenics on the wild stocks of Atlantic salmon, including working with industry stakeholders, where appropriate.

The key issues in relation to aquaculture, introduction and transfers and transgenics are to:

- determine the need for internationally agreed regulations or standards for aquaculture, introductions and transfers and transgenics;
- enhance public awareness of developments concerning aquaculture, introductions and transfers and transgenics;
- minimise the escape of farmed salmon to a level that is as close as practicable to zero;
- minimise any negative impacts of ranched salmon by utilizing, as far as possible, local stocks and developing and applying appropriate release and harvest strategies;
- minimise the adverse genetic and other biological interactions from salmon enhancement activities, including introductions and transfers;
- minimise the risk of transmission to wild salmon stocks of diseases and parasites from all aquaculture activities and from introductions and transfers;
- consider the consequences of aquaculture of Atlantic salmon in countries that are not parties to NASCO.

Gyrodactylus salaris

The goal for NASCO and its Parties is to prevent the further spread of this parasite and to eradicate it from infected areas, working with stakeholders, where appropriate.

The key issues in relation to *G. salaris* are to:

- minimise the threat posed by *G. salaris* to Atlantic salmon;
- enhance cooperation on monitoring, research and dissemination of information regarding *G. salaris*, with special regard to the lack of knowledge on distribution and ecology of the parasite;
- strengthen international, national and regional legislation and guidelines to prevent the further spread of *G. salaris.*

Initiatives for endangered salmon populations

The goal for NASCO and its Parties is to cooperate internationally to protect and rebuild threatened and endangered salmon populations in order to preserve natural diversity.

The key issues in relation to endangered salmon populations are to:

- develop a common terminology to describe the level of threat (i.e. endangered, threatened, near-threatened, vulnerable);
- choose the appropriate strategy, management actions and conservation approaches;
- facilitate a regular exchange of know-how in this field;
- identify efficient stock monitoring techniques to measure success.

Decisions of the NASCO Council

The Council wishes to move quickly to implement the recommendations from the 'Next Steps for NASCO' Working Group and contained in Annex 5 of document CNL(05)14. It recognises that some of these recommendations can be immediately implemented whilst other recommendations require additional consideration prior to their implementation. Whilst the Council welcomes the full report from the 'Next Steps for NASCO' Working Group (CNL(05)14), there is a need to prioritise implementation so that the proper attention and focus can be placed on issues and account can be taken of resource limitations, both human and financial.

1. General Decisions for Immediate Implementation

The Council has taken the following decisions, which are based on recommendations by the 'Next Steps for NASCO' Working Group:

Decision 1: The Council will keep its agreements under regular review and adapt them, in the light of new information as to their effectiveness.

Decision 2: The Council will explore the feasibility of arranging a Ministerial Conference to strengthen the Parties' commitment to the conservation of wild salmon through the NASCO Convention.

Decision 3: The home-water Parties will inform the relevant NASCO Commission of the management measures established or envisaged and their expected effects.

Decision 3 will be implemented, pending agreement on the format for the information on home-water management measures. The Secretariat, in conjunction with the Task Force referred to in section 3, will establish a format which will be subsequently agreed by the Parties for utilization at the 2006 Annual Meeting.

Decision 4: The Commissions of NASCO will consider whether regulatory measures for fisheries could be adopted and scientific advice from ICES sought on a biennial or multi-year basis.

Decision 4 includes consideration of biennial or multi-year regulatory measures in all NASCO Commissions rather than just the NEAC and WGC.

Decision 5: The Council will continue and expand, as necessary, existing efforts to incorporate social and economic factors into its work.

Decision 6: The Council will include an item on its agenda entitled "New or emerging opportunities for, or threats to, salmon conservation and management" and request ICES and the NGOs to provide relevant information.

Decision 7: Stakeholder input will be solicited on standing or *ad hoc* working groups as appropriate.

Decision 8: The Council will continue to support broader stakeholder participation in the Liaison Group between NASCO and the North Atlantic salmon farming industry.

Decision 9: The Council will periodically conduct stakeholder dialogue meetings to improve outreach and education with regard to NASCO and its work and to seek information on ways to continue to improve the Organization's work.

Decision 10: The Council will encourage accredited NGOs and, as appropriate, other stakeholders to continue to improve their cooperation with NASCO.

In order to implement Decision 10, the Secretariat should communicate the improvements identified in the Next Steps Strategic Approach to accredited NGOs and invite further suggestions for methods to improve the coordination between NGOs and NASCO.

Decision 11: Initial discussion of all agenda items will occur within the Council and Commissions. For agenda items that are discussed at Heads of Delegations meetings, the decision and rationale will be provided during discussion of those items at the full Council and Commission meetings.

Decision 12: The Council will review its relationships with other international organizations and explore areas of mutual interest.

In order to implement Decision 12, the Secretariat should conduct a review of the areas identified in the Strategic Plan and present a paper to the Parties at the 2006 Annual Meeting.

2. Decisions for Improved Public Relations to Raise the Profile of NASCO

Decision 13: The Council will create a Public Relations Group.

Decision 14: The Council will seek input from NASCO's accredited NGOs to the development of the Organization's media strategy.

Decision 15: NASCO will develop and implement a clear public relations strategy, including the establishment of a public relations group, aimed at enhancing its profile and ensuring the most effective publicity for its work and achievements.

Decision 16: The Secretariat will engage professional expertise to produce media products and to develop a more relevant, attractive, informative and interactive website.

Decision 17: NASCO will develop links with educational programmes and establish the means to achieve mutual benefits from such alignment.

Decision 18: The Council will consider the need for additional reports to improve the public understanding of information relevant to NASCO's activities.

Decisions 13 to 18 all relate to improving the methods for disseminating information on the effectiveness of NASCO.

The Public Relations Group will be composed of representatives of the Parties and will draft a public relations strategy with the objectives of enhancing the profile of NASCO and ensuring the most effective publicity for its work and achievements. The Public Relations Group will involve NGOs as appropriate. The aim is to help NASCO gain the support it needs to further its conservation work. Contracting Parties should be encouraged to involve staff in the Public Relations Group who specialise in outreach and education.

The Public Relations Group will develop a public relations strategy which will identify public relations products and services and present a plan for implementation including identification of priorities, necessary resources, and timeframe for implementation. The strategy will include:

(1) Identification of **messages** NASCO wants to deliver, including, *inter alia*:
   a. Annual reports on the status of salmon stocks around the North Atlantic;
   b. Publicity for forthcoming events;
   c. Links to and from appropriate websites;
   d. Reports of meetings of the Council, Commissions and Working Groups;
   e. Resolutions, Protocols, Guidelines, Codes of Practice, and other documents reflecting best practice for salmon management and conservation;
   f. Information from national inventories;
   g. The NASCO salmon rivers database;
   h. Success stories, new threats and opportunities.

(2) Identification of target **audiences.**

(3) Identification of **products and methods** for delivering the message, including brochures, website and other promotional materials
   a. A media strategy, which will be developed with the appropriate involvement of the NGOs;

b. Consideration of the use of stakeholder dialogue meetings to improve outreach and education with regard to NASCO and its work and to seek information on ways to continue to the improve the Organization's work;
c. Consideration of the need for additional reports to improve the public understanding of information relevant to NASCO's activities.

(4) Identification of educational programmes where NASCO could provide a link on its webpage.

The strategy will identify options for developing and implementing the above, including whether the identified products and methods can be conducted by the Contracting Parties and/or NASCO, or whether professional expertise would be required.

3. Decisions Requiring Further Consideration in Respect of their Implementation

Decision 19: The Council will create a Task Force representing the Heads of Delegations in order to further consider Council Decisions regarding implementation, commitment and accountability.

In order to further consider the decisions on implementation, commitment, accountability, transparency and inclusivity as outlined in the following sub-sections, a Task Force representing the Heads of Delegations will meet intersessionally. To the extent possible, this Task Force should meet in combination with other NASCO meetings, conducting its work electronically where possible. The report of the Task Force will be made available to the Parties well in advance of the next Annual Meeting so that its recommendations can be applied to that meeting.

3.1 Implementation, Commitment and Accountability

The Council recognizes that decisions 20 to 22 are closely related. The development of implementation plans by the Parties or relevant jurisdictions, reporting on these plans, and evaluation of progress should therefore be viewed together. These decisions should be given the highest priority as identified by the Next Steps process and must be comprehensively and thoughtfully developed intersessionally by the Task Force representing the Heads of Delegations.

The Decisions are as follows:

Decision 20**:** Each Party or relevant jurisdiction should develop an implementation plan for meeting the objectives of NASCO's agreements. Each Party or relevant jurisdiction should then report on steps taken pursuant to the Plan. These approaches should be evaluated after a trial period.

Decision 21: Reporting to the Council on progress in achieving the objectives should be conducted in a Special Session so as to allow direct NGO involvement, greater opportunity for discussion, and critical review of the reports made by the Parties in implementation of agreements.

Decision 22**:** The Council should establish an *ad hoc* group to support the President in determining the conclusions of the Special Sessions at which progress reports on Implementation Plans have been presented and reviewed.

The Task Force will address the above decisions, with full consideration of the Report of the 'Next Steps for NASCO' Working Group. The work of the Task Force should be initiated as soon as possible with the goal of implementation at the 2006 Annual Meeting of NASCO.

In this regard, the Task Force should consider, *inter alia*, the following proposals:

- Only one implementation plan for each jurisdiction is required to cover all NASCO agreements under the Precautionary Approach.
- The scope and key elements should be identified for the plan.
- As far as possible, annual reporting requirements should be brought together.
- Every effort should be made to minimize duplication of reporting.
- Guidance should be given on consistent minimum standards of reporting.
- The level of annual reporting and the format for proposed Special Sessions should be resolved.
- The composition and functioning of the *ad hoc* Working Group should be examined.

3.2 Transparency and Inclusivity

The 'Next Steps for NASCO' Working Group considered the existing rules governing NGO participation, particularly the rule prohibiting the issuance of press releases after the close of the opening session until NASCO has agreed its own press release. With respect to this rule, it was clarified that the intention was to ensure an effective and efficient meeting process, and not to diminish the effectiveness of stakeholder involvement in the work of NASCO or to limit the ability of NGOs to offer constructive criticism. The Parties underscored the common interests between NASCO, accredited NGOs, and certain other stakeholders and recognised the key role they play in helping NASCO fulfil its mandate.

Decision 23: The Council should seek ways to increase NGO involvement in its meetings by amending current NGO observer rules to provide discretion to the NASCO President and Commission Chairmen to recognise requests for the floor by observers on any agenda item under discussion before and after debate by the Parties on that item.

The Task Force should consider modification of the current conditions for attendance of observers at NASCO meetings in order to address this decision.

ANNEX 17

Council

CNL(05)51

Summary of Actions taken by Canada in relation to Conservation and Management of Salmon Stocks and the Application of the Precautionary Approach

CNL(05)51

Summary of Actions taken by Canada in relation to Conservation and Management of Salmon Stocks and the Application of the Precautionary Approach

Under Canada's report on Articles 14 and 15 of the Convention, Canada has announced a national policy framework for the conservation of wild Atlantic salmon with a focus on the restoration and sustainable management of diverse Atlantic salmon populations and their habitat. The Wild Atlantic Salmon Policy will provide guidance on major elements of salmon management and help in the planning and coordination of research on wild Atlantic salmon.

A CAN$30 million Atlantic Salmon Endowment Fund has also been established and will be held in trust. The interest earned on the fund will be used to help community groups on improving habitat and strengthening watershed planning.

In the past year; there were major enforcement actions against salmon poaching in Newfoundland and Labrador. This resulted in fines of several thousand dollars, forfeiture of fishing gear and, in some cases, jail terms for more serious offenders.

The NASCO Decision Structure is very similar to the process that Canadian fisheries managers already use when making their decisions. Atlantic salmon fishing in Canada is regulated under management plans that are developed for each area, in consultation with stakeholders. Conservation limits are established for each river, management targets are set for many rivers, and in-season monitoring indicates whether conservation limits will be met. This triggers pre-agreed rules for actions to be taken if conservation limits are not being met. Managers' decisions are well documented in the management plans.

Canada continues to implement and expand a community stewardship approach to management of salmon rivers, led by local stakeholders and Aboriginal communities, with the support of all levels of government. A good example of this collaboration is on the Restigouche River where governments and the communities are moving towards the harmonization of management measures to allow for a more orderly management of the fishery.

On habitat, community stewardship is an integral part of Canada's program for habitat protection and restoration. This is a cost-effective program which encourages involvement of the public, NGOs, governments and the private sector in habitat issues.

Some recent examples of these types of initiatives include the Miramichi River, where a complete river inventory on habitat has been conducted to identify sensitive areas where improvements can be made on a priority basis for salmon conservation, and projects undertaken by le Fondation de la faune du Québec with more than $ 3 million Canadian spent to support various groups working on habitat improvements and restoration, documenting threats to habitat and enhancing knowledge of salmon habitat.

In regards to Aquaculture, Introductions and Transfers, and Transgenics, we are currently implementing a number of important programs that I referred to in my opening statement. In particular, we have a National Aquatic Animal Health Program. The program provides

overall direction concerning aquatic diseases on surveillance, monitoring and disease response, as well as quarantine and movement controls, and eradication.

We are currently developing a third-party audited certification program for salmon farms. This internationally recognized program called 'Safe Quality Food' and the Canadian Aquaculture Industry's National Code System for Responsible Aquaculture is a fully integrated system. It addresses food safety, product quality, environmental stewardship, animal care, and health and safety issues.

Canada has also initiated a scientific review of the potential environmental effects of aquaculture under three main themes: impacts of wastes; chemicals used by the industry; and interactions between farmed fish and wild species. The review will identify knowledge gaps and research needs. As well a review of scientific knowledge is being done in the area of the habitat effects of salmon aquaculture. This will add to the growing body of knowledge that enables the appropriate siting of aquaculture facilities and regulation of aquaculture operations to minimize effects on fish habitat. (The initial reports are available on our website - www.dfo-mpo.gc.ca).

Canada and the United States have reached agreement on the issue of introductions and transfers, and next year Canada will report under the Williamsburg Resolution.

Our report on the Guidelines on Stock Rebuilding Programs includes the following:

In Canada, management decisions on stocks that are below conservation limits are deemed to be stock rebuilding measures. For example in Quebec, a catch and release policy for MSW is mandatory for all the rivers under their conservation limits. It is the first step to rebuild the stock.

For other rivers such as Jacques-Cartier and Malbaie Rivers, there is a five-year stocking program to accelerate rebuilding. In addition, Atlantic salmon were reintroduced to the Jacques-Cartier River where they had disappeared 100 years ago, by constructing fish passages on small-scale hydro developments and trucking adult salmon to a conservation area with high quality habitat. This resulted in a count of more than 1,000 salmon on two occasions.

The salmon populations in 32 Inner Bay of Fundy rivers have been listed as "endangered" under Canada's *Species at Risk Act*. Under a Recovery Strategy for these populations, stock rebuilding efforts are currently underway for priority rivers. Finally, live gene banking and individual fish pedigree techniques are used to maintain the genetic integrity of the stocks in each of those rivers.

ANNEX 18

Council

CNL(05)43

Summary of Actions taken by EU Member States in relation to the Conservation and Management of Salmon Stocks and the Application of the Precautionary Approach

CNL(05)43

Summary of Actions taken by EU Member States in relation to the Conservation and Management of Salmon Stocks and the Application of the Precautionary Approach

1. Stock Rebuilding Programmes

The NASCO Guidelines on the Use of Stock Rebuilding Programmes (SRPs) are designed to provide national and local agencies with assistance in the process of establishing management programmes which are designed to restore salmon stocks above their conservation limits. The Guidelines therefore provide a link between several other guidance documents developed by NASCO in relation to the application of the Precautionary Approach, including the Decision Structure for the management of salmon fisheries, and the Plan of Action for the protection and restoration of salmon habitats.

Most EU Member States with rivers supporting salmon stocks have adopted procedures that fulfil all or part of the guidelines in a variety of different ways. Thus for example, Denmark has established a National Management Plan for salmon, while in England and Wales, Salmon Action Plans have been developed for each principal salmon river and are used to examine the status of the stocks and the factors affecting them and thus to define priorities for management action. In both Ireland and Northern Ireland, habitat management, restoration stocking programmes and exploitation control measures are in place for rivers where conservation limits are not being achieved, and this includes the use of TACs to manage fisheries in Ireland. For Ireland, these measures are described within the statutory management regime, and for Northern Ireland, Salmon Management Plans are in place for both the Fisheries Conservancy Board and Foyle areas. In Scotland, river management plans are in place for about 100 rivers and proposals for developing stock rebuilding programmes for rivers in the west and north are being developed.

In other Member States a range of management programmes have been developed to address problems, and several Member States have developed specific guidance or policies on stocking. Thus, in Sweden, a strategy has been developed for the introduction and transfer of fish; in Spain, stock rebuilding programmes were initiated on three rivers in Galicia in 1997; and in Germany, about 30 restoration projects have been established that embrace all four major river systems draining into the North Sea: Rhine, Ems, Weser and Elbe. (Atlantic salmon has been extinct in all German rivers since around 1950). In Scotland, a number of hatcheries are operated for stock augmentation projects, and a framework for considering the factors that should influence decisions on stocking has been published.

2. Application of the Decision Structure for Management of North Atlantic Salmon Fisheries

The EU has about 800 salmon-producing rivers, most of which support rod fisheries and many of which support (or have supported) commercial net or trap fisheries. All these fisheries are subject to a range of regulations, which restrict who may fish, the methods and gear they may use, and where and when the fisheries may operate. In many cases these regulations are specific to individual rivers or fisheries. These regulations are reviewed and updated on a regular basis according to the legislative framework and management protocols in place.

NASCO has proposed that the Decision Structure might be used either as a guide to, or a record of, such management processes, and within the EU both approaches have been adopted by different Member States. Thus, for example, the Decision Structure is being used as a 'guide' to the implementation of Salmon Management Plans in regions of Northern Ireland, while in England and Wales, it is now being used as a summary 'record' of regulatory decisions, and the form has been completed for several rivers for which new management measures have recently been approved by the Minister. In Ireland, the Decision Structure is being used as both a guide to aid managers in the implementation of the Precautionary Approach and as a record of the decisions taken in the management of individual stocks. In this latter case, it has been applied to the national fishery, but as new information becomes available on conservation limits for individual rivers, it will be applied to salmon fishery districts with the ultimate aim of applying it on a river-by-river basis. Elements of the Decision Structure are also being addressed in the management of the Finnish-Norwegian border rivers, and while no river-specific conservation limits have been established, indices of abundance and biological characteristics of the stocks are taken into account in developing management measures.

Ireland, England and Wales, and Northern Ireland have provided NASCO with details of how the Decision Structure form is being completed and examples for 2004 have been provided in the latter two cases. Finland has indicated that data for the Decision Structure is compiled and retained by the relevant authorities and research bodies.

Fishery managers in various Member States have indicated that the Decision Structure is a useful tool for managers of salmon fisheries. Both in Scotland and in England and Wales, more specific decision-making processes are also being defined to meet the needs of national management programmes. In Scotland, work is being undertaken to further adapt a decision structure for the management of salmon fisheries which exploit different stock components originating from different parts of the catchment at different times of the year; a system is therefore being developed to manage fisheries on a temporal basis because this is considered more likely to protect the diversity and abundance of stocks. In England and Wales, a detailed decision-making process is being developed to help determine the requirements and nature of management measures consistently across all salmon fisheries. The model will be used in 2005 to review the Salmon Action Plans for a number of rivers that have been identified in the Environment Agency's stock conservation review as needing further measures.

It has not been considered appropriate to apply the Decision Structure in Denmark, Sweden, Spain or Germany, in the latter case because there are no fisheries.

3. Development and Implementation of Habitat Protection and Restoration Plans

3.1 *Progress in establishing inventories*

The conservation and protection of salmon habitats in all EU Member States is based upon extensive monitoring programmes, and information is collected for all stocks and rivers in a variety of forms. Inventories of salmon rivers have previously been established in a number of EU Member States, including Ireland, Sweden, England and Wales, Northern Ireland, France and Scotland, and there have been some further developments in the last year. For example, inventories have been established for the Rhein and Elbe river systems, in Germany, and data on habitat quantity and quality, juvenile fish abundance and adult

escapement have been updated for Northern Ireland, in line with the requirements of the EU Water Framework Directive. Spain is in the process of reviewing the status of habitat in salmon rivers in five autonomous regions.

A wide range of stock and habitat monitoring programmes are underway in salmon-producing rivers throughout the EU. England and Wales, Northern Ireland, Ireland and Scotland have also made progress in relation to preparing data for entry to the NASCO rivers database. The Rivers Table on the database for Ireland has been revised on the basis of new information concerning the number of salmon-producing rivers in Ireland. It also presents a preliminary qualitative assessment of their status and the factors, which have been identified as impacting on the habitat and salmon production. The information for all jurisdictions will be progressively input to the database and will be refined annually to provide more quantitative measurable data on impact levels.

3.2 *Progress in developing and updating comprehensive habitat plans*

The stock rebuilding strategies and management plans outlined above (Section 1) for several EU Member States all include habitat management plans which are consistent with the NASCO Plan of Action. Thus habitat protection and restoration plans are in place in Sweden, Ireland, Northern Ireland, England and Wales, Scotland, Denmark, Germany and Spain.

There are also numerous examples of local initiatives to improve salmon habitat operated by fishery associations, River Trusts and other similar organisations. Various EU funding sources have been used to further these management initiatives, including: EU Life Funding, which has been obtained for work, including habitat restoration and improvement, in eight Scottish rivers; EU InterReg Funding to support management initiatives on rivers in Spain, France, England, Wales, and Ireland; and EU Peace Funding for approved habitat improvement projects in Ireland and Northern Ireland.

4. Guidelines for Incorporation of Social and Economic Factors into Management Decisions under a Precautionary Approach

The socio-economic values of salmon are widely recognised throughout the EU Member States, and a number of economic studies have been undertaken in recent years to estimate these values and consider how they should be taken into account in stock conservation and fishery management.

The NASCO Socio-Economic Guidelines are also beginning to be used in some Member States. In England and Wales, for example, the Guidelines are being incorporated into the processes adopted by the Environment Agency to determine the most appropriate controls required for stock conservation. The requirement to consider costs and benefits and the needs of communities (in particular those in rural locations) is set out in environmental legislation (including in relation to fisheries) applying to England and Wales. In Scotland, a Scottish Freshwater Fisheries Forum, which involves a wide range of agencies and stakeholders, has been established to develop proposals for the long-term and holistic management of salmon and freshwater fisheries. The work of the Forum complies with the guidelines. The remit is to develop policy that takes account of biological, fisheries and wider socio-economic factors to ensure long-term and sustainable fisheries for salmon and freshwater fish in Scotland. In other Member States, there is close co-operation with angler and netsmens' organisations and the public in relation to salmon management programmes.

5. Returns made in accordance with the Williamsburg Resolution

Returns were made by Ireland, Denmark, Finland, Germany, Spain and the UK, and are presented in Council paper CNL(05)20.

Protocols, codes of practice and requirements are in place throughout Member States such as Finland, Ireland, Spain and Scotland in respect of issues such as siting, single-year classes, fallowing, stocking densities, dealing with mortalities and disease control. Measures include not only requirements to comply with EC Directives, but also with domestic legislation. However, there are still areas, e.g. in Scotland, where some of the smaller farms are as yet unable to introduce single-year class operations because of a lack of suitable alternative facilities.

Of particular note are the measures that have been adopted to deal with issues such as the incidence of ISA, IHN and VHS. Procedures to address real or possible infestation with *Gyrodactylus salaris* have been or are currently being developed throughout the Union, as well as contingency plans to deal with any possible outbreak. Finland has introduced new decrees and statutes to protect important river systems. Two of the major wild salmon producers in the EU, Scotland and Ireland, have additional safeguards over and above the normal EC measures in place to help prevent *G. salaris* being introduced, but there is still progress to be made in developing measures to minimise the risk of introduction, which must be the first priority in tackling this issue.

Epidemiological zones have been established throughout Member States in respect of a number of diseases, and Fish Health Inspectorates undertake routine sampling to monitor disease status. Lists of notifiable diseases have been established at the EC level (Directive 91/67), and sampling procedures in place in Member States are well equipped to detect any new disease or parasite that may affect salmon. Procedures are in place throughout the Member States to permit, prescribe and monitor the use of veterinary medicines to treat farmed fish. There are significant research programmes in place, e.g. in Germany and Scotland, to better understand how diseases and parasites are transmitted. This work will help inform decisions on better controls on fish movements and health certification.

Gene banks have been established in Denmark and Spain (sperm cryo-preservation). This issue is currently being addressed in Scotland, although no such resources have been established as yet. In Ireland, resources have been secured through the National Development Plan and, following procurement, a project to develop a genetic baseline for all such salmon stocks is to be undertaken. Throughout the Member States, including Denmark, Finland, and the UK, research programmes are in place to describe the genetic make-up of individual stocks insofaras this is possible. These techniques will help in identifying the impact of escaped farmed fish on wild populations.

Cooperation with the salmon farming industry to develop codes of practice to reduce disease risks, environmental impacts, specific issues such as sea lice, and escapes to the minimum possible have been or are being developed throughout the Member States. These codes also cover containment issues such as cages, moorings, and related structures and general husbandry procedures. Compliance and transparency issues still need to be developed in some States. Procedures are in place in a number of jurisdictions, including Ireland and Scotland, to require escapes or incidents that may have led to escapes to be reported. In

Scotland, for example, all incidents are investigated by the Fish Health Inspectorate to determine the causes so that repeats may be avoided.

Where escapes have occurred, procedures are in place in a number of jurisdictions, such as Scotland, to try to effect recapture of the lost fish. In jurisdictions such as Denmark and Scotland, significant research programmes are in place into the genetic make-up of particular stocks. In others, such as Germany, Scotland and Ireland, cooperation between, for example, utility companies and fisheries managers is on-going, although with various degrees of success in recapturing escaped fish.

There have been various examples of research initiatives to support the provisions of the Williamsburg Resolution. For example, in Ireland and Scotland, joint simulated release experiments have been designed but not yet implemented due to concerns in home waters. In Scotland, the Scottish Aquaculture Research Forum has been established to take forward the research priorities in the Strategic Framework, which cover industry, wild fisheries and environmental issues. Progress on all of these issues is necessarily limited by the resources available.

In Germany and France, restocking programmes try to use closely related stocks. In general, hatchery operations for restocking use broodstock obtained, if available, from the river where the programme is being undertaken or one nearby (e.g. eggs from upstream-migrating adult salmon). Research has revealed, however, that salmon from rivers that are close together in a geographical sense may not necessarily be any more closely related than fish from rivers that are widely separated. Thus, more research is needed to adequately inform any restocking programmes.

There are no proposals to develop farming of transgenic salmon in any EU Member State at this time.

There is no research currently underway in relation to the use of sterile fish. There is still much concern about the performance of sterile salmon in farming, although these fish are widely produced in the rainbow trout farming industry.

It is clear that there are still major difficulties with respect to the physical marking or tagging of farmed fish, including not only cost implications, but also animal health and welfare issues.

6. Other issues

6.1 By-catch

The EU has no new information to report on issues relating to by-catch.

6.2 Acid rain

Many rivers in the EU area suffer from acidification. These rivers tend to be coastal rivers in the west of Ireland and Scotland, and large upland areas such as those in mid- and Northern Wales. Typically, the main causes are identified as high peat content, high rainfall, local geology of slow-weathering rocks and base soils which offer little neutralising capacity to acidifying pollutants in soils. Extensive conifer afforestation in these areas adds to the problems of altering soil chemistry with drainage and filtering of acidic pollutants from the

atmosphere. Waterways may suffer from chronic acidification or from localised or periodic acidic flushes which may very quickly alter the pH of the water (even creating lethal conditions) and may last for only a few hours or for days.

Acid rain, specifically, is not considered a major threat to salmon stocks in general within the EU Member States. Ireland, Northern Ireland, Finland, Spain, France and Germany all report no significant impacts due directly to atmospheric emissions. Furthermore, improvements to forestry practices have been pursued in many areas, and guidelines have been agreed between local fisheries inspectors/agencies and the forestry industry to reduce the impacts of forestry activities on stocks.

In Scotland, the main areas affected by acidification include Galloway (South West), areas of the Cairngorm mountains, parts of Central Scotland and the North West. The areas most affected by freshwater acidification can be identified from critical loads maps published by DEFRA. However, the majority of Scotland's major salmon-producing rivers (Tweed, Spey, Tay, Dee) drain to the East coast and are largely unaffected by acidification problems in the lower reaches, with poor water quality restricted to high elevation headwater areas. Separating the effects of acidification from other environmental factors is complicated except in the most extreme circumstances; however, existing data suggests that reductions in non-marine sulphate are leading to improvements in water quality, less severe acid episodes and modest improvements in salmon production, although other environmental controls, including variable hydrological conditions, complicate the picture. Local improvement works are undertaken by fishery boards, often with financial assistance from the Scottish Executive and the EU. However, the most important improvements to water quality have come as a result of efforts by the UK Government to implement a succession of agreements to reduce emissions of acidifying pollutants. These reductions are expected to continue through a series of agreements and EU Directives including the Gothenburg Protocol, the EU Integrated Pollution Prevention and Control Directive, the revised Large Combustion Plant Directive and the National Emission Ceilings Directive.

However, the Acid Waters Survey undertaken in Wales in 1995 showed that despite large reductions in sulphur dioxide emissions over the past 20 years from UK sources, there had been only a small improvement in chemical conditions of streams and lakes and no biological improvement was detected.

The Environment Agency assessment of risks to the aquatic environment as part of its initial Water Framework Characterisation has determined that just under 3% of the nearly 6,000 rivers and streams in England and Wales are at risk of acidification from various sources, and nearly 21% of 451 lakes assessed (16% by area) were judged to be at risk. Most work is being carried out in waters where the majority of rivers at risk are located. This includes a range of mitigation options including emission reductions, land use management, remediation (including direct dosing with lime) and reintroductions of aquatic macro-invertebrates.

In Germany, acidification from various sources, including acid rain, has been recognised as a problem in some mountain areas for at least 20 years. Liming has been carried out in forested areas where the soils are poor due to low pH.

ANNEX 19

Council

CNL(05)32

Supplementary Returns by the Russian Federation

CNL(05)32

Supplementary Returns by the Russian Federation

Comment on Application of the Decision Structure for Management of Atlantic Salmon Fisheries in Russia in 2004

The Decision Structure continued to be applied for management of fisheries on 38 White Sea rivers and 37 Barents Sea rivers on the Kola Peninsula. For each river the Polar Research Institute provides advice on the abundance of spawning stock, conservation limit, and catch options. On the basis of this advice the Science and Fisheries Council makes management decisions concerning catch limits in each fishery: commercial, catch-and-retain, catch-and-release, on a river-by-river basis. Murmanrybvod (Control and Enforcement authority) details fishing regime for each river including time of fishing, fishing gears, sites, catch limit for each site. Users then base their operations on these decisions. The application of the Decision Structure was expanded in 2004 to include a number of rivers in the Archangel region, Nenets okrug, Komi Republic and Karelia. Specifically, the Decision Structure was applied to decide on management measures for the salmon fishery on the rivers Pechora, Severnaya Dvina, Onega (Archangel) and Keret (Karelian Republic).

No suggestions have been made on how the Decision Structure could be improved as it requires the use of practically the same information as was provided by the control schemes and monitoring programs conducted in Russia and used previously to inform management decisions concerning salmon fisheries. Russian managers find it useful.

Progress with the Development and Implementation of Habitat Protection and Restoration Plans

1. Has an inventory of rivers, as envisaged in Annex 2 of the NASCO Plan of Action, been established or updated since the last notification? If "yes" please provide a brief description of the inventory or of any changes to an existing inventory.

As has already been reported, in accordance with the NASCO Plan of Action adopted in 2001 the Russian Federation undertook compilation of data to establish an inventory of salmon rivers; this included mainly information to describe physical characteristics of salmon rivers and biology and production of Atlantic salmon. Information concerning the status of salmon habitat is still fragmentary. By 2004 a list of rivers was established with the worst habitat problems; this included rivers in the vicinity of large communities such as rivers Kola, Tuloma, Northern Dvina, regulated rivers (Teriberka, Voronja, Niava, Kem) and river catchments where large mining companies operate (Pechora, Pechenga, Umba). A major deterrent to compiling more detailed information for the inventory is a poorly developed infrastructure, which makes the majority of rivers difficult for access.

2. Has a comprehensive salmon habitat protection and restoration plan been developed in accordance with the aims of the NASCO Plan of Action, or an existing plan updated, since the last notification? If "yes" please provide brief details of the plan and the extent of its implementation or of any changes to an existing plan since the last notification.

In 2004 a task to further develop and update the inventory was included in the research program of the Polar Research Institute, based in Murmansk, Kola peninsula, which now, in accordance with its new status, has responsibility for conducting research on all salmon rivers in northern Russia. This is a project designed for 5 years. Last year as a part of this project studies were undertaken to update the data in the inventory, concerning physical characteristics, salmon production and habitat impacts on 6 rivers – Pechenga, Titovka, B.West Litsa, Tuloma, Kola. For instance, for Pechenga river catchment, where a large mining and smelting combine 'Pechenganikel" is located, a detailed description of impacts caused by industrial discharge and sewage was given; the most badly impacted habitat was mapped.

3. If a Plan has been developed or updated since the last notification have evaluation and monitoring systems been introduced or updated to assess the effectiveness of the plan in protecting and restoring salmon habitat? If the response to question 2 was "yes" please provide details of these systems or of changes to existing systems since the last notification.

In all rivers where commercial and recreational fisheries are conducted, the stock and fishery performance are monitored. Data on size and weight of salmon, sex and age structure of populations, juvenile densities are collated on a yearly basis to assess the productive capacity of habitat and effectiveness of habitat restoration plans.

Information compiled in 2004 was used to inform a draft plan of action for protection and restoration of salmon habitat in the Pechenga river. However, finalizing and implementing of this plan, as well as a national plan of action to protect and restore

salmon habitat are delayed by restructuring of management bodies under the administrative reform launched in 2004, which were responsible for implementing these plans, is not yet finalized. Therefore, last year in practical terms only efforts to implement a plan of action developed for the Umba river continued, and namely those aimed at clearing the river from sunken logs resulting from logging operations in the catchment in the past.

Report of the Russian Federation on the Stock Rebuilding Programmes

A comprehensive stock rebuilding programme has been developed so far only for the salmon population in the Umba river (Kola Peninsula, the White Sea basin). It was continued in 2004. The stock of salmon in this river began to decline in the beginning of the 1990s for two main reasons: logging operations in the river catchment and failure of the local logging company to fulfill its environment protection obligations, having gone into decline, and increased illegal fishery due to worsened livelihoods in local communities. To protect the stocks, the commercial fishery on the river was closed in mid-90s. A number of other threats were identified and measures designed to address them proposed for inclusion in the program. At present the stock continues to be very much declined; its current abundance is 2,408 salmon (according to direct counts at the barrier fence operated by the hatchery) against a conservation limit of 6,260 salmon. In 2003 the program was updated; it was, in fact, developed very much in line with the NASCO Guidelines on the stock rebuilding program. To date the program includes the following measures:

Control of exploitation – ban on commercial in-river fishery, strictly regulated recreational fishery, mostly catch-and-release.

Stocking – increased number of fish stocked, different age groups from fry, new sites for release with more favourable habitat, earlier timing of stockings (under the ice).

Research – monitoring programmes to provide information on the quantity and quality of spawning and nursery habitat, predator-prey interactions, status of stocks of other fish species, biology of Atlantic salmon, run timing, adult numbers, parr and fry densities.

Habitat management – management of predatory fish populations, clearing the river of logs, rehabilitation of spawning areas.

Control and enforcement – enhanced protection of the river from illegal fishing, control of commercial coastal fishery of herring, potential interception of salmon (increased from early 1090s, possible suppression of information on salmon catch).

Report by Russia on Application of Guidelines for Incorporating Social and Economic Factors in Decisions under the Precautionary Approach

Management of fisheries

1. Describe the proposal, its objective and the options within the relevant legislative framework for achieving the objective.

The proposal is to maintain a traditional coastal fishery in 2004. Its objective is to meet the needs of dependent coastal communities by providing employment to local people on the coast of the White Sea.

In accordance with existing legislation (Regulation by the Government of the Russian Federation № 704 of 20 November 2003) the federal organ of executive power in fisheries (the Federal Agency for Fisheries) developed a proposal for approval by the Russian Government on aggregated quotas for fishing aquatic biological resources in commercial fisheries in the coastal zone of the White Sea and aggregated quotas for fishing aquatic biological resources in subsistence fishery by first nations of the North; these were approved by the Government Regulation issued on 31 December 2003.

Options:

Option 1 – to set the quota for coastal fishery, but offer a compensation to the netsmen from fishing communities on the White Sea coast for not taking the quota.

Option 2 – to close the coastal fishery, provided that other businesses are being developed in the area to provide alternative employment to the local people.

Option 3 - to maintain the coastal fishery regulated by a quota, gradually phasing it out. Development of a recreational fishery in the area to provide employment to local people in the fishing tourism sector.

2. Assess for each option whether there is a risk of serious or irreversible deleterious impact on the salmon and its environments.

Option 1 – beneficial to salmon conservation

***Option 2* – beneficial to salmon conservation and addressing socio-economic problems at the same time**

Option 3 – scientific evidence suggests that the coastal fishery harvests up to 33% of salmon stock from the Varzuga river and from a number of smaller rivers in this area (the White Sea coast of the Kola Peninsula).

3. Identify the stakeholders and how their behaviour might be affected by each option.

Stakeholders: netsmen from coastal communities, anglers, companies running fishing tourism, fishing-related businesses, conservation agencies, general public, Government.

Option 1 – no negative implications for netsmen from coastal communities in the short-term, anglers fishing on the basis of catch-and-release or catch-and-retain, companies running fishing tourism, fishing-related businesses, general public, Government.

Option 2 - no negative implications for netsmen from coastal communities, anglers fishing on the basis of catch-and-release or catch-and-retain, companies running fishing tourism, fishing-related businesses, general public, Government provided that alternative employment has been offered to coastal fishing communities.

Option 3 – netsmen from coastal fishing communities will be affected because of some loss of catch due to phasing out the coastal fishery; anglers fishing on the basis of catch-and-release or catch-and-retain on the rivers for reduced opportunities to catch salmon. Adverse effects will lessen with the development of the region.

4. Assess the changes in social, economic and environmental costs and benefits, both short- and long-term, associated with each option, and determine the economic impacts of those changes. This should be done for each group of stakeholders. The scale of the assessment should be proportionate to the scale of change.

Option 1 – temporarily will help mitigate socio-economic problems; however, will not provide a long-term solution to the problem of employment for the coastal communities. Besides, no sources of funds to pay compensation to the netsmen are currently available.

Option 2 – closure of coastal fishery will lead to a loss of 100% of catch for coastal fishing communities and hence their income. Under this option a long-term program for the development of the area is needed which will require solid investments that will leave socio-economic problems unresolved until the program is implemented.

Option 3 – maintaining the coastal fishery will leave the netsmen with employment and thereby reduce social tension in the region; however, it will lead to a loss of approximately 20-25% of income from in-river recreational angling.

5. Rank options and consult with stakeholders as appropriate

After consultations with stakeholders in the short-term Option 3 was considered as the only one possible.

6. Review the options, including mitigation measures or compensation where appropriate.

In the long-term maximum benefit could be achieved by closing the commercial coastal fishery and developing further recreational angling regulated on the basis of scientific evidence on the status of salmon stocks. A quota for a coastal fishery for 2004 was reduced to address conservation issues.

7. Choose option and implement.

Option 3 was chosen for having the highest social, economic and environmental benefits in the short-term. The timeframe for implementation – 2004.

8. Monitor impacts and consider the need for further mitigation.

Environmental impacts will be monitored through annual monitoring programs aimed at assessing the status of salmon stocks in principal salmon rivers (Ponoi, Varzuga, Umba, Severnaya Dvina) and juvenile surveys on 12-15 smaller salmon rivers in the region on a five-year basis.

The Impact of Predators on Survival of Atlantic Salmon in Russian Rivers

Knowledge of the impact of predation on salmon stocks in Russian rivers is limited. In the Varzuga river (Kola Peninsula), according to Mikhin (1959) stomachs of two pikes examined in the period of the smolt run contained smolts; however, the author believed that the predation of pike on juvenile Atlantic salmon was insignificant as they had different habitats. The same author noted that grayling ate a large amount of salmon eggs on salmon spawning grounds (the number of eggs in some stomachs varied from 12 to 172) and that dace and minnow preyed on salmon alevins. According to I.N. Grinyuk (1971): "The time, when alevins of salmon come out of spawning redds, coincides with the time of incubation and hatching of minnow (*Phoxinus phoxinus*) eggs and larvae. The minnow is always plentiful in areas of salmon reproduction, often on the surface of redds, eats alevins and fry, which have left the redds as well as eggs and newly hatched larval minnow".

According to Kamyshina and Tsepkin (1973), who studied the diet of pike in the Umba river (Kola Peninsula), stomachs of the predator contained from 1 to 15, more often 5-7, juvenile salmon. E.L. Bakshtansky and V.D. Nesterov (1976) indicated that according to their observations when pike was hunting in the main stem of the Porja river (Kola Peninsula) at the time of smolt run, schools of smolts delayed their migration and stayed 1.5-2.0 m upstream of the pike hunting area for a while. They also noted that the population of pike was quite large in that river and it consumed up to one third of the total number of smolts. They also said: "We have observed heavy predation of pike on smolts of Atlantic salmon many times in different rivers of the Murmansk and Archangel regions in the period from 1958 to 1974. During the smolt run the pike moves closer to rapids and can even stay there. At that time smolts are always found in stomachs of pikes, sometimes up to 10 per stomach. At other times of the year salmon juveniles are rare in pike's food."

Yu.A. Smirnov and others estimated (1977) that in 1972-1974 salmon smolts made up from 30.8% to 33.7% of the diet of pike in the Porja river at the time of the run and suggested that in other rivers pike might probably consume up to 30% of the total smolt production.

Of other species of fish, sea lamprey may affect salmon at sea (Grinyuk, 1970). The author observed Atlantic salmon with prints from lamprey suckers. The same author (Grinjuk, 1977) referred to an occurrence of salmon in the stomach of Greenland shark caught in the Barents Sea.

Presence of juvenile salmon in the diet of sea birds was noted by V.G. Martynov (1983). He found one and two parr, respectively, in the stomachs of two mergansers captured on the Pechora river. References were also made by V.P. Teplov (1948), M.I. Vladimirskaya (1957) and F.E. Bogan (1968) to the presence of Atlantic salmon parr in the diet of merganser on the Pechora river.

Of mammals, V.S. Drebentsov (1966) noted a rather important role of salmon in the diet of the otter: "Otter in the Murmansk region predates mainly on fish, and in the first place, on such species as Atlantic salmon, sea trout, brown trout, grayling …. The role of Atlantic salmon in the diet of otter is likely to be rather important. The matter is that otter has many "spongers" in the season of preying on salmon. In particular, fox eats a larger part of otters' catch. There are references available of otter's catch of Atlantic salmon of more than 5 kg. Otter eats the head of salmon first and it does not keep hold of the remaining part of fish in

the majority of cases." Reports on otter and mink feeding on Atlantic salmon are also available from the Pechora river area (Solovkina, 1975).

And lastly, seals and dolphins. Scientific evidence provided by S.S. Surkov (1966) suggested that predation of harp seal on salmon was unlikely to be significant as the timing of seal and salmon migrations was different. The same author noted that common seal feeds predominantly on cod, herring and, perhaps, on Atlantic salmon, that anadromous fish are not affected by bearded seal, even when it moves into the river, that among other fish species in stomachs of snuffing pig *{Phocaena)* Atlantic salmon and sea trout were found, and that white whale often attacks Atlantic salmon and sea trout in the summer season; however, the author did not quantify the impact of seals and dolphins on Atlantic salmon stocks from rivers of the Kola Peninsula. Such an assessment was undertaken by M.N.Nekljudov and I.N. Grinyuk (1972). According to the estimates they provided, ringed seal and bearded seal preyed on Atlantic salmon caught by a trap in the barrier fence set on the Ponoi river (Kola Peninsula) 7 km upstream from the river mouth: in 1969 – 66 salmon, 1970 – 63 salmon and 60 salmon in 1971, or 3.4%, 2.5% and 2.0%, respectively, of the total number of salmon harvested at the barrier fence in those years. According to rough estimates suggested by these authors, seals might eat up to 25% of Atlantic salmon migrating for spawning at the rapids located 25 km upstream from the river mouth. In their view the information available suggested that seals also entered other rivers on the Kola Peninsula and had significant negative impact on salmon stocks by predating on and damaging the fish.

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ANNEX 20

Council

CNL(05)29

Additional Returns Under Articles 14 and 15 of the Convention and on Unreported Catches - European Union (Germany and Ireland)

Following distribution of the Council papers on Articles 14 and 15 of the Convention (CNL(05)15), catch statistics (CNL(05)9 and CNL(05)10), and unreported catches (CNL(05)22), a return of information was provided by the European Union (Germany). Additional information to that previously included in the Council papers CNL(05)15 and CNL(05)22 was also provided by the European Union (Ireland) in relation to Article 14 and 15 of the Convention and Unreported Catches. The information presented here for European Union (Ireland) replaces that presented in documents CNL905)15 and CNL(05)22 (2005 information only). This information is reported here.

Secretary
Edinburgh
27 May, 2005

Returns under Article 14 of the Convention

1. Actions Taken To Make Effective The Provisions Of The Convention *(Article 14, Paragraph 1)*

1.1 The prohibition of fishing for salmon beyond 12* nautical miles from the baselines from which the breadth of the territorial sea is measured. *(Article 2, paragraph 2)*

* 40 nautical miles at West Greenland
* Area of fisheries jurisdiction of the Faroe Islands

Ireland

SEA-FISHERIES BILL 2005, which will strengthen sea fisheries law to secure compliance with EU Law and *inter alia* increase penalties, is expected to be accepted by Government for presentation to the Oireachtas (Irish Parliament) by June 2005.

Returns under Article 15 of the Convention

1. Laws, Regulations And Programmes Adopted Or Repealed Since The Last Notification *(Article 15, Paragraph 5(a))*

Germany

In Baden-Wuertemberg:

No new measures but *S. salar* is still protected by law.

In Brandenburg:

- Restocking programme for salmon and sea trout in Brandenburg
  Started: 1999: river system Stepenitz (Elbe) – salmon and sea trout
  2000: river system Ucker (Baltic Sea) – only sea trout
  2004: river system Schwarze Elster/Pulsnitz (Elbe) – only salmon
- Regulations enacted for fisheries (conservation times and size limits)

In Northrhine-Westfalia:

No new measures.

Ireland

The Control of Fishing for Salmon Order (SI No 72 of 2005) amends the previous 1980 instrument which authorises the issue of commercial salmon fishing licences by Regional Fisheries Boards and prescribes revised criteria under which those licences may be issued. The Order also specifies the maximum numbers of commercial licences that may be issued by Regional Fisheries Boards.

Statutory Instrument (SI No. 256 of 2000) was updated for 2004 fishing season for the continuation of the Carcass Tagging and Logbook Scheme for 2003. Under this instrument all salmon fishermen (commercial and recreational) must apply a coded carcass tag to each salmon caught and provide details of these landings and subsequent disposal (sale, storage, etc.) in official logbooks.

By-law 781 (of 2001) was maintained for 2004 allowing a limit of one salmon per day up to 1st June to protect spring (MSW) fish.

Subject to the above limit, by-law 797 (of 2004) was introduced in 2004 allowing a limit of 1 salmon per day from 1 September 2004 to 31 December 2004 and a limit of 3 salmon per day from 1 June to the end of the fishing season subject to a total allowable catch of 20 salmon per angler per season.

Statutory Instrument (SI) No. 353 of 2001 was maintained for 2004 which prohibits the sale of salmon caught by rod and line.

A national aggregated TAC of 162,000 salmon was included in the regulations in 2004, and applied to the commercial salmon fishery in 2004 to limit the catch in this sector.

Inland Fisheries Payment in lieu of Prosecution Regulations updated in 2004 S.I. No. 207 of 2004 provides for a system of on-the-spot fines in the area of inland fisheries.

Fisheries (miscellaneous commercial licences) (Alteration of Duties) Order updated in 2004, S.I. No. 818 of 2004. This Order increased the licence fees to be payable in respect of salmon, eel and molluscan shellfish dealers' licences issued or renewed for a period commencing on or after 1 January 2005.

Salmon Rod Ordinary Licences Alteration of Licence Duties Order updated in 2004, S.I. No. 861 of 2004. This Order increased the licence fees to be payable in respect of salmon rod ordinary fishing licences, including the Foyle Area extension licences, in respect of a period commencing on or after 1 January 2005.

Special Tidal Waters (Special Local Licences Alteration of Duties) Order updated in 2004 S.I. 862 of 2004. This Order increased the licence fees to be payable in respect of special local salmon fishing licences as respects licences issued or renewed for a period commencing on or after 1 January 2005.

2. Other New Commitments Relating To The Conservation, Restoration, Enhancement And Rational Management Of Salmon Stocks Subject To The Convention *(Article 15, paragraph 5(b))*

Germany

In Baden-Wuertemberg:

No new commitments. Suitable rivers or parts of them are classified as salmon rivers and receive special protection.

In Brandenburg:

No new commitments.

In Northrhine-Westfalia:

No new commitments.

Ireland

Fishery Protection and Conservation: The Fisheries Board's protection staffs are responsible for the enforcement of the Fisheries Acts, Bye Laws and Orders. The Board's responsibilities cover inland waterways and coastal waters out to twelve miles. Out of a total staff complement of 490, some 200 staff are solely dedicated to fishery protection. The Fisheries Boards use a multi-faceted approach to deter illegal fishing and protect those species defined under the legislation. The methods used to protect the fisheries resource include:

- Inshore rigid inflatable boat patrols (RIBs).
- Vehicle patrols day and night for illegal fishing.
- Foot patrols day and night for illegal fishing.
- Inspections at fisheries.
- On-the-spot fines.
- Sea patrols in all regions using the Boards Large Patrol Vessels (LPVs).
- Spot checks at fish dealers, restaurants, hotels and guesthouses.

A summary of fishery protection activities over the 2003 – 2004 period is given below. In protecting the fishery resource, the Fisheries Boards work closely with the Naval Service, the Garda Siochana (Irish Police Force) and the Air Corps.

Summary of Protection Activities 2000-2003	**2000**	**2001**	**2002**	**2003**	***2004***
Number of Incidents Prosecuted	116	147	109	94	***Na***
Fisheries Board Sea and Inland Boat Patrols, (Man Hours)	16,682	11,775	13,550	16,450	***Na***
Number of CFB Large Patrol Vessel Days	307	315	306	295	***284***
Number of Naval Service Patrol Days	56	48	56	56	***64***
Number of Air Corps Maritime Patrols	12	14	17	13	***16***
Meters of illegal Net Seized	44,969	37,112	40,066	45,953	***Na***

3. Other Factors Which May Significantly Affect The Abundance Of Salmon Stocks Subject To The Convention *(Article 15, Paragraph 5(c))*

Germany

In Baden-Wuertemberg:

a) Numbers of stocked fry, pre-smolts or smolts continue to increase and an increasing number of rivers have been restored.
b) A management plan for salmon stocks in the Upper Rhine was recently developed, with France and Switzerland.

In Brandenburg:

- Frequent catches of adult salmon or sea trout in the upper Elbe during the upstream migration (traps, gill nets, haul and beach seining);
- Frequent catches of smolts during the downstream migration in stow nets;
- Migration barriers (hydro-electric power stations, weirs);
- Deficiency of spawning habitats as a result of hydraulic engineering;
- Accumulation of fine sediments in the interstitial spaces of gravels;
- Predation by cormorants, piscivorous fishes (*Esox lucius*), otters, minks, herons.

In Northrhine-Westfalia:

No new factors.

Ireland

The commercial quota in 2005 has been set at 139,900 salmon. This is a reduction of 48% from the initial commercial TAC of 219,000, which has been brought about by staged reduction of 17%, 11% and 14% annually since 2002.

Section 2: Catch Statistics

Annual return of official catch statistics (Article 15, paragraph 1). Please provide the following information:

1. Provisional catch of Atlantic salmon for the calendar year 2004 in tonnes round fresh weight or round fresh weight equivalent

European Union

Germany

Brandenburg:
13 salmon - 41.7 kg (3.2 kg/fish)
4 sea trout - 11.4 kg (2.8 kg/fish)
Northrhine-Westfalia: The catch of Atlantic salmon of about 0.3 tonnes was made mainly in a control unit on a fish-way in the River Sieg. Fish were released into the River for natural spawning. In other Rivers (Wupper and Dhünn) some salmon have been used for artificial propagation to produce juveniles for stocking in the Northrhine-Westfalian re-introduction project for Atlantic salmon.

2. If available, provisional catch of Atlantic salmon for the calendar year 2004 in numbers and weight (round fresh weight or round fresh weight equivalent) according to sea-age

European Union

Germany

Brandenburg: See section 1 above.
5 salmon were 2SW fish.
1 sea trout was 2SW fish.
Northrhine-Westfalia: The majority of the fish is grilse (less than 3 kg) and only a minor fraction (less than 20 %) is of two-sea-winter age (4-6 kg).

3. Confirmed catch of Atlantic salmon in tonnes round fresh weight or round fresh weight equivalent for previous calendar year (i.e. 2003)

European Union

Germany

Brandenburg:
2003: 4 salmon - 11.9 kg (3.0 kg/fish)
5 sea trout - 12.4 kg (2.5 kg/fish)
2002: 50 salmon - 108.3 kg (2.3 kg/fish)
30 sea trout - 58.4 kg (1.9 kg/fish)
Northrhine-Westfalia: The number of salmon caught and released was slightly higher in 2003 than in 2004.

Unreported Catches

Note: Tables 1-5 (for EU (Ireland)) that follow replace the information provided in document CNL(05)22.

1. Description of Management Control and Reporting Systems by Country

Party	Year of Return	Description
European Union		
Germany (Northrhine-Westfalia)	2004	There has been a legal obligation since 1993 for all fishermen to report catches of salmon to the authorities but no management control system has been established.
	2005	Salmon are protected by law in all countries along the River Rhine. Recently there was much concern about by-catches in the Rhine-Delta (the Netherlands) by professional fishermen and by angling. But no realistic estimate of the importance of these by-catches is yet available.
Germany (Brandenburg)	2005	• National restocking project for river Elbe (cooperation with other federal states) • Annual control of smolts (survival rates, growth) • Annual control of returns (electric fishery; telemetry) • Annual reports for the fishery department
Ireland	2005	A national database of catch information has been established under the Carcass Tagging and Logbook scheme. Almost 100% of commercial fishing logbooks were returned in 2004. In 2003 (the latest year for which figures are available) 56% of angling logbooks were returned compared to 43% in 2001. This has resulted in an increase in reporting catch from 2001 compared to the previous 5 years and therefore a corresponding decrease in the unreported catch. Some 30% of salmon caught in 2002 and 2003 were not sold through licensed dealers but were kept for domestic consumption or sold through retail outlets, hotels, etc. In 2004, 85.9% of commercial salmon catch is sold through licensed salmon dealers and of other sales, 7.6% is accounted for by domestic consumption and only 6.5% is unaccounted for by the time logbooks are returned. While there is still an element of illegal catch, this is thought to be low at present.

2. Estimate of unreported catch by country, broken down by category and indicating whether the unreported catch is the result of legal or illegal activities

Party	Estimate (tonnes)	Breakdown
European Union		
Germany (Brandenburg)	-	Quantity is unknown. Only anonymous reports about single catches (illegal) in the river system (anglers). Anonymous reports about frequent catches (illegal) in the upper Elbe by means of commercial fisheries (as by-catch in traps, gill nets, haul and beach seining, stow nets).
Germany (Northrhine-Westfalia)	-	No estimate can be given though these catches would be illegal due to the protected status of Atlantic salmon.
Ireland	47	Predominantly illegal catch approximately 10% of declared catch. Based on direct monitoring of dealers and knowledge of the local fisheries, this is considered by many fishery inspectors to be an overestimate.

3. Explanation of how the figure for unreported catch is arrived at

Party	Year of Return	Explanation
European Union		
Germany (Brandenburg)	2005	***Absence of a requirement for catch statistics to be collected:*** Insufficient control or enforcement of law and order. ***Suppression of information thought to be unfavourable:*** Yes. ***Local sale or consumption:*** Yes, but illegal. ***Innocent inaccuracy in making returns:*** Unknown. ***Illegal Fishing:*** Yes.
Germany (Northrhine-Westfalia)	2005	No estimate can be given though catch of salmon would be illegal due to the protected status of Atlantic salmon.
Ireland	2005	***Absence of a requirement for catch statistics to be collected***: Not applicable – all catches must be declared in logbooks by both commercial fishermen and recreational anglers. ***Suppression of information thought to be unfavourable:*** This is unlikely in recent years given the anticipation, on the part of some commercial fishermen at least, of the possible introduction in the future of non-transferable quotas or the prospects for the introduction of buyouts, or set-aside schemes. ***Local sale or consumption:*** It is obligatory since 2001 to furnish details in the logbook of all disposal of salmon landed in Ireland. ***Innocent inaccuracy in making returns:*** This may occur but would not be significant and will reduce as familiarity with the scheme increases. ***Illegal Fishing:*** This is thought to represent most of the unreported catch which is believed to be at a low level presently (reports from local inspectors. See details provided under Article 15 return on the extent of fishery protection activity undertaken by the authorities.)

4. The extent of catch and release fishing

Party	Estimated Number Released	Comment
European Union		
Germany (Brandenburg)	-	Catch and release fishing for salmon is prohibited in Germany.
Germany (Northrhine-Westfalia)	-	Catch of salmon would be illegal due to its protected status.
Ireland	- (9% of rod catch)	Catch and release is only mandatory on a small number of rivers although it is practised by individual anglers, in other areas, on a voluntary basis. In August 2004, the Minister of State at the Department of Communications, Marine and Natural Resources requested salmon anglers to voluntarily fish on a catch and release basis to the end of the season. He also requested the National Salmon Commission and fisheries managers to look in this context at the necessary conservation measures for the 2005 season. In the 2004 season preliminary rod catch returns indicate that some 9% of the national rod catch was released by anglers.

5. Any measures taken to further minimise the level of unreported catches

Party	Measures taken
European Union	
Germany (Northrhine-Westfalia)	No specific measures have been taken, but the authorities in the Netherlands have been asked to clarify the impact of salmon by-catches.
Ireland	The return rate of anglers' logbooks to the Regional and Central Fisheries Boards was 43% in 2001, 52% in 2002 and 57% in 2003. The returns for 2004 are currently being finalised but are expected to be over 60%. Regional authorities have issued on-the-spot fines for non-return of angling logbooks.

ANNEX 21

Council

CNL(05)33

Additional Returns - European Union (Germany – Lower Saxony)

Note: Return by EU (Germany - Lower Saxony) in relation to the Williamsburg Resolution has been included in paper CNL(05)20.

Returns under Article 15 of the Convention

3. Other Factors Which May Significantly Affect The Abundance Of Salmon Stocks Subject To The Convention *(Article 15, Paragraph 5(c))*

(a) Still increasing numbers of stocked fry, pre-smolts or smolts.

(b) Building of fish passage facilities to improve upstream and downstream migration.

Section 2: Catch Statistics

Annual return of official catch statistics (Article 15, paragraph 1). Please provide the following information:

1. Provisional catch of Atlantic salmon for the calendar year 2004 in tonnes round fresh weight or round fresh weight equivalent

Catch statistics for inland fisheries are not available.

Unreported Catches

1. Description of Management Control and Reporting Systems by Country

Party	Year of Return	Description
European Union		
Germany (Lower Saxony)	2005	Questionnaire is in preparation regarding catches and stocking activities by sportfishing associations.

2. Estimate of unreported catch by country, broken down by category and indicating whether the unreported catch is the result of legal or illegal activities

Party	Estimate (tonnes)	Breakdown
European Union		
Germany (Lower Saxony)	0.15	Estimation: 0.15 metric tons (in-river-fisheries, mainly by sportfishing. Few salmon are also caught as bycatch of commercial fisheries).

3. Explanation of how the figure for unreported catch is arrived at

Party	Year of Return	Explanation
European Union		
Germany (Lower Saxony)	2005	***Absence of a requirement for catch statistics to be collected:*** Yes. ***Suppression of information thought to be unfavourable:*** No. ***Local sale or consumption:*** No. ***Innocent inaccuracy in making returns:*** No. ***Illegal Fishing:*** No.

4. The extent of catch and release fishing

Party	Estimated Number Released	Comment
European Union		
Germany (Lower Saxony)	-	There is no catch and release fishing.

5. Any measures taken to further minimise the level of unreported catches

Party	Measures taken
European Union	
Germany (Lower Saxony)	Questionnaire is in preparation regarding catches and stocking activities by sportfishing associations.

Section 4: Decision Structure for Management of North Atlantic Salmon Fisheries

Not applicable.

Section 5: NASCO Plan of Action for Protection and Restoration of Atlantic Salmon Habitat

1. Has an inventory of rivers, as envisaged in Annex 2 of the NASCO Plan of Action, been established or updated since the last notification?

No inventory has been established.

2. Has a comprehensive salmon habitat protection and restoration plan been developed in accordance with the aims of the NASCO Plan of Action, or an existing plan updated, since the last notification?

No salmon habitat protection and restoration plan has been developed.

Section 6: Guidelines on the Use of Stock Rebuilding Programmes

1. Provide a summary or list of current stock rebuilding programmes (or similar documents) indicating how copies may be obtained.

Local activities by sportfishing associations often not well documented.

Section 8: Guidelines for Incorporating Social and Economic Factors in Decisions under the Precautionary Approach

No information provided.

ANNEX 22

Council

CNL(05)15

Returns under Articles 14 and 15 of the Convention

CNL(05)15

Returns under Articles 14 and 15 of the Convention

Summary

1. Under the Convention, the Parties shall report on actions taken in accordance with Articles 14 and 15 of the Convention. Details of the new actions taken are attached. At the time of preparation of this paper, some EU Member States which have Atlantic salmon stocks (Germany, France and Portugal) have not sent returns.

2. Under Article 14 of the Convention, Canada has reported on its cooperation with France in sampling the St Pierre and Miquelon salmon fishery. This sampling programme now includes genetic testing. A detailed report on this sampling programme has been provided by the French authorities and is contained in Council paper CNL(05)28. Norway has reported on its surveillance activities which (together with the surveillance activities of the Icelandic coastguard) are very valuable in identifying fishing for salmon by non-Contracting Parties in international waters in the North-East Atlantic Commission area.

3. Under Article 15, a number of new laws, regulations and programmes and other new commitments have been reported. In summary these include:

In Canada, a national policy framework for the conservation of wild Atlantic salmon has been announced and has as its principal goal the restoration and sustainable management of diverse Atlantic salmon populations and their habitat. A CAN$30 million Atlantic Salmon Endowment Fund has also been established and will be held in trust with the income generated used to support salmon conservation projects and programmes. Canada's commercial fisheries remain closed and the First Nations food fisheries are located in areas where interception of salmon destined for rivers outside the area are minimised. There were major enforcement actions against salmon poaching in Newfoundland and Labrador.

European Union:

In Denmark, a National Management Plan for Salmon has been published.

In Ireland, a Statutory Instrument was updated and amended with the effect that the carcass tagging and logbook scheme was continued in 2004. By-laws were also maintained for 2004 which set a one-salmon-per-day limit up to 1 June to protect spring (MSW) fish and which limit the catch per angler per season to 20 salmon. A Statutory Instrument was maintained for 2004 which prohibited the sale of rod-caught salmon. The national aggregated TAC for the commercial salmon fishery in 2004 was set by regulation at 162,000 salmon to limit the catch by this sector. For 2005 the commercial quota has been set at 139,900 salmon, a reduction of 48% from the initial TAC of 219,000 set in 2002.

In Spain, regulations were adopted in 2004 which set fishing seasons and quotas in each autonomous region. In addition, considerable areas of salmon rivers have been designated as Sites of Community Importance under the Council Directive on the

Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC). Important public works on a road beside the Bidasoa River in Navarre could affect the salmon stocks.

In Sweden, new regulations require that imported fish must be proved to be free of contagious diseases and taken from a fish farm complying with Swedish approval on fish farms for stocking. Sweden has received additional guarantees under an EU Commission Decision for three fish diseases (SVC, IPN-V and BKD).

In the United Kingdom, there have been further reductions in netting effort in Cornwall and Cumbria in England as a result of buyouts. Compensation has continued to be paid to netsmen not to fish for all or part of the season (or to release fish alive) in a number of fisheries and a number of mixed stock fisheries continue to be phased out. In Wales, ten net fisheries were closed. In Scotland, a baits and lures regulation was introduced which restricts fishing to fly only in the River Findhorn Salmon Fishery District. The voluntary practice of catch and release fishing has been maintained and in 2004 50% of salmon caught by rod and line were returned. Netsmen have repeated their voluntary deferment of the start of the netting season by 6 weeks to conserve early running salmon stocks. Stock and habitat enhancement programmes have been maintained.

In Iceland, a new regulatory measure was introduced prohibiting the rearing of salmonids of reared origin in sea-cages in fjords and bays close to major salmon rivers. Regulatory measures were also introduced prohibiting net fishing for char in designated areas at certain times so as to protect char stocks and prevent by-catch of salmon.

In Norway, 21 Atlantic salmon rivers were limed at a cost of NOK45 million (approximately £4 million) in 2004 and funding for the liming programme has been increased by NOK14 million (approximately £1 million) for 2005. In 2003/2004 a rotenone project to eliminate the parasite *Gyrodactylus salaris* was undertaken in the Rana region in which six infected rivers within the fjord system and 15 rivers in close proximity were treated. In 2004 a research and development project commenced using aluminium sulphate to eliminate the parasite. Experimental treatment of the River Batnfjordselva was undertaken. Of the 45 rivers infected with *Gyrodactylus salaris*, 26 rivers have now been treated with chemicals but 19 rivers are still infected. Monitoring and preventative measures for the parasite are given a high priority.

In the Russian Federation, the Federal Act on Fisheries and Conservation of Aquatic Biological Resources was adopted in 2004 which gives priority to the conservation of particularly valuable aquatic biological resources (including Atlantic salmon). The Act allows for the designation of fish preservation zones where there is a special regime for economic and other activities with the aim of conserving aquatic resources.

In the US, consultations with the other federal agencies to review all projects carried out in listed Atlantic salmon watersheds have continued in order to avoid or minimise impacts on Atlantic salmon and their habitat. A draft recovery plan for the listed Atlantic salmon populations has been developed and in 2004 the plan was subject to public review. From 1 April 2004 all new fish placed into marine net pens must be identifiable through external measures as commercially reared in Maine. In 2004,

most fish stocked for aquaculture purposes received a fin clip. Public meetings were held during 2004 to solicit input from the public on a proposed pilot liming project on a portion of the Dennys River, Maine. A study to determine the effectiveness of non-lethal methods to remove or displace foraging double-crested cormorant populations from the Narraguagus River estuary commenced in 2004.

Secretary
Edinburgh
11 May, 2005

Returns under Article 14 of the Convention

1. Actions Taken To Make Effective The Provisions Of The Convention *(Article 14, Paragraph 1)*

1.1 The prohibition of fishing for salmon beyond 12* nautical miles from the baselines from which the breadth of the territorial sea is measured. ***(Article 2, paragraph 2)***

* 40 nautical miles at West Greenland
* Area of fisheries jurisdiction of the Faroe Islands

Norway

Information on sightings is reported directly to NASCO by the Norwegian Coast Guard Squadron North.

Other Parties

No actions reported by the other Parties.

1.2 Inviting the attention of States not party to the Convention to any matter relating to the activities of the vessels of that State which appears to affect adversely the salmon stocks subject to the Convention. ***(Article 2, paragraph 3)***

Canada

Canada and France continue to discuss the salmon fishery at St. Pierre et Miquelon during bilateral meetings. France and Canada have enhanced co-operation on samples from this fishery and assessment now includes genetic testing.

Other Parties

No actions reported by the other Parties.

1.3 Measures to minimise the by-catches of salmon originating in the rivers of the other member. ***(Article 7, paragraph 2)*** **[North American Commission members only]**

No actions reported by either Party.

1.4 Alteration in fishing patterns in a manner which results in the initiation of fishing or increase in catches of salmon originating in the rivers of another Party, except with the consent of the latter. ***(Article 7, paragraph 3)*** **[North American Commission members only]**

No actions reported by either Party.

2. Actions Taken To Implement Regulatory Measures Under Article 13 *(Article 14, Paragraph 1)*

No actions reported by any Party.

Returns under Article 15 of the Convention

1. Laws, Regulations And Programmes Adopted Or Repealed Since The Last Notification *(Article 15, Paragraph 5(a))*

Canada

In December 2004, the Minister of Fisheries and Oceans Canada announced that work would begin on a national policy framework for the conservation of wild Atlantic salmon. The framework's principal goal will be to restore and sustainably manage diverse Atlantic salmon populations and their habitat. Consultations with stakeholders will begin early summer 2005. A final policy document is anticipated to be ready by early 2006.

In addition, the most recent federal budget included C$30 million to establish an Atlantic Salmon Endowment Fund. The Fund will be held in trust and the income used for projects and programs that support long-term conservation of the wild salmon resource. The Fund will help watershed and community groups in the Atlantic provinces and Quebec who are working on a range of habitat-enhancement, monitoring and conservation initiatives.

European Union

Denmark

The Ministry of Environmental Protection has published a "National Management Plan for Salmon" in Denmark.

Ireland

Statutory Instrument (SI No. 256 of 2000) was updated and amended for the continuation of the Carcass Tagging and Logbook Scheme for the 2004 fishing season. Under this instrument all salmon fishermen (commercial and recreational) must apply a coded carcass tag to each salmon caught and provide details of these landings and subsequent disposal (sale, storage, etc.) in official logbooks. The amendment required the return of all logbooks and unused tags within 7 days after the end of the season rather than 21 as in previous years.

By-law 781 (of 2001) was maintained for 2004 allowing a limit of one salmon per day up to 1st June to protect spring (MSW) fish.

Subject to the above limit, by-law 786 (of 2002) was maintained for 2004 allowing a limit of 20 salmon per angler per season.

Statutory Instrument (SI) No. 353 of 2001) was maintained for 2004 which prohibits the sale of salmon caught by rod and line.

A national aggregated TAC of 162,000 salmon was included in the regulations in 2004, and applied to the commercial salmon fishery in 2004 to limit the catch in this sector.

Spain

In Spain each Autonomous Region independently regulates its salmon stocks and annually enact rules for rational exploitation of these stocks.

The open season for salmon fishing in Galicia was established through an Order of 21 January 2004 (BOG Nº 22, February 2004). During 2004, fishing of salmon was allowed in the fishing reserves of Masma, Mandeo, Lérez, Miño, Ulla and Eo rivers, all of which, with the exception of the Eo River, had an annual catch quota.

In the Autonomous Region of Navarre, fishing of salmon is regulated by the Local Order 89/2004. Under this Order the only river in the region where salmon fishing was permitted was the Bidasoa and the Order set an annual catch quota. In addition, in Navarre the sale of salmon is forbidden with the exception of the first salmon caught in the year.

In the Principality of Asturias, the Resolution of 31 October 2003 (BOPA Nº 264, 14 of November of 2003) regulated salmon fishing during 2004, and this Resolution established the minimum size limit for salmon and set the fishing periods in the fishing reserves.

The Order 4/2004 of 24 January (BOC Nº24, 5 of February 2004) regulated salmon fishing during 2004 in the Autonomous Region of Cantabria. It defines the fishing periods, the catch quota and the minimum catch size.

The Basque Country has seven salmon rivers. In Guipúzcoa, the fishing of Atlantic salmon is only allowed in the small stretch of the Bidasoa River that belongs to the Basque Country.

United Kingdom

In England and Wales: For the Rivers Lynher, Tavy and Tamar in Cornwall Area (SW Region of England) a reducing Net Limitation Order (NLO) was introduced, with a privately funded buyout reducing the total number of draft/seine nets operating in this joint estuary from 23 to zero for a 10-year period. In Cumbria, England, the remaining coastal drift net was bought out in perpetuity using joint private/public funding. In Wales, 10 fisheries were closed: drift nets – River Usk; draft/seine nets – South Lleyn, North Lleyn, South Menai Strait (Seiont & Braint), North Menai Strait (Ogwen & Aber), Dwyfawr and West Wales Coastal; sling nets – North Anglesey, Clwyd; wade nets - West Wales Coastal.

In Scotland: The River Findhorn Salmon Fishery District (Baits and Lures) Regulations 2004 came into force on 4 June 2004. This prohibits the use of 'organic' baits (any crustacean, fish or other animal, or any part of such animal), and any 'spinner', 'plug', or 'spoon' as a lure. It effectively restricts fishing to fly only.

Iceland

A regulatory measure "(nr. 460/2004) prohibiting the rearing of salmonids of reared origin in sea-cages in fjords and bays close to major salmon rivers" was adopted in

June 2004. In addition two regulatory measures were adopted which prohibit net fishing for char in the sea from 15 May through 15 August in Eyjafjörður and from June 10 through August 10 in Skjálfandaflói and Þistilfjörður. The ban is intended to protect the char stocks in Eyjafjörður and prevent by-catch of salmon in char-nets in Skjálfandaflói and Þistifjörður. This is a continuation of a regulatory programme, which was initiated in Southwestern Iceland in 2003.

Russian Federation

The Federal Act on Fisheries and Conservation of Aquatic Biological Resources was adopted on 20 December 2004. This Act is based on the principles which give priority to conservation of particularly valuable aquatic biological resources (Atlantic salmon is included in this category) and provides the regulatory framework for fisheries and conservation of aquatic biological resources in the Russian Federation. The Act defines measures for the conservation of aquatic biological resources and their habitat. For example, for protection of habitat of aquatic biological resources fish protection zones could be established, where restrictions on economic or any other activities are introduced. Waters of particular importance for conservation of valuable species of aquatic biological resources can be awarded the status of fish preservation zones, where a special regime for economic or any other activities is established with the aim of conserving aquatic biological resources and providing conditions for development of aquaculture and fisheries at the same time.

Other Parties

No changes reported by the other Parties or the other EU Member States.

2. Other New Commitments Relating To The Conservation, Restoration, Enhancement And Rational Management Of Salmon Stocks Subject To The Convention *(Article 15, paragraph 5(b))*

Canada

Canada's commercial fisheries for Atlantic salmon remain closed. There are a few First Nations food fisheries, with specific quotas. These fisheries are located mainly in large inlets and bays, thereby minimizing the interception of migrating salmon destined for rivers outside the area.

European Union

Spain

Under the Council Directive 92/43/ECC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora, the salmon belongs to the species of Community Importance for whose conservation it is necessary to designate special zones of management. All the zones designated as Sites of Community Importance (SCI) belong to the Nature 2000 programme. The Commission Decision of 7 December 2004 (DO L387) adopted the list of SCIs for the Atlantic biogeographical region.

In the Autonomous Regions of Galicia, Principality of Asturias, Cantabria, Basque Country and Navarre constitute the Atlantic Region of Spain, the salmon inhabits 101,633,351 hectares of the SCIs of the Atlantic Region.

In Galicia, of the areas approved as SCIs, salmon inhabit occupy 8,009.54 hectares in the following rivers:

Eo River (781.13 hectares); Betanzo - Mandeo (864.58 hectares); Ría de Foz - Masma, (575.17 hectares); Sistema Fluvial Ulla – Deza, (1,306.841 hectares); Lérez River 18.6 hectares); Baixo Miño (2,791.64 hectares); Landro River (88.94 hectares); Esterio do Tambro (1,582.61 hectares).

In the Principality of Asturias the following SCIs inhabited by salmon have been designated and amount to 89,851 hectares:

Eo River (123 hectares); Cabo Busto – Luanco (11,599 hectares); Ría de Ribadesella - Ría de Tinamenor (5,788 hectares); Montovo - La Mesa (14,926 hectares); Ría del Eo (1,931 hectares); Picos de Europa (25,086 hectares); Ponga - Amiega (28,100 hectares); Cares - Deva River (269 hectares); Esqueiro River (13 hectares); Esva River (192 hectares); Las Cabras River (36 hectares); Nalón River (560 hectares); Narcea River (374 hectares); Navia River (96 hectares); Trubia River (81 hectares); Negro River (45 hectares); Pigüeña River (45 hectares); Porcía River (65 hectares); Purón River (22 hectares); Sella River (500 hectares).

In the Autonomous Region of Cantabria a total area of 3,386.84 hectares occupied by salmon have been designated as SCIs:

Nansa River (ES1300009, Area: 569,86 hectares); Pas River (957.29 hectares); Ason River (530.49 hectares); Deva River (397.91 hectares); Saja River (321.28 hectares); Miera River (395.53 hectares); Agüera River (214.48 hectares).

In the Basque Country, of the existing SCIs, 196 hectares are inhabited by salmon, as follows:

Urumea River (74 hectares); Txingudi - Bidasoa (122 hectares).

In the Autonomous Region of Navarre, the Bidasoa River (190 hectares), is considered as an SCI as it is the only salmon river in Navarre.

Sweden

Imported fish must be proven free of contagious diseases and taken from a fish farm complying with the Swedish approval on fish farms for stocking purposes (FIFS 2004:47).

Sweden was given additional guarantees for three fish diseases: SVC (spring viraemia of carp), IPN-V (infectious pancreatic necrosis) for coastal and inland waters and BKD (bacterial kidney disease) for inland waters (Commission Decision 2004/453/EG). The decision concerns all species intended for aquaculture, implying that the fish can only be brought from countries having the same health status.

United Kingdom

In England and Wales: Netsmen have received compensation payments (from various sources) not to fish for all or part of the season (or to release fish alive) in the following salmon fisheries: Tavy, Tamar, Lynher, Fowey, Camel, Lyn, Severn and the Hampshire Avon and Stour. A number of mixed stocked fisheries continue to be phased out.

In Scotland: The voluntary practice of catch and release in the rod fishery has been maintained. The estimated level for 2004 is 50% of all salmon caught by rod and line. Salmon netsmen repeated their voluntary deferment of the start of the netting season by 6 weeks to conserve early-running stocks. District Salmon Fishery Boards and Fisheries Trusts throughout Scotland have maintained programmes of stock and habitat enhancement.

Norway

Liming

In 2004, 21 Atlantic salmon rivers were limed in Norway at a cost of NOK45 million (approximately £4 million). For 2005, the Government of Norway has increased the funding for the liming programme by NOK14 million (approximately £1 million) compared with 2004. The increased funding makes it possible to start liming in the river Nidelva in Aust-Agder county in 2005. The natural Atlantic salmon stock in this river is regarded as being extinct due to acidification. Before acidification, during the late 1800s, the yearly catch of salmon in the river Nidelva was up to 12 tonnes. Today the potential for salmon production is reduced by two dams built for production of hydroelectric power.

Most liming projects in Norway commenced during the period 1991 to 1997. It will take some years before the salmon stocks in treated rivers are re-established. In 14 rivers in the southern-most part of Norway the total catch of Atlantic salmon was 2 tonnes per year in the 1980s. After about 10 years of liming the catches have increased to about 35 tonnes per year. The Norwegian Institute for Nature Research (NINA) has estimated that the salmon stocks in these 14 rivers will be fully re-established after about 15 years of liming, and has suggested that the total catch may be about 75 tonnes in 2011.

The largest liming projects are in three large watercourses in southern-most Norway: Tovdalselva, Mandalselva and Bjerkreimselva. In Tovdalselva and Mandalselva, the natural Atlantic salmon stocks became extinct due to acidification. Before acidification, during the late 1800s, yearly catches of salmon in the rivers Mandalselva and Tovdalselva were as high as 30 and 20 tonnes respectively. In both rivers, a restocking programme is being carried out in connection with the liming programme. The catches are increasing in the river Mandalselva with an average catch of about 9 tonnes in the last five years. In the River Tovdalselva the density of young fish was recorded in 2002 - 2004 and the catches are expected to increase in the next few years. Bjerkreimselva had a small population of its natural salmon stock before liming commenced and catches increased significantly in the first few years after liming started. The average catch in the river Bjerkreimselva for the last five years has been about 14 tonnes.

Gyrodactylus salaris

In 2003-2004, a rotenone project in the Rana region began. The project treated six infected rivers within the fjord system (River Ranaelva, River Røssåga, River Slettenelva, River Bjerka, River Bardalselva and River Sannaelva); another 15 rivers were treated due to their close proximity. Treatments were conducted in October 2003, June 2004 and August 2004. The most comprehensive treatment involved more than 100 persons and took 14 days to complete. The project included preservation of fish stocks, removal of dead fish and environmental monitoring.

In 2004 a research and development project commenced using aluminium sulphate (AlS) to eliminate the parasite. The experiment was conducted in the River Batnfjordselva in the middle part of Norway. The main river and its biggest tributaries were treated with aluminium sulphate. Rotenone was used in small quantities in more or less stagnant water connected to the river.

Out of 45 infected rivers, 26 rivers have now been treated with chemicals. 19 rivers are still infected. In addition to the remedial measures, the monitoring programme and preventive measures are being given high priority.

International cooperation

Cooperation between Norway and Russia on environmental issues, and on research and management of Atlantic salmon, has continued, especially concerning Atlantic salmon in the Pechora River and in relation to *Gyrodactylus salaris*.

Conservation of salmon stocks

By the end of 2004, milt from a total of 6,511 wild salmon from 169 stocks had been included in the Norwegian Gene Bank (cryopreservation). 11 new milt samples were included in the gene bank in 2004. Norway currently operates 3 living gene banks; one in northern Norway, one in middle Norway and one in south-western Norway. The threats to the stocks that are kept in these stations are hydropower development, acidification, high proportion of escaped farmed salmon and the freshwater parasite *Gyrodactylus salaries.* Of the 29 salmon stocks that are, or have been, taken care of in the gene banks, nine have been re-introduced to their rivers and seven of them are taken out from the gene banks. Two are kept for safety reasons. Ten stocks are under restoration, while nine stocks are waiting to be restored after eradication of *G. salaris* from the rivers.

USA

As reported last year, following the listing of Atlantic salmon under the Endangered Species Act, NOAA Fisheries and the US Fish and Wildlife Service have been consulting with other federal agencies to review all projects carried out in the salmon watersheds in order to avoid or minimize impacts to Atlantic salmon and their habitat. Consultations have been conducted on the permitting process for discharge from aquaculture facilities, siting and operation of aquaculture facilities, dredging projects, and bridge and road repair.

The US Fish and Wildlife Service and NOAA Fisheries have worked with the Maine Atlantic Salmon Commission to develop a draft recovery plan for the populations of Atlantic salmon that have been listed as endangered. The draft was reviewed by technical staff at both state and federal agencies during 2003. During 2004 the draft was subject to public review. The Recovery Plan is currently being revised to address public comments received during the review process. A final draft is expected by summer of 2005. A copy of the Draft Recovery Plan is available at the following link: http://www.nmfs.noaa.gov/pr/readingrm/Recoverplans/Draft_ATS_plan.pd

In 2003, the MEPDES general permit for Atlantic salmon aquaculture was finalized and includes special conditions for protection of endangered Atlantic salmon. These conditions are focused on finfish aquaculture operations in four primary areas: (1) fish husbandry and culture; (2) loss prevention through audited containment practices; (3) marking cultured fish to identify the origin of escapes; and (4) use of only North American strains of Atlantic salmon. Effective April 1, 2004 all new fish placed into marine net pens must be identifiable through external means as commercially reared in Maine. In 2004, mostly all fish stocked for aquaculture purposes received a fin clip.

NOAA Fisheries, in conjunction with other federal and state agencies, Universities, and non-governmental organizations, continues to work cooperatively on the Water Chemistry Committee to implement a pilot liming project on a portion of the Dennys River, Maine. In 2004 public meetings were held to solicit input from the public.

NOAA Fisheries, Maine Atlantic Salmon Commission, and USDA Wildlife Services developed a study to determine the effectiveness of non-lethal methods to remove or displace foraging double-crested cormorant populations from the Narraguagus River estuary. The objectives of the cormorant harassment study are twofold: 1) to reduce predation on migrating Atlantic salmon smolts by excluding double-crested cormorants from the lower Narraguagus River and Narraguagus Bay; 2) to assess the efficacy of non-lethal predator exclusion as a means of reducing predation on migrating Atlantic salmon smolts. In order to measure success in meeting the first objective, smolt survival during times of active harassment and non-harassment will be monitored. Smolt survival will be monitored with ultra-sonic telemetry gear; however, this data from 2004 is not yet available. In addition, cormorant abundance before, during, and after the smolt run is also being monitored with automated digital cameras that are programmed to take pictures (i.e., point counts) at fixed intervals every day. Preliminary results from 2004 suggest that fewer cormorants were found in the lower Narraguagus River on days when they were being actively harassed. Smolt survival results from both 2004 and 2005 will be available by the fall of 2005 and reported in the U.S. Atlantic Salmon Assessment Committee Report in early 2006 as well as in the 2005 returns for NASCO.

Other Parties

No new commitments reported by the other Parties or the other EU Member States.

3. Other Factors Which May Significantly Affect The Abundance Of Salmon Stocks Subject To The Convention *(Article 15, Paragraph 5(c))*

Canada

Enforcement of salmon fishing rules is an ongoing responsibility of federal and provincial fisheries departments. In 2004, major enforcement actions against salmon poaching were undertaken in Newfoundland and Labrador. In some cases, these actions were jointly undertaken by federal and provincial fisheries enforcement officers. Where cases have gone to court, judges are more frequently handing down large fines, forfeiture of fishing gear and equipment used in the offences, and even jail sentences.

European Union

Ireland

The commercial quota in 2005 has been set at 139,900 salmon. This is a reduction of 48% from the initial TAC of 219,000 which has been brought about by staged reductions of 17%, 11% and 14% annually since 2002.

Spain

At present, important Public Work is taking place on a road next to the Bidasoa River in Navarre that could affect the abundance of the salmon stocks.

Other Parties

No factors reported by the other Parties or the other EU Member States.

ANNEX 23

Council

CNL(05)16

Progress with Application of the Decision Structure for Management of North Atlantic Salmon Fisheries – Returns by the Parties

CNL(05)16

Progress with Application of the Decision Structure for Management of North Atlantic Salmon Fisheries – Returns by the Parties

Summary

1. To assist NASCO and the relevant authorities in applying the Precautionary Approach to the management of North Atlantic salmon fisheries, a Decision Structure was adopted on a provisional basis in 2000. After further development and evaluation, a revised Decision Structure was adopted by the Council in 2002 in order to provide a basis for more consistent approaches to the management of exploitation of salmon throughout the North Atlantic region. It was the Council's intention that the Decision Structure would be widely applied, without delay, by managers in cooperation with stakeholders on salmon rivers. In order to facilitate annual reporting by the Parties on the extent of implementation of the Decision Structure and their experiences with its application, a reporting format was agreed and revised in 2003. This revised format was used for the first time for last year's returns and has again been used in 2005. Under this format the Parties are requested to:

- provide a summary of fisheries for which the Decision Structure has been applied, indicating whether it has been used as a guide to, or a record of, management decisions;
- indicate where and how completed Decision Structure forms are being compiled and retained and provide, annually an example of its application;
- provide comments on how useful managers have found the Decision Structure and suggestions for its improvement;
- provide details of any additional guidance that has been developed.

The information provided by the Parties is presented in the attached tables for both 2004 and 2005 returns. At the time of preparation of this report, no return of information for either 2004 or 2005 was available for some EU Member States (France and Portugal) with salmon stocks.

Use of the Decision Structure

3. Last year it was reported that the returns indicated that real progress had been made by a number of Parties and EU Member States in using the Decision Structure either as a guide to management decisions (Canada, EU (Ireland and UK (England and Wales and Northern Ireland), Norway and the Russian Federation), or as a record of management decisions (in Iceland – for 2 rivers). Some new information on the use of the Decision Structure has been provided in the 2005 returns. For the European Union, Finland has indicated that elements of the Decision Structure are being addressed in management of the Finnish-Norwegian border rivers and while no river-specific conservation limits have been established, indices of abundance and biological characteristics of the stocks are taken into account in developing management measures. In Ireland, the Decision Structure has been applied to the national fishery but as new information becomes available on conservation limits for individual rivers it will be applied to individual salmon fishery districts with the ultimate aim of applying it on a river-by-river basis. It is used as a guide to managers.

In England and Wales, the Decision Structure is used as a summary record of regulatory decisions and the form has been completed for the Rivers Lynher, Tavy and Tamar for which management decisions were approved in 2004. In Northern Ireland, the Decision Structure has been used as a guide to management decisions. In Scotland, the Decision Structure is still being developed but it is concluded that management on a temporal basis is likely to be more useful to maintenance of diversity and abundance than management on a fishery basis. In the Russian Federation, application of the Decision Structure was expanded in 2004 from its use on the Kola Peninsula to include rivers in the Archangel Region, Nenets Okrug, Komi Republic and Karelia. In both Canada and Norway, the Decision Structure continues to be used as a guide to management decisions. In Norway, work is in progress to develop biological reference points and thus improve the use of the Decision Structure with the goal of applying spawning targets in the next extensive revision of the salmon fishery regulations in 2007. The Decision Structure has not been applied by Denmark (in respect of the Faroe Islands and Greenland), EU (Denmark, Spain, Sweden, UK (Scotland)) or Iceland. There are no salmon fisheries in EU (Germany) or in the US.

Compilation of Decision Structure forms and examples of its application

4. Information has been provided by Canada, EU (Ireland, UK (England and Wales, and Northern Ireland), Norway and the Russian Federation on how the Decision Structure forms are being compiled and retained. EU (Finland) has indicated that data for the Decision Structure is compiled and retained by the relevant authorities and research bodies. Examples of the Decision Structure's application in 2004 have only been provided by UK (England and Wales and Northern Ireland) and the Russian Federation.

Usefulness of the Decision Structure

5. EU (Finland, Ireland and UK (Northern Ireland)), Norway and the Russian Federation have indicated that initial feedback on the Decision Structure is that it is useful to managers of salmon fisheries. EU (UK – England and Wales) has indicated that as the current procedure was only initiated in 2004 it is too early to assess its usefulness. EU (UK – Scotland) has, however, indicated that the Decision Structure format does not lend itself to management of Scottish salmon fisheries which occur between mid-January and the end of November, and which exploit different stock components originating from different parts of the catchment at different times of the year. Work is therefore being undertaken to further adapt the Decision Structure to the Scottish situation. Similarly, Iceland reports that the Decision Structure does not lend itself to the privately owned terminal angling fisheries with a fixed number of rods set by managers and that Iceland needs to adopt a variation of the approach to the management of its angling fisheries after setting egg deposition requirements for its salmon rivers. Norway has initiated a new project to develop spawning targets and conservation limits have been calculated for 6 rivers. This should increase the usefulness of the Decision Structure in Norway.

Additional guidance on the use of the Decision Structure

6. In the EU (UK – England and Wales), the Environment Agency is currently developing a Decision Structure with CEFAS to aid in determining requirements for

management measures across salmon fisheries in England and Wales. The model will be used in 2005 to review the Salmon Action Plans for a number of rivers identified in the Environment Agency's stock conservation review as needing further measures.

Secretary
Edinburgh
27 May, 2005

1. Provide a summary of the fisheries for which the Decision Structure has been applied, indicating whether it has been used as a guide to, or a record of, management decisions.		
Party	**Year of return**	**Information provided**
Canada	2004	For Atlantic salmon management, Canada uses a river classification system. River classifications establish certain management measures (e.g. retention limits, closures, catch and release only) for each river, based on factors such as: are conservation spawning requirements being met, level of angling effort, proximity to densely populated areas, and overall size of the river and of the salmon population in it. Conservation limits are set where enough information exists, management targets are established, and in-season monitoring indicates whether conservation limits will be met. When the limits are not met, the management process provides for pre-agreed management actions to be implemented, such as catch and release fishing only, or complete closure of the river. The NASCO Decision Structure is used as a guide to management decisions.
	2005	No change from 2004.
Denmark (in respect of the Faroe Islands and Greenland)		
Faroe Islands	2004	
	2005	Not applicable.
Greenland	2004	The Decision Structure has not been applied.
	2005	No change from 2004.
European Union		
Denmark	2004	
	2005	
Finland	2004	
	2005	The Decision Structure has not been applied as such on the Finnish side of the Finnish-Norwegian border rivers, nor in the bilateral management of the river systems. However, elements of the Decision Structure have being addressed in management of these fisheries although no river-specific conservation limits have been established for these rivers. Long-term monitoring covers catch statistics and juvenile salmon abundance and also provides information on different stock components and their biological characteristics. These indices are used to assess the status of the stocks in relation to the management measures taken. A database including monitoring data and the current management restrictions is available to support implementation of the Decision Structure.
Germany	2004	Northrhine-Westfalia: The Decision Structure has not yet been applied, since there are no fisheries as salmon populations have first to be re-established.
	2005	Baden-Wuertemberg, Brandenburg and Northrhine-Westfalia: Not applicable.
Ireland	2004	The Decision Structure has been applied to the national fishery and all fishing methods.
	2005	The main purpose of the Decision Structure is to aid managers in implementing the Precautionary Approach. It also provides a record of decisions taken in the management of individual stocks; a guide to managers on how to reach management decisions. The form of the Decision Structure has been developed in recent years. In this regard, the development of the Irish management system has also evolved rapidly since 1997 in parallel with the development of the Decision Structure. Therefore, the Irish management plan fundamentally reflects the Decision Structure currently as the Decision Structure has been used as a template to design the overall national strategy and to organise information on the fisheries, initially starting with the National Fishery. CNL(04)15 indicates how the decision structure has been applied specifically to

		structure the national strategy. It starts by describing and defining the fishing methods and the catches. The current management restrictions (regulations and by-laws) are then outlined. The derivation of reference points (Conservation Limits) used for management are then described for national and district salmon fisheries. The Decision Structure allows documentation of the management measures taken in Ireland in response to the prevailing stock status situation and a synopsis of the recent application of District TACs, applied to take account of districts which are below their CL. The Decision Structure in CNL (04)15 for Ireland is currently reported at National level. However, as new information is available on CLs for individual rivers, it will be possible to apply this to the individual salmon fishing districts and this will be the next step in the application of the Decision Structure for Ireland. Ultimately, the aim will be to apply this on a river-by-river basis starting with approximately 28 rivers where counting facilities are available to provide a measure of compliance for these specific stocks.
Spain	2004	
	2005	
Sweden	2004	Work to establish an index river on the Swedish West Coast has continued in 2003.
	2005	Not applicable.
UK - England and Wales	2004	Conservation Limits and Management Targets have been set for all principal salmon rivers in accordance with the Decision Structure. Salmon Action Plans are used to address other issues defined within the Decision Structure, including: the status of the stock; other diversity criteria; selectivity of fisheries; factors threatening the stock; and proposed management actions.
	2005	The NASCO Decision Structure is used as a summary record of the regulatory decisions made for salmon fisheries in England and Wales; this does not include non-statutory management actions. Copies of the form have been prepared for the following river fisheries for which management decisions were approved in 2004: Rivers Lynher, Tavy and Tamar joint estuary fishery.
UK - Northern Ireland	2004	The Decision Structure has been used as a guide to the implementation of a Salmon Management Plan in the Fisheries Conservancy Board (FCB) area of Northern Ireland which mirrors that developed in the Foyle area. In 2003 habitat, juvenile populations and adult escapement data were complied for the Rivers Bush, Glendun, Maine and Blackwater in the FCB area and the Foyle system. Conservation limits were updated as more information is assembled.
	2005	Northern Ireland/Partial Republic of Ireland. Fisheries Conservancy Board (FCB). Loughs Agency (cross – border Northern Ireland/Republic of Ireland) Foyle system. The Decision Structure has been used as a guide to management decisions (see Annex 1).
UK – Scotland	2004	Discussions have continued with Fisheries Research Services (FRS), the Association of Salmon Fishery Boards (ASFB), and District Salmon Fishery Boards (DSFBs) to develop the Decision Structure as a tool for use in management operations.
	2005	The Decision Structure is still being developed to take account of the complex stock structuring in the salmon that inhabit Scottish rivers. It has been established that this structuring has an important genetic component, and traits such as run-timing are heritable. See: Stewart, D.C., Smith, G.W. and Youngson, A.F. 2002. Tributary-specific variation in timing of return of adult Atlantic salmon (*Salmo salar*) to freshwater has a genetic component. Can.J.Fish.Aquat.Sci. 59: 276-281. Stewart, D.C., Middlemas, S.J. and Youngson, A.F. (in prep). Population structuring in Atlantic salmon (*Salmo salar*): evidence of genetic influence on the timing of smolt migration in sub-catchment stocks. It has been concluded that management on a temporal basis is likely to be more useful to the maintenance of both abundance and diversity than management on a fishery basis. Initiatives such as the voluntary deferment of the start of netting by 6 weeks, the Conservation of Salmon (Esk Salmon Fishery District) Regulations 2005, and the Annual Close Time (Esk Salmon Fishery District) Order 2005 are designed to reduce exploitation of early-running MSW salmon.
Iceland	2004	The Decision Structure has been used as a record of management decisions in the salmon river Vesturdalsá in eastern Iceland (see CNL(03)36), and in the River Hvítá in Borgarfjörður.
	2005	The Decision Structure has not been applied.

Norway	2004	The Decision Structure has been used as a guide to management decisions in all salmon fisheries. The Decision Structure for sea-fisheries requires identification of the river stocks being exploited by the fishery. To approach this problem the coast has been divided into 19 regions, each constituting a fishery that mainly exploits river stocks within the region's boundaries. The sea-fishery is regulated according to the status of the stocks within the region.
	2005	The Decision Structure has been used as a guide to management decisions in all salmon fisheries. The Decision Structure for sea-fisheries requires identification of the river stocks being exploited by the fishery. To approach this problem the coast has been divided into 19 regions, each constituting a fishery that mainly exploits river stocks within the region's boundaries. The sea-fishery is regulated according to the status of the stocks within the region. Work is in progress to develop biological reference points (see section 3 below), and thus improve the use of the Decision Structure. The goal is to apply spawning targets to a great extent in the next extensive revision of the salmon fishery regulations in 2007.
Russian Federation	2004	The Decision Structure has been applied to the management of fisheries on 38 White Sea rivers and 37 Barents Sea rivers on the Kola Peninsula. For each river the Polar Research Institute (PINRO) provides advice on the abundance of the spawning stocks, conservation limits and the catch options. On the basis of this advice the Science and Fisheries Council makes management decisions concerning catch limits in each fishery (commercial, catch-and-retain, catch-and-release) on a river-by-river basis. Murmanrybvod details the fishing regime for each river including time of fishing, fishing gears, sites and catch limit for each site. This information is notified to the users of the resource on a given river. Control and enforcement is the responsibility of Murmanrybvod.
	2005	The Decision Structure has continued to be applied for management of fisheries on 38 White Sea rivers and 37 Barents Sea rivers on the Kola Peninsula. For each river the Polar Research Institute provides advice on the abundance of the spawning stocks, conservation limits, catch options. On the basis of this advice the Science and Fisheries Council makes management decisions concerning catch limits in each fishery: (commercial, catch-and-retain, catch-and-release), on a river-by-river basis. Murmananrybvod (Control and Enforcement authority) details the fishing regime for each river including time of fishing, fishing gears, sites, and the catch limit for each site. Users then base their operations on these decisions. The application of decision structure was expanded in 2004 to include a number of rivers in the Archangel Region, Nenets Okrug, Komi Republic and Karelia.
USA	2004	There are no salmon fisheries within US jurisdiction.
	2005	No change from 2004.

2. Indicate where and how completed Decision Structure forms are being compiled and retained, and provide an example of its application.

Party	Year of return	Information provided
Canada	2004	The Decision Structure forms are not being regularly used by those making decisions on Atlantic salmon fisheries. Atlantic salmon fishing is regulated under management plans that are developed for each area, with conservation limits, and pre-agreed rules for actions to be taken if conservation limits are not being met. These management plans are held in each regional office of the Department of Fisheries and Oceans and by the Province of Québec.
	2005	The NASCO Decision Structure is used as a guide only to management decisions. Fishing management plans are developed and held in the various Regional Offices of the federal Department of Fisheries and Oceans and by the Province of Québec.
Denmark (in respect of the Faroe Islands and Greenland)		
Faroe Islands	2004	
	2005	Not applicable.
Greenland	2004	Not applicable.
	2005	Not applicable.
European Union		
Denmark	2004	
	2005	
Finland	2004	
	2005	The data for the Decision Structure forms are compiled and retained by the relevant authorities and research bodies.
Germany	2004	Northrhine-Westfalia: Not applicable.
	2005	Baden-Wuertemberg, Brandenburg and Northrhine-Westfalia: Not applicable.
Ireland	2004	Forms are being compiled on behalf of the Department of Communications, Marine and Natural Resources by the Marine Institute for general discussion before formal application. See CNL(04)15 for an example of its application.
	2005	No change from 2004 – see CNL(04)15.
Spain	2004	
	2005	
Sweden	2004	
	2005	Not applicable.
UK - England and Wales	2004	Completed Salmon Action Plans, which cover all aspects of the Decision Structure, are available from the Environment Agency, UK.
	2005	The NASCO Decision Structure form is being completed by scientists at CEFAS once regulations have been approved by the Minister, and summarise the basis for the decision. The completed forms are collated by CEFAS and copied to the DEFRA and the Environment Agency. An example for the fishery in the joint estuary of the Rivers Lynher, Tavy and Tamar is in Annex 2.

UK - Northern Ireland	2004	The form has already been completed and retained for the Foyle system and will be completed for the other catchments in 2004. Failure to achieve conservation limits in the Bush in recent years has prompted management action to restrict exploitation for both commercial fisheries and angling throughout the FCB area.
	2005	Compiled and held by Fishery Managers/Scientists in FCB and Loughs Agency and held centrally by DCAL Inland Waterways and Inland Fisheries, Belfast, Northern Ireland. It is applied through Salmon Management Plans operating in both jurisdictions.
UK - Scotland	2004	The Decision Structure is still being developed for use by managers.
	2005	See section 1 above.
Iceland	2004	The Decision Structure is still in an evaluation stage in the Icelandic management system. An example of its application in a mixed stock situation, the River Hvítá in Borgarfjörður, has been provided.
	2005	The Decision Structure has not been applied.
Norway	2004	The Decision Structure form has not been used to keep a record of management decisions. This information is still being stored in existing databases and archives. A reporting system for the Decision Structure will be developed and included in the existing reporting under the river categorization system. Many of the elements in the Decision Structure are being addressed through the Norwegian river categorization system. There is a form to be filled in for each fishery. The forms are stored digitally in a central database called the Salmon Register, which is administered by the Directorate for Nature Management. The forms contain information on: category, threatening factors (including overfishing) and stock restoration. This reporting system and the Salmon Register is being developed to cover all the questions raised by the Decision Structure.
	2005	No change from 2004.
Russian Federation	2004	An example of the application of the Decision Structure is the Kola river. In 2003 the spawning stock was 7,410 salmon. The conservation limit is 1,560 salmon. 300 salmon were allocated for fishing to monitor the biological structure of the population. 200 salmon were allocated for use by the hatchery for enhancement purposes, 20 salmon were allocated for scientific studies. The allocated catch in the catch-and retain fishery was 1,200 salmon and in the catch-and-release fishery 1,300 salmon. The fishing was conducted in accordance with established fishing regimes. Catch-and-retain fishing was conducted at two sites, time of fishing per licence was 6 hours, permitted catch per licence was 1 salmon. Catch-and-release was conducted at three sites in the main stem of the river and on three tributaries. A licence was issued to an angler for one-day fishing on one of the allocated sites. When fishing, anglers are obliged to follow the fishing regime and comply with the Regulations for the recreational fisheries. Each fisherman is responsible for recording the catch and reporting it to Murmanrybvod.
	2005	Completed Decision Structure forms are being compiled and retained by the Control and Enforcement authorities (Murmanrybvod). Example: Iokanga river (Kola Peninsula). In 2004 the spawning stock was 4,470 salmon. The conservation limit was 2,100 salmon. 150 juvenile salmon were allocated for scientific studies. Catch in catch-and retain was 224 salmon and in catch-and-release 1,099 salmon. The fishing was conducted in accordance with the established fishing regimes. Catch-and-retain fishing was conducted at one site; the period of fishing was from 29 May to 1 September; the time of fishing per licence was 6 hours, permitted catch per licence was 1 salmon. Catch-and-release was conducted in the main stem of the river and on some tributaries. The period of fishing was from 29 May to 19 September. A licence was issued to an angler for one-day fishing on one of the allocated sites. When fishing, anglers are obliged to follow the fishing regime and comply with Regulations for recreational fisheries. Fishermen are responsible for recording the catch and reporting it to Murmanrybvod.
USA	2004	Not applicable.
	2005	Not applicable.

3. Provide comments on how useful managers have found the Decision Structure and suggestions for how it might be improved

Party	Year of return	Information provided
Canada	2004	Not applicable.
	2005	
Denmark (in respect of the Faroe Islands and Greenland)		
Faroe Islands	2004	
	2005	Not applicable.
Greenland	2004	Not applicable.
	2005	Not applicable.
European Union		
Denmark	2004	
	2005	
Finland	2004	
	2005	The concept the Decision Structure and the information needed for it has been found to be useful.
Ireland	2004	The Decision Structure is useful for focusing on the main issues which need to be considered when managing fisheries. The national example is used to provide a comparative platform for application at a river, district or regional level. The Decision Structure represents guidelines, which may be modified in their application in particular circumstances.
	2005	Feedback is still being generated on a regional level. However, initial comments are favourable and indicate that the format can be adopted.
Germany	2004	Northrhine-Westfalia: Not applicable.
	2005	Baden-Wuertemberg, Brandenburg and Northrhine-Westfalia: Not applicable.
Spain	2004	
	2005	
Sweden	2004	
	2005	Not applicable.
UK - England and Wales	*2004*	The Decision Structure has been used as an aide-memoire.
	2005	The current procedure was only initiated in 2004.
UK - Northern Ireland	2004	Information consistent with the Decision Structure is fundamental to management decisions.
	2005	Managers have found the structure useful in that it provides a regime which gives a uniform direction within which to deliver the NASCO plan of action.
UK – Scotland	2004	Working Group (FRS/ASFB/DSFBs) has been supportive of the general proposal and are collaborating in the development of the Decision Structure to reflect more closely the Scottish salmon fishery management requirements.

	2005	Whereas the current Decision Structure format fits those fisheries where all the fish returning to rivers do so within a short season, it does not lend itself to management of fisheries, such as those in UK (Scotland), where fish enter in every month of the year and fishing occurs between mid-January and the end of November, exploiting different stock components, originating from different parts of catchment systems, at different times of the year. Work is being undertaken to develop a user-friendly Decision Structure for use in UK (Scotland) that takes account of these stock complexities.
Iceland	2004	Icelandic salmon fisheries are based on a terminal fishery with severely limited entry. There are thus no options for in-season measures except in an emergency situation. The use of the Decision Structure in Icelandic rivers is thus likely to be of a descriptive nature. It might, for example, be useful to document other Icelandic salmon angling rivers in a similar manner as was done for River Vesturdalsá (see CNL(03)36).
	2005	The Decision Structure for the Management of North Atlantic Salmon Fisheries does not lend itself well to the Icelandic Management System. Most of the salmon fisheries are privately owned terminal angling fisheries with a fixed number of rods set by managers. The number of rods is a maximum number, which must not be exceeded and is considered precautionary in relation to the run size in respective rivers. Additionally the river associations frequently decrease the rod numbers to increase angler satisfaction. The official rod numbers have basically been unchanged for decades in most of Icelandic salmon rivers with the exception of rivers where angling catches are maintained artificially through smolt releases. As all of the salmon rods are sold up to a year prior to the angling season there is no way to carry out day-to-day management once the fishing season has started with the aim of decreasing the fishing effort. In the event, however, of a disaster, emergency measures could be taken by demanding the release of fish or decreasing the number of rods for the following season and river associations could further limit the numbers of salmon retained per rod during the same season but such bag-limits are common although not universal. This system is not comparable to a public system with a national fishing licence and an unlimited entry of anglers where managers have to resort to regulations regarding numbers of salmon retained and shortening of the season even as the season progresses. Iceland needs to adopt a variation of this approach to the management of its angling fisheries after setting egg deposition requirements for the respective rivers.
Norway	2004	Both central and regional managers have found the Decision Structure useful as an aid in determining the regulatory regime. However, in many cases the data requirements cannot be met and must be substituted by sound judgement based on whatever information is available. The Decision Structure has inspired authorities, managers and researchers to fill the information gap. Among several initiatives that have been taken are: a research project on the stock-recruitment relationship and methods for determining conservation limits; research and other activities aimed at increasing knowledge on the productive capacity of salmon rivers. We see no immediate need to make changes to the Decision Structure.
	2005	Both central and regional managers have found the Decision Structure useful as an aid in determining regulatory regime. However, in many cases the data-requirements cannot be met and must be substituted by sound judgment, based on whatever information is available. The Decision Structure has inspired authorities, managers and researchers to fill the information gap. Among several initiatives that have been taken are: a new project aimed at developing spawning targets was initiated in 2004. So far the conservation limit has been calculated for 6 rivers; a research project on stock-recruitment relationships and methods for determining Conservation Limit continued throughout 2004; research and other activities aimed at increasing the knowledge of the productive capacity of salmon rivers also continued in 2004. We see no immediate need to make changes to the Decision Structure.
Russian Federation	2004	The Decision Structure has been effectively applied in setting catch limits for salmon fisheries in rivers on the Kola Peninsula to ensure rational exploitation of the resource.
	2005	The Decision Structure has been effectively applied by government management bodies for regulation of fisheries in rivers on the Kola Peninsula, Archangel region, Nenets Okrug, Komi Republic and Karelia to ensure rational exploitation of the resource.
USA	2004	Not applicable.
	2005	Not applicable.

4. Provide a copy of any additional guidance which has been developed on the use of the Decision Structure.

Party	Year of return	Information provided
Canada	2004	Not applicable.
	2005	No additional guidance has been developed.
Denmark (in respect of the Faroe Islands and Greenland)		
Faroe Islands	2004	
	2005	Not applicable.
Greenland	2004	Not applicable.
	2005	Not applicable.
European Union		
Denmark	2004	
	2005	
Finland	2004	
	2005	
Germany	2004	Northrhine-Westfalia: Not applicable.
	2005	Baden-Wuertemberg, Brandenburg and Northrhine-Westfalia: Not applicable.
Ireland	2004	
	2005	No additional guidance has been developed.
Spain	2004	
	2005	
Sweden	2004	
	2005	Not applicable.
UK - England and Wales	2004	
	2005	The Environment Agency is currently developing a Decision Structure, with CEFAS, to aid in determining requirements for management measures across salmon fisheries in England and Wales. The Decision Structure will be a tool to enable those responsible to apply conservation measures, and particularly fisheries regulations, in a logical and consistent manner. It also aims to ensure that all necessary measures to conserve stocks are fully considered and will assist in refining national policies and processes. The Decision Structure will guide judgements and decisions, and ultimately focuses on an assessment of the probability of achieving management targets and on the level of any change required in exploitation rates. The model will be used in 2005 to review SAPs for a number of rivers identified in the Agency's 2004 stock conservation review as needing further measures.
UK - Northern Ireland	2004	None to date.
	2005	Not applicable.

UK - Scotland	2004	
	2005	
Iceland	2004	
	2005	
Norway	2004	Elements from the Decision Structure are incorporated into the general guidelines for regulation of salmon fisheries, and the specific guidelines for each category in the river categorization system. These guidelines (in Norwegian only) are issued by the Directorate for Nature Management and distributed to all parties taking part in the regulation process.
	2005	
Russian Federation	2004	No additional guidance has been developed.
	2005	No change from 2004.
USA	2004	Not applicable.
	2005	Not applicable.

European Union – UK (Northern Ireland)

Decision Structure to Aid the Council and Commissions of NASCO and the Relevant Authorities in Implementing the Precautionary Approach to Management of North Atlantic Salmon Fisheries

A. Brief description of the fishery(ies): ***Date of review:***

Fishery location:	Loughs Agency (cross-border Foyle system)
Gear types:	88 Drift Nets, 52 Draft Nets,
Magnitude of fishery *(e.g. catch or effort):*	32,732 salmon caught in 2003 22,290 salmon caught in 2004
Current management restrictions:	Six-week season for the commercial nets; drift nets fish for 4 days each week (6am-6pm) draft nets 5 days (are restricted also by tides)
Outline pre-agreed procedures (or provide references)	The Loughs Agency manage the commercial and recreational exploitation of salmon through the application of a real-time management regime. If counts (using electronic counters) do not reach defined in-season targets (based on available nursery habitat) then the fisheries may be closed or extended if the conservation limit is achieved.
Principal river stock(s) exploited:	Mainly River Foyle and tributaries but also fish from north coast of Ireland
Other fisheries exploiting stock(s)	Donegal Area, Fisheries Conservancy Board area, ROI drift nets
Other information:	

If fishery primarily exploits salmon from only one river answer all questions in Section B; If fishery exploits salmon from more than one river answer all questions in Section C.

Single River Stock Fisher(ies)

B1. Specify the reference points (Conservation Limit and/or Management Target) or alternative measures used to define adequate abundance of the stock.

B2. Describe the status of the stock relative to the abundance criteria in B1.

- Include trends and forecasts of abundance.

B3. Is the stock meeting other diversity criteria (e.g. age structure, run-timing, fecundity)?

- Describe criteria assessed:
- Identify possible reasons for any failure.

B4. Is the fishery(ies) selective for certain stock components (e.g. age groups, size groups, populations)?

- If yes, describe reasons.

B5. Is the stock threatened by factors other than fisheries (e.g. habitat degradation, disease/parasites, predators)?

- If yes, describe threat and management action that will be taken (e.g. establish gene bank; habitat mitigation.

B6. Describe management actions that will be employed to control harvest, including measures that will be used to address any failure or trend in abundance or diversity, taking account of pre-agreed procedures:

- Decisions should take account of: uncertainty in the assessments; abundance of the stock (q. B2); diversity of the stock (q. B3); selectivity of the fishery (q. B4); any non-fishery factors affecting the stock (q. B5); and socio-economic factors; other fisheries exploiting the stock;
- Describe the expected extent and timescale of effects.

B.7 Outline programmes (including in-season programmes) that will be used to monitor the effect of the management measures and identify information deficiencies and time-frame for resolution;

<u>Mixed River Stock Fishery</u>

C1. Specify the reference points (Conservation Limits and/or Management Targets) or alternative measures used to define adequate abundance of the exploited stocks.

Reference points defining adequate abundance levels are available for all of the main rivers (R Mourne and tributaries; R Finn; R Roe; R Faughan) in the Loughs Agency area, in the form of individual catchment conservation limits. These values are based on salmonid habitat inventory data and transported stock recruitment parameters from the River Bush and Burrishoole projects.

C2. Describe the status of all stocks relative to the abundance criteria in C1.

- Include trends and forecasts of abundance.

The River Mourne consistently exceeds its conservation limit and management target; the River Finn in 2004 did not meet these targets but had exceeded these in the previous two years. The River Faughan consistently has exceeded its targets while the River Roe, for the first time since the electronic fish counter was installed in 1998, did not meet its targets; however, there were a number of difficulties with the counter site in 2004 which resulted in an underestimate of fish crossing the site.

C3. Are all the stocks meeting other diversity criteria (e.g. age structure, run-timing, fecundity)?

- Describe criteria assessed
- Identify possible reasons for any failures.

Age composition and run timing of returning mature salmon are assessed from catch returns, fish counter data and scale readings. The adult run is dominated by 1SW grilse with relatively low numbers of larger MSW fish.

The River Finn is the main multi-sea-winter salmon river in the Foyle area and this tends to peak in April; this river tends to get the first run of grilse which usually happens at the end of May and into June. The River Mourne run tends to peak during late June and July with lower numbers of salmon entering for the rest of the year. The River Faughan again peaks during the summer months while the Roe tends to get the majority of its fish in late summer early autumn. These runs are monitored using fish counters.

C.4 Is the fishery selective for certain stock components (e.g. age groups, size, populations, river stocks)?

- If yes, describe reasons.

The commercial fishing effort in the Loughs Agency area extends from 15th June to the 31st of July with the possibility of a four-day extension. Analysis of the Commercial catch indicates that exploitation focuses mainly on the 1SW stock component.

C5. Are any of the stocks threatened by factors other than fisheries (e.g. habitat degradation, disease/parasites, predators)?

- If yes, describe threat and management action that will be taken (e.g. establish gene bank; habitat mitigation).

A number of local and regional factors impact on salmon stocks in the Loughs Agency area. Habitat quality and quantity have been degraded in many areas due to a range of pressures including arterial drainage, overgrazing, gravel extraction and sedimentation. Pollution and decreased water quality are unpredictable factors, impacting in a number of localities, whilst organic enrichment and eutrophication are ongoing regional issues. Avian predators have been demonstrated to impact significantly on nearby wild River Bush smolts, and anecdotal information is available for localised seal predation at and around individual netting stations.

The Loughs Agency, Department of the Environment in the south of Ireland (ROI) and the Department of the Environment, Environment and Heritage Service (EHS) in the north prosecute polluters and those directly damaging salmonid habitat.

C.6 Describe management actions that will be employed to control harvest, including measures that will be used to address any failure or trend in abundance or diversity, taking account of pre-agreed procedures:

- Decisions should take account of: uncertainty in the assessments; abundance of the stock (q. C2); diversity of the stock (q. C3); selectivity of the fishery (q. C4); any non-fishery factors affecting the stock (q. C5); and socio-economic factors; and other fisheries exploiting the stock.
- Describe the expected extent and timescale of effects.

A Carcass Tagging and Logbook scheme was introduced in 2001. This programme sought to inhibit illegal catch of salmon and quantify the commercial and recreational landings of salmon in the Loughs Agency area.

The Agency operates a real-time management regime whereby if the number of salmon across the fish counting facility on the River Mourne do not exceed specified targets by key dates (based on nursery habitat available) then action can be taken to close both commercial and recreational angling exploitation for defined periods (two 24-hour or one 48-hour period).

C7. Outline programmes (including in-season programmes) that will be used to monitor the effects of the management measures, and identify information deficiencies and the timeframe for their resolution:

The Loughs Agency currently operate five fish-counting sites within the Foyle catchment; these are used to monitor the runs in real time and if the index river Mourne is not achieving the specified targets then measures as outlined above are in place to protect the stocks. One potential deficiency in the current management approach is weak stocks being masked by stronger stocks. The Agency, in order to address this, has instigated a genetic survey of the catchments and the commercial and recreational fisheries and a Prefishery Abundance programme which is scheduled to run for two years initially and it is hoped will address these issues. In addition the Agency has ongoing work programmes to build up core databases which include habitat inventories to assess habitat quality and calculate conservation limits, juvenile electric fishing surveys to monitor recruitment success and a carcass tagging and logbook scheme to tabulate exploitation. The genetic information will help aid the direction of resources to target stocks which can most benefit from instream works, etc.

Decision Structure to Aid the Council and Commissions of NASCO and the Relevant Authorities in Implementing the Precautionary Approach to Management of North Atlantic Salmon Fisheries

A. Brief description of the fishery(ies): ***Date of review:***

Fishery location:	Fisheries Conservancy Board (FCB) Area
Gear types:	2 Drift Nets, 2 Draft Nets, 2 Bag Nets in 2004
Magnitude of fishery *(e.g. catch or effort)*	2,362 salmon caught in 2003 2,479 salmon caught in 2004
Current management restrictions:	FCB Byelaws, season 18th March – 15th Sep, in-season weekend closure 8am Saturday – 8am Monday
Outline pre-agreed procedures (or provide references)	The salmon management plan has been established to provide biological reference information with which to assess the conservation status of stocks and to direct management in the FCB area. A conservation limit has been derived for the River Bush and provisional conservation limits have been established for four other index rivers based on ground truthed habitat surveys and the application of stock recruitment data from the River Bush project.
Principal river stock(s) exploited:	Lower River Bann and Lough Neagh tributaries, Co. Antrim/Down coastal rivers, Lough Erne Catchment and Northern Area of Lough Melvin.
Other fisheries exploiting stock(s)	Donegal Area, Loughs Agency (LA) Area
Other information:	The management and direction of policy for salmon fisheries in the FCB area of Northern Ireland lies with DCAL. The FCB enforces fisheries legislation and is responsible for the protection and conservation of salmon in inland and coastal waters. The River Bush Project and research and development into salmonid biology are administered by DARD.

If fishery primarily exploits salmon from only one river answer all questions in Section B;
If fishery exploits salmon from more than one river answer all questions in Section C.

B. Single River Stock Fisher(ies)

B1. Specify the reference points (Conservation Limit and/or Management Target) or alternative measures used to define adequate abundance of the stock.

B2. Describe the status of the stock relative to the abundance criteria in B1.

- Include trends and forecasts of abundance.

B3. Is the stock meeting other diversity criteria (e.g. age structure, run-timing, fecundity)?

- Describe criteria assessed:
- Identify possible reasons for any failure.

B4. Is the fishery(ies) selective for certain stock components (e.g. age groups, size groups, populations)?

- If yes, describe reasons.

B5. Is the stock threatened by factors other than fisheries (e.g. habitat degradation, disease/parasites, predators)?

- If yes, describe threat and management action that will be taken (e.g. establish gene bank; habitat mitigation.

B6. Describe management actions that will be employed to control harvest, including measures that will be used to address any failure or trend in abundance or diversity, taking account of pre-agreed procedures:

- Decisions should take account of: uncertainty in the assessments; abundance of the stock (q. B2); diversity of the stock (q. B3); selectivity of the fishery (q. B4); any non-fishery factors affecting the stock (q. B5); and socio-economic factors; other fisheries exploiting the stock;
- Describe the expected extent and timescale of effects.

B.7 Outline programmes (including in-season programmes) that will be used to monitor the effect of the management measures and identify information deficiencies and time-frame for resolution;

C. <u>Mixed River Stock Fishery</u>

C1. Specify the reference points (Conservation Limits and/or Management Targets) or alternative measures used to define adequate abundance of the exploited stocks.

Reference points defining adequate abundance levels are available for several rivers in the FCB area, in the form of individual catchment conservation limits. These values are based on salmonid habitat inventory data and transported stock recruitment parameters from the River Bush project. A conservation limit has been finalised for the River Bush and four provisional conservation limits have been established for the Rivers Main, Blackwater, Glendun and Shimna.

C2. Describe the status of all stocks relative to the abundance criteria in C1.
- ***Include trends and forecasts of abundance.***

Initial comparisons based on fish counter results and provisional conservation limits indicate that stocks have consistently fallen under conservation limits in the Rivers Main, Blackwater and Glendun since 2002. A fish counter is not presently available in the southern eastern region of the FCB area (Shimna River). In 2004, only 57% of target egg deposition was achieved from wild spawning in the R Bush, a reduction compared to the previous 10-year average (85%). The CL on this river has been reached or exceeded in only 2 of the last 10 years.

C3. Are all the stocks meeting other diversity criteria (e.g. age structure, run-timing, fecundity)?
- Describe criteria assessed
- Identify possible reasons for any failures.

Age composition and run timing of returning mature salmon are assessed from catch returns, fish counter data and scale readings. The adult run is dominated by 1SW grilse with relatively low numbers of larger MSW fish.

The largest salmon-producing catchment in the FCB region, the Lower Bann, illustrates peak migration of salmon between June-July, although penetration upstream to the Lough Neagh spawning tributaries often lags into the autumn. Late summer/autumn run salmon are an important component of Glendun River stock and often constitute the majority of the population; scale reading indicates these are principally large late-running 1 SW fish. A small number of large (MSW) fish are detected by fish counters principally during the spring months on the Main, Blackwater and the Glendun Rivers; however, numbers are limited and constitute less than 5% of the total seasonal migration.

C.4 Is the fishery selective for certain stock components (e.g. age groups, size, populations, river stocks)?
- If yes, describe reasons.

The commercial fishing effort in the FCB region extends from 18th March – 15th September. Commercial logbook returns indicate that peak exploitation is concentrated in June and July and focuses mainly on the 1SW stock component. Most exploitation occurs in the Northern region of the FCB area; in 2004 a total of 2,427 salmon were taken from the Northern region (North Antrim Coast) and 52 were caught in the South Eastern (County Down Coast) region.

C5. Are any of the stocks threatened by factors other than fisheries (e.g. habitat degradation, disease/parasites, predators)?
- If yes, describe threat and management action that will be taken (e.g. establish gene bank; habitat mitigation).

A number of local and regional factors impact on salmon stocks in the FCB area. Habitat quality and quantity has been degraded in many areas due to a range of pressures including arterial drainage, overgrazing, gravel extraction and sedimentation. Pollution and decreased water quality is an unpredictable factor, impacting in a number of localities, whilst organic enrichment and eutrophication are an ongoing regional issue. Avian predators have been demonstrated to impact significantly on wild River Bush smolts, and anecdotal information is available for localised seal predation at and around individual netting stations.

The FCB and the Department of the Environment, Environment and Heritage Service (EHS) prosecute polluters and those directly damaging salmonid habitat. The Nitrates Directive will provide EHS with greater management recourse against eutrophication. The Department of Culture, Arts and Leisure (DCAL) have managed a range of habitat enhancement measures funded by the European Union and continue to seek funding opportunities towards this end.

C.6 Describe management actions that will be employed to control harvest, including measures that will be used to address any failure or trend in abundance or diversity, taking account of pre-agreed procedures:

- Decisions should take account of: uncertainty in the assessments; abundance of the stock (q. C2); diversity of the stock (q. C3); selectivity of the fishery (q. C4); any non-fishery factors affecting the stock (q. C5); and socio-economic factors; and other fisheries exploiting the stock.
- Describe the expected extent and timescale of effects.

A Carcass Tagging and Logbook scheme was introduced in 2001. This programme sought to inhibit illegal catch of salmon and quantify the commercial and recreational landings of salmon in the FCB area.

No TAC has been established in the FCB area; however, in 2002 a voluntary buyout of salmon netsmen in the FCB region reduced the commercial exploitation of stocks. Prior to the buyout, between 1995-2000 an average of over 10,700 fish were landed annually by the fishery. Following the buyout 2,362 salmon were landed in 2003.

C7. Outline programmes (including in-season programmes) that will be used to monitor the effects of the management measures, and identify information deficiencies and the timeframe for their resolution:

The Salmon Management Plan has been established to monitor stock status and assess the effectiveness of conservation and management measures in a number of index catchments around the FCB area. The plan is composed of several core conservation databases which including spawning run enumeration via fish counters, habitat inventories to assess habitat quality and calculate conservation limits, juvenile electric fishing surveys to monitor recruitment success and a carcass tagging and logbook scheme to tabulate exploitation.

At present, river-specific fish counters are available on four index rivers and have provided information on run strength to monitor compliance against conservation limits. A finalised conservation limit has only been established for the River Bush with provisional limits estimated for the other 3 index rivers since 2002. However, it is anticipated that habitat survey work on these three rivers will be completed in 2005, leading to the availability of full conservation limits in all present index catchments. Additionally, work is progressing to extend the number of index catchments in the FCB area.

European Union – UK (England and Wales)

Decision Structure to Aid the Council and Commissions of NASCO and the Relevant Authorities in Implementing the Precautionary Approach to Management of North Atlantic Salmon Fisheries

A. Brief description of the fishery(ies): ***Date of review:***

Fishery location:	Tamar Estuary, SW England
Gear types:	Seine nets Rod and line in freshwater
Magnitude of fishery (e.g. catch or effort):	Nets Tamar: 15 seine nets targeting salmon and sea trout. Catches: pre-1995 av. >1,000 fish; 1998-2002 av. 182 Tavy: 4 seine nets ditto. Catches: pre-1995 av. >500 fish; 1998-2002 av. 9 Lynher: 5 seine nets ditto. Catches: peak 1986/87, av. 729; 1995-2002 av. 41. Rod catches Tamar: significant decline since the early 1980s; catches in the 1990s are half of those in the 1960s and 1970s; <250 since 1999. Tavy: average 68 salmon since 1994 Lynher: average 118 1972 – 1988, 54 1989 - 2002.
Current management restrictions:	Reducing NLO, 24 seine nets in 2003, fishing area and net size are also specified in byelaws. Season: Nets: 1st June to 7th August, 1999 – 2003; nets bought off from 2004 for 10 years. Rods: 1st March to 14th October; catch and release until 16th June since 1999.
Principal river stock(s) exploited:	Tamar, Tavy & Lynher
Other fisheries exploiting stock(s):	No coastal nets outside estuary.
Other information:	High socio-economic value of angling fishery, strongly represented interests.

If fishery exploits salmon from only one river answer all questions in Section B;
If fishery exploits salmon from more than one river answer all questions is section C.

B. Single River Stock Fisher(ies)

B1. Specify the reference point (Conservation Limit or Management Target) or alternative measures used to define adequate abundance of the stock.

B2. Describe the status of the stock relative to the abundance criteria in B1.

- Include trends and forecasts of abundance

B3. Is the stock meeting other diversity criteria (e.g. age structure, run-timing, fecundity, etc)?

- Describe criteria assessed;
- Identify possible reasons for any failure.

B4. Is the fishery(ies) selective for certain stock components (e.g. age groups, size groups, populations, etc)?

- If yes, describe reasons.

B5. Is the stock threatened by factors other than fisheries (e.g. habitat degradation, disease/parasites, predators, etc)?

- If yes, describe threat and management action that will be taken (e.g. establish gene bank; habitat mitigation).

B6. Describe management actions that will be employed to control harvest, including measures that will be used to address any failure or trend in abundance or diversity, taking account of pre-agreed procedures:

- Decisions should take account of: uncertainty in the assessments; abundance of the stock (q. B2); diversity of the stock (q. B3); selectivity of the fishery (q. B4); any non-fishery factors affecting the stock (q. B5); and socio-economic factors; and other fisheries exploiting the stock.
- Describe the expected extent and timescale of effects.

B7. Outline programmes (including in-season programmes) that will be used to monitor the effect of the measures and identify information deficiencies and time-frame for resolution:

C. <u>Mixed River Stock Fishery</u>

C1. Specify the reference points (Conservation Limits or Management Targets) or alternative measures used to define adequate abundance of the exploited stocks.

River Tamar: CL of 4.24 million eggs and MT of 7.22 million eggs River Tavy: CL of 1.37 million eggs and MT of 2.12 million eggs River Lynher: CL of 0.68 million eggs and MT of 1.09 million eggs

C2. Describe the status of all stocks relative to the abundance criteria in C1.

- Include trends and forecasts of abundance

Tamar: estimated egg deposition has fallen from above CL prior to 2000 to around 50% of CL 2001 – 2003.

Tavy: estimated egg deposition has only once exceeded the CL 1995 – 2003, and was around 20 % of CL 2002 – 2003.
Lynher: estimated egg deposition has only twice exceeded the CL 1995 – 2003, around 50-60 % of CL 2001 – 2003.

C3. Are all the stocks meeting other diversity criteria (e.g. age structure, run-timing, fecundity, etc)?

- Describe criteria assessed;
- Identify possible reasons for any failures.

Probably not, though there are no set criteria other than river CL. Early running MSW fish have decreased rapidly in all three rivers since mid 1990s and disproportionately compared to the total run. This is a national (at least) phenomenon and may be due to a number of causes, some affecting reproductive success of early-run fish in rivers, and others survival and growth of MSW fish at sea. Decline of MSW stocks has been addressed through National Byelaws to close net fisheries up to 1st June and restrict rods to C&R until 16th June.

C4. Is the fishery selective for certain stock components (e.g. age groups, size, populations, river stocks, etc)?

- If yes, describe reasons.

Yes. The net fishery open season was March – August inclusive until 1996, after which fishing was restricted mainly to June and July (to protect early-running MSW fish). By 1994, the highest catches were taken June – August. The rod fishery season is 1st March to 14th October, with over 40% of the total annual catch in the 1970s on the Tamar and Tavy taken prior to 1st June, decreasing to around 10% in 1997 – 2002. Catches on the Lynher averaged 4 fish prior to 1st June 1990 – 2002. A large proportion (around 20%) of the rod catch on these rivers is taken in October. Since 1999, the pre-June component has not been exploited (National SS Byelaws), and C&R of autumn-caught fish increased to 40-50 % through 1999 – 2002.

C5. Are any of the stocks threatened by factors other than fisheries (e.g. habitat degradation, disease/parasites, predators, etc) ?

- If yes, describe threat and management action that will be taken (e.g. establish gene bank; habitat mitigation).

Yes. Recent surveys show salmon fry and parr densities in the upper Tamar catchment to be at a low level, suggesting that the fresh-water environment is a continuing problem for salmon production, exacerbated by too few spawners. In-stream habitat improvements have been initiated within the Tamar catchment since 1994. The most recent survey in the Lynher (2000) showed fry and parr densities across the catchment to be at the lowest recorded levels. In contrast, trout fry and parr abundance was high in 2000, which suggests that the fresh-water environment of the Lynher is not the main problem for salmon production.

There is no recent information on juvenile salmon production in the Tavy, where a major concern has been the tide-head dam at Lopwell and its effects on increasing exploitation levels and predation on returning adults held up in low flows.

C6. Describe management actions that will be employed to control harvest, including measures that will be used to address any failure or trend in abundance or diversity, taking account of pre-agreed procedures:

- Decisions should take account of: uncertainty in the assessments; abundance of the stock (q. C2); diversity of the stock (q. C3); selectivity of the fishery (q. C4); any non-fishery

factors affecting the stock (q. C5); and socio-economic factors; and other fisheries exploiting the stock.

- Describe the expected extent and timescale of effects.

Economic factors: The Environment Agency notes that poor returns to both the rod and net fisheries are undermining the economic value associated with exploitation. It is agreed that maximising salmon escapement from the fishery should be a priority.

Measures for nets: All current Byelaws will remain in force. The NLO will be reduced to zero, which will result in the fishery being reduced as fishermen retire. This will be supported by a 10-year buy-out of the net fishery from 2004. [Note that there may be a funding conflict between buying back netting effort and in-stream habitat improvements.]

Measures for rods: Mandatory C&R will continue before June 16th. C&R to be considered for all salmon caught in September and October for 10 years, with the intention to increase overall C&R levels to 75% from the current 35-50%. There is a voluntary bag limit of 10 salmon per season for "all Cornwall" applies, with 1 fish per rod per day on each of the rivers Tamar, Tavy and Lynher.

No evaluation of the expected extent of effects due to these measures has been carried out.

C7. Outline programmes (including in-season programmes) that will be used to monitor the effects of the management measures, and identify information deficiencies and the timeframe for their resolution:

The Tamar is an index river for the UK. The stock is monitored via annual counts of upstream migrating salmon (and sea trout) and from rod catches to estimate spawning escapement (and consequent egg deposition, in relation to the river's CL). Juvenile electro-fishing surveys are carried out annually, and the smolt run is monitored with a rotary screw trap. The results will enable managers to evaluate both the scale of recovery due to a reduction in exploitation levels and the benefits of habitat improvement. The Lynher and Tavy stocks are monitored from rod catches to estimate spawning escapement (and consequent egg deposition, in relation to the river's CL). Juvenile electro-fishing surveys are carried out every 5 years.

Results will be reviewed regularly to determine their efficacy and to inform the development of the Salmon Action Plans for the three rivers.

ANNEX 24

Council

CNL(05)42

Application of the Decision Structure for Management of North Atlantic Salmon Fisheries
Example of Decision Structure Application – Russian Federation

CNL(05)42

Application of the Decision Structure for Management of North Atlantic Salmon Fisheries
Example of Decision Structure Application – Russian Federation

Decision Structure to Aid the Council and Commissions of NASCO and the Relevant Authorities in Implementing the Precautionary Approach to Management of North Atlantic Salmon Fisheries

Russia

A. Brief Description of the fishery(ies):

Date of review:	April 2004	
Fishery location:	Jokanga river	
Gear types:	Rod and line	
Magnitude of fishery (e.g. catch or effort):	Rod and line: *1SW + MSW salmon* 1998-2003 mean caught and retained 1998-2003 mean catch and release 1998-2003 mean total rod catch 2003 caught and retained 2003 caught and released 2003 total rod catch	 250 1,201 726 258 1,798 2,056
Current management restrictions:	In 2003 catch-and-retain fishing was conducted on one site; period of fishing was from 7 June to 14 September; time of fishing per licence was 6 hours, permitted catch per license 1 salmon. Catch-and-release was conducted in the main stem of the river and on some tributaries. Period of fishing was 31 May to 5 September. A licence was issued to an angler for one-day fishing on one of the allocated sites. When fishing, anglers are obliged to follow the fishing regime and comply with Regulations for recreational fishery. A fisherman is responsible for recording the catch and reporting it to Murmanrybvod. A limit for catch-and-release was 6,000 salmon and for catch-and-retain 420 salmon.	
Principal river stock(s) exploited	The stock complex of this river	
Other fisheries exploiting stock(s):	Norwegian intercepting fishery in coastal areas (according to Bakshtansky and Nesterov, 1973; Zubchenko et al., 1995). Exploitation rate is unknown.	
Other information:	High socio-economic value of recreational fishery	

If fishery primarily exploits salmon from only one river answer all questions in Section B; If fishery exploits salmon from more than one river answer all questions in section C.

B. Single River Stock fishery(ies)

B1. Specify the reference points (Conservation Limits or Management Targets) or alternative measures used to define adequate abundance of the exploited stock.

Jokanga river (CL) – 1SW – 1,150; MSW – 700

B2. Describe the status of all stocks relative to the abundance criteria in CL
- Include trends and forecasts of abundance

Data for the past 20 years do not show any decline of the stock. Only natural fluctuations of the stock abundance with the cycle of 9-11 years were noted. According to mark-recapture estimates and total counting of juveniles and adults at a research barrier fence in one of the tributaries, river Lyljok, the stock shows an upward trend.

B3. Is the stock meeting other diversity criteria (e.g. age structure, run-timing, fecundity)?
- Describe criteria assessed;
- Identify possible reasons for any failure.

Long-term data on size and weight composition, sex and age structure of the stock do not show any changes in the diversity of main population characteristics for this stock.

B4. Is the fishery(ies) selective for certain stock components (e.g. age groups, size groups, populations) ?
- If yes, describe reasons.

According to studies undertaken in 2002-2003, catch-and-release and catch-and-retain fishing did not have any adverse impact on the stock and habitat of salmon.

B5. Is the stock threatened by factors other than fisheries (e.g. habitat degradation, disease/parasites, predators) ?
- If yes, describe threat and management action that will be taken (e.g. establish gene bank; habitat mitigation).

No

B6. Describe management actions that will be employed to control harvest, including measures that will be used to address any failure or trend in abundance or diversity, taking account of pre-agreed procedures.
Decisions should take account of: uncertainty in the assessments; abundance of the stock (q. C2); diversity of the stock (q. C3); selectivity of the fishery (q. C4); any non-fishery factors affecting the stock (q. C5); and socio-economic factors; and other fisheries exploiting the stock.
- Describe the expected extent and timescale of effects.

All management actions are taken on the basis of data on the biology of adult salmon collated at the research barrier fence, mark-recapture estimates and juvenile densities.

Measures for rod and line fishing for 2004:

Catch-and-retain fishing will be conducted on one site; period of fishing is from 29 May to 01 September; time of fishing per licence is 6 hours, permitted catch per licence - 1 salmon. Catch-and-release will be conducted in the main stem of the river and on some tributaries. Period of fishing is from 29 May to 19 September. An angler will be issued with one license for one-day fishing on one of the allocated sites. When fishing, anglers are obliged to follow the fishing regime and comply with Regulations for recreational fishery. A fisherman is responsible for recording the catch and reporting it to Control and Enforcement authorities.

A limit for catch-and-release is set at 4,680 salmon and for catch-and-retain at 420 salmon.

B7. Outline programmes (including in-season programmes) that will be used to monitor the effects of the management measures, and identify information deficiencies and the timeframe for their resolution:

The effects of management measures are monitored from rod catches and data compiled yearly on the biology of adult salmon, mark-recapture estimates and juvenile electro-fishing surveys. All information and catch statistics are provided to Control and Enforcement authorities.

ANNEX 25

Council

CNL(05)17

Reports on Progress with Development and Implementation of Habitat Protection and Restoration Plans

CNL(05)17

Reports on Progress with Development and Implementation of Habitat Protection and Restoration Plans

Summary

1. At its 2001 Annual Meeting the Council adopted a NASCO Plan of Action for Application of the Precautionary Approach to the Protection and Restoration of Atlantic Salmon Habitat, CNL(01)51. The overall objective of this Plan of Action is to maintain and, where possible, increase the current productive capacity of Atlantic salmon habitat through the establishment and implementation, by the Contracting Parties and their relevant jurisdictions, of comprehensive salmon habitat protection and restoration plans. In order to measure and improve progress in meeting the objective, the Plan of Action proposes the establishment of inventories of rivers by the Contracting Parties and their relevant jurisdictions. The Parties agreed to report to NASCO on progress towards implementation of the plan(s) and on development of inventories.

2. A reporting format for this information was used on a trial basis for the first returns in 2003, and the Council agreed to use this format for subsequent returns. The information provided by the Parties according to this format for the three years 2003-2005 is attached. At the time of preparation of this report, no return had been received in any of the three years from two EU Member States (France and Portugal) with salmon interests.

Progress in establishing inventories

3. As previously reported, inventories of salmon rivers have been established in Canada, the European Union, Ireland, Sweden, UK (England and Wales, Northern Ireland, Scotland), Norway, the Russian Federation and the US. There have been some developments since last year. For example, the returns for EU (Germany) indicate that inventories have been established in Baden-Wuertemberg and Brandenburg. The EU (UK – Northern Ireland) has indicated that habitat quantity and quality, juvenile fish abundance and adult escapement data have been updated. While habitat impact data are not comprehensively collated, this is progressing consistent with the Water Framework Directive requirements. EU (Spain) has indicated that it is in the process of reviewing stock status of habitat in salmon rivers in five autonomous regions. Canada, EU (UK (England and Wales, Northern Ireland and Scotland)) and the US have reported initiatives in relation to the NASCO rivers database although not all have yet started to input information. Denmark (in respect of the Faroe Islands and Greenland), European Union (Denmark, Finland, Germany (Northrhine-Westfalia)) and Iceland have not established inventories.

Progress in developing and updating comprehensive habitat plans

4. It was previously reported that habitat plans had been developed by the European Union (Sweden, UK (England and Wales, Northern Ireland and Scotland)), Russia (2 rivers) and the US. Canada has indicated that while there is no overall plan, it has a policy of 'no net loss' of habitat and that a stewardship programme is an integral part of Canada's programme for habitat protection and restoration. EU (Ireland) has

reported that while no specific plan has been developed, the objectives of national programmes run by state agencies are in accordance with the NASCO Plan of Action. Since last year, EU (Spain) has developed habitat protection and restoration plans in accordance with the NASCO Plan of Action. EU (Denmark) has published a National Management Plan for Salmon and it has been noted that habitat plans exist in EU (Germany – Baden-Wuertemberg and Brandenburg). EU (UK - Northern Ireland) has reported that habitat restoration projects covering 3 cross-border catchments are planned for 2005 and that EU Peace Funding has been awarded for other approved habitat improvement projects. EU (UK - Scotland) has reported that river management plans are in place for about 100 rivers in Scotland and they provided an example of local initiatives to improve salmon habitat and indicated that EU Life Funding has been obtained for work, including habitat restoration and improvement, in 8 Scottish rivers. In Iceland, there is no plan but it is indicated that most rivers do not need restoration plans as the habitat is in good condition, but each river association is responsible for protecting habitat in its rivers. Norway has indicated that the aim of its National Salmon Watercourses and Fjords initiative is to provide enhanced protection to a number of important rivers and fjords and that the salmon and its habitat will receive priority over any activity that may harm them. The intention is to include 50 rivers in the scheme. The US has continued to develop a recovery plan for endangered salmon populations and a multi-party settlement agreement has been signed which details conditions for dam removal, fish passage and operational changes at eight hydro-electric projects in the lower Penobscot River.

Monitoring systems

5. Information on monitoring programmes has been provided by Canada, EU (Germany (Baden-Wuertemberg and Brandenburg)), Ireland, Spain, UK (England and Wales, Northern Ireland and Scotland)), Russia and the US.

Secretary
Edinburgh
27 May, 2005

1. Summary of progress reports on the establishment or updating of inventories of salmon rivers.

Party	Year of return	Information provided
Canada	2003	A number of inventories have existed for years, but one common database as outlined in the NASCO Plan of Action does not yet exist. A number of inventories were carried out over the past year by the various jurisdictions. DFO has developed a Geographic Information System to access all habitat-related information for the province of Quebec. A similar system has recently been developed in Newfoundland and Labrador. Further inventory development is expected in 2003/2004.
	2004	Organizations and agencies such as the Atlantic Salmon Federation, Fisheries and Oceans Canada and Environment Canada maintain and update various databases on Atlantic salmon rivers and associated environments.
	2005	Various agencies and organizations maintain databases including associated environmental information. As well, access to the wild salmon database is now available to provincial and federal agencies.
Denmark (in respect of the Faroe Islands and Greenland)		
Faroe Islands	2003	
	2004	
	2005	No inventory has been established.
Greenland	2003	
	2004	
	2005	No inventory has been established.
European Union		
Denmark	2003	
	2004	
	2005	
Finland	2003	
	2004	
	2005	No inventory has been established.
Germany	2003	
	2004	*Northrhine-Westfalia:* No inventory has been established.
	2005	*Baden-Wuertemberg*: An inventory exists and is run, for example, by the International Commission for the Protection of the Rhine (ICPR). The inventory is regularly updated. *Brandenburg:* • Analysis of migration barriers and reproduction habitats • Control fishing to indicate the suitability (existence of *Salmo trutta f. fario, Cottus gobio, Phoxinus phoxinus*) • River Stepenitz (Elbe): - 1998 – 16 barriers (11 none passable); reproduction; habitats (app. 20 000 - 80 000 m²) were unattainable - 2004 – 3 barriers no passable; app. 40 % of reproduction habitats are accessible - indication species are present

		• River Schwarze Elster / Pulsnitz (Elbe): - 2003 – 12 barriers (none passable) - 2004 – 11 barriers (no passable) - only *Salmo trutta f. fario* present *Northrhine-Westfalia:* No inventory has been developed.
Ireland	2003	The current Irish inventory is being modified in line with NASCO's suggested inventory. The current inventory contains: River number (OS index); Region; River name; Location (latitude and longitude); Brief description; NASCO category; Catchment area; Total length; Axial length; Maximum altitude; Hydrographic characteristics; Presence of trap or counter; Conservation limit (provisional).
	2004	The inventory has been significantly improved in 2003 with the addition of wetted areas and the establishment of river-specific Conservation Limits. Each river has been classified according to reach and sub-reach classified according to gradient classes.
	2005	No change from 2004 return.
Spain	2003	
	2004	Under development.
	2005	The five Autonomous Regions are at the stage of development of the stocktaking of salmon rivers (size of the population, stocktaking of the fishing accessories, length of the currents available for the migration of the species, etc).
Sweden	2003	An inventory of all salmon rivers has existed for several years and describes the physical characteristics of the rivers, obstacles to migration and the quantity and quality of rearing habitat. A list briefly summarizing the actions to be taken for each river has been developed. This list, as well as the inventory, needs to be revised so as to be more consistent with the NASCO Plan of Action.
	2004	No change from 2003 return.
	2005	
UK – England and Wales	2003	Various inventories are employed for the management of salmon rivers, e.g. for the establishment and review of conservation limits. A Geographic Information System (GIS)-based method for estimating the extent and quality of salmon habitat is in development, to be completed during 2004.
	2004	No change from 2003 return.
	2005	Various inventories are employed for the management of salmon rivers in England and Wales, for example for the establishment and review of conservation limits in 64 principal salmon rivers. Information for the 'NASCO salmon rivers database' has been updated for 64 principal salmon rivers in England and Wales, but has yet to be transferred to the database. A GIS-based tool to consistently assess habitat standards for salmon is currently under development.
UK – Northern Ireland	2003	GIS inventories were updated for rivers in the Foyle and Carlingford area, and in the Bush, Glendun, Maine and Blackwater rivers in the FCB area. These record data on habitat quantity and quality, juvenile fish abundance and adult escapement.
	2004	An inventory of rivers has been compiled on a Geographical Information System (GIS). Data on habitat quantity and quality, juvenile fish abundance and adult escapement were updated for rivers in the Foyle and Carlingford area and in the Bush, Glendun, Maine and Blackwater rivers in the Fisheries Conservancy Board area. Similar information is also being compiled for other catchments, for example the Erne system.
	2005	River data available for all Northern Ireland salmon rivers from digital map data. Habitat inventories have been gathered for the Foyle and Carlingford areas and for several index rivers in the Fisheries Conservancy Board area. Not referenced to NASCO rivers database. Salmon production data available for selected rivers. Data on habitat quantity and quality, juvenile fish abundance and adult escapement updated. Conservation limits have been developed and refined. Habitat impact data not comprehensively collated. Under development consistent with Water Framework Directive requirements
UK – Scotland	2003	Trust biologists and biologists employed by Boards have established a series of inventories listing either rivers or habitat problems relevant to their areas of jurisdiction.

	2004	No change from 2003 return.
	2005	UK (Scotland) has contributed to the development of the NASCO database of salmon rivers currently under construction. The approximately 400 salmon rivers are located within the 66 salmon fishery districts into which Scotland is divided. The districts provide complete coverage of Scotland and its islands. 48 District Salmon Fishery Boards and more than 20 Fishery Trusts (the number is growing) have been established. The Boards have statutory responsibilities for managing and improving salmon fisheries in their districts, and the Trusts provide scientific advice to the Boards and to proprietors.
Iceland	2003	No inventory has been established.
	2004	No change from 2003 return.
	2005	No change from 2003 return.
Norway	2003	A new categorization system for rivers with salmon has been developed and applied in a nationwide survey of salmon rivers. The system is compatible with, but more detailed than, the NASCO rivers database. During the survey, information on human impact factors, restoration and mitigation actions was collected. Information on the status of stocks will be updated every year.
	2004	No change from 2003 return.
	2005	No change from 2003 return.
Russian Federation	2003	Compilation of an inventory has been initiated. It now includes the complete information required for 2 rivers and partial information for another 76 rivers.
	2004	
	2005	
USA	2003	The US is in the process of developing a salmon river habitat database, using the structure contained in the NASCO Plan of Action. It will include river data, salmon production data, habitat improvement data and river classification.
	2004	The US agreed to chair a Working Group to develop a Habitat Database inter-sessionally. A database has been developed and made available through a website and data was entered by the US and Canada.
	2005	Following ongoing consultations with a database sub-group of the US Atlantic Salmon Assessment Committee, and with a similar international sub-group appointed by the Parties to NASCO, the database template was deployed on the Internet in January 2004. Building upon the original NASCO salmon rivers database, which was established several years ago, the scope and structure of the database were expanded to include five major ACCESS data tables (salmon rivers, habitat, juvenile and adult salmon production, habitat impacts) which incorporate all of the information identified by NASCO in its desired comprehensive database of salmon rivers.

2. Summary of progress in the development or updating of comprehensive salmon habitat protection restoration plans.

Party	Year of return	Information provided
Canada	2003	All fish habitat in Canada is managed according to the national Policy for the Management of Fish Habitat. A net gain in the productive capacity of fish habitat is the overall objective. There is currently a significant amount of restoration work underway. DFO's contribution is focused on improving access. Although an overall conservation and restoration plan already exists, it is being further refined and developed at the watershed level. A number of new watershed management plans are being implemented and more are being developed.
	2004	Canada has a no-net-loss policy that continues to be applied to ensure conservation of salmon and other fishery resources. It is also Canada's policy to encourage and support habitat stewardship to involve government agencies, public interest groups and the private sector to conserve, restore and develop fish habitat.
	2005	There is no overall plan. However, Canada's no-net-loss policy on habitat loss and the legislative provisions in the Fisheries Act and Canadian Environmental Protection Act provide the framework for dealing with habitat protection and restoration. A Stewardship Program is an integral part of Canada's program for habitat protection and restoration. The program involves partnership arrangements between individuals, communities and various levels of government in working cooperatively to conserve, restore and enhance freshwater and estuarine fish habitat. It is a cost-effective program which encourages involvement of the public, government and private sector in habitat issues.
Denmark (in respect of the Faroe Islands and Greenland)		
Faroe Islands	2003	
	2004	
	2005	No plan has been developed.
Greenland	2003	
	2004	
	2005	No plan has been developed.
European Union		
Denmark	2003	
	2004	
	2005	The Ministry of Environmental Protection has published a "National Management Plan for Salmon" in Denmark.
Finland	2003	
	2004	
	2005	No plan has been developed.
Germany	2003	
	2004	*Northrhine-Westfalia:* No plan has been developed.

	2005	*Baden-Wuertemberg:* Concerning tributaries to the River (Upper-) Rhine a salmon habitat and restoration plan exists. On the basis of this plan fishways were built at weirs and parts of rivers were restored or optimized as salmon spawning grounds or habitats for juveniles. *Brandenburg:* • Stepenitz; Schwarze Elster / Pulsnitz: - nature reserve (FFH / NATURA 2000); biosphere reserve - recommendations of measures through the Institute of Inland Fisheries • Planning and construction of fish passes • habitat protection • suggestions for hydraulic engineering and water engineering • suggestions for management of areas along waterbodies. *Northrhine-Westfalia:* No plan has been developed.
Ireland	2003	No specific plan has been developed. However, the objectives of National Programmes run by state agencies are in accordance with the NASCO Plan of Action. These include: establish an inventory; quantify existing habitat; estimate productive capacity; estimate current production; identify shortfalls and recovery potential; enhance damaged habitat; monitor outcome.
	2004	No change from 2003 return.
	2005	No change from 2003 return.
Spain	2003	
	2004	Under development. In Cantabria the salmon restoration programme, initiated in 1996, is based on increasing the stream length accessible to salmon through demolishing illegal weirs and constructing new passes, enhancing the wild populations, based on the rearing and release of tagged juveniles, and the protection and restoration of salmon.
	2005	Plans of salmon habitat protection and restoration in accordance with the aims of the NASCO Plan of Action have been developed in the five Autonomous Regions. Therefore, in Guipúzcoa for example, there are projects in execution for demolishing abandoned dams and for building fish ladders and ramps that will allow the access of salmons to cross dams. The salmon restoration programme for the Bidasoa River, in Navarre, is based on: - enlargement of stream accessibility to adult salmon through the improvement of old fish–passes; - increasing the habitat available for juvenile salmon through the establishment of reserved flows; - enhancement of the presence of wild population by rearing and releasing tagged juveniles. Finally, the Cantabrian salmon restoration programme, initiated in 1996, is based on: - increasing the stream length accessible to salmon through demolishing illegal weirs and constructing new fish-passes; - enhancing wild populations based on the rearing and release of tagged juveniles; - protecting and restoring salmon habitats; - adopting measures to control and manage angling.
Sweden	2003	The present protection and restoration plan needs to be revised and expanded to be consistent with the NASCO Plan of Action.
	2004	No change from 2003 return.
	2005	No change from 2003 return.
UK – England and Wales	2003	Salmon Action Plans (SAPs) are being developed for all principal salmon rivers. Plans contain an agreed list of actions to be

		addressed within five years. SAPs are expected to be completed for all principal salmon rivers by the end of 2003.
	2004	Salmon Action Plans (SAPs) have now been completed for all principal salmon rivers. Plans contain agreed list of actions to be addressed within five years. Progress on each of these actions is reviewed annually.
	2005	Salmon Action Plans have now been completed for all principal salmon rivers in England and Wales. Each SAP comprises two documents. The Consultation document reviews stock and fishery status, identifies factors limiting performance and lists a series of costed options to address these. Following consultation on this document, a Final Plan is prepared containing an agreed list of actions to be addressed within five years. Progress against these actions is reviewed annually.
UK – Northern Ireland	2003	A Habitat Restoration Plan has been prepared and funding for implementation is being sought.
	2004	A Habitat Restoration Plan has been prepared and funding secured to implement this in two catchments – the Maine (FCB area) and Clanrye (Carlingford area).
	2005	Procedures are in place to inform all proposals that have potential to impact salmon habitats. Salmon Management Plans in Northern Ireland (including Foyle and Carlingford catchments in the Republic of Ireland) enable production bottlenecks to be identified and management actions to be targeted, and inform decision-making re potentially detrimental activities. A habitat restoration project covering 3 Northern Ireland/cross-border catchments is planned in 2005. EU Peace Funding has been awarded for the other approved habitat improvement projects.
UK – Scotland	2003	Fishery Boards and Fishery Trusts have been developing plans relevant to their areas of jurisdiction. A number of habitat enhancement programmes are in place, including bank stabilization, removal/easing of obstructions, riparian buffer strips. Forest and Water Guidelines have been introduced.
	2004	Trust biologists and biologists employed by Boards have established a series of inventories listing either rivers or habitat problems relevant to their areas of jurisdiction.
	2005	River management plans are in place for almost 100 rivers throughout Scotland. The Scottish Environment Protection Agency (SEPA) has the duty to protect the Scottish environment, including land, air and water. It is active in investigating instances of diffuse and point-source pollution, and enforcing the environmental legislation as appropriate. SEPA are also in the lead in implementation of the EC Water Framework Directive, which requires the development of catchment management plans. All major hydro-electric schemes have been built in accordance with associated Orders, which include requirements for fish passes and agreed compensation flows. Small schemes (less than 1MW) are subject to the provisions of the Salmon (Fish Passes and Screens) (Scotland) Regulations 1994. Forestry activities are undertaken in accordance with the Forests and Water Guidelines. The Scottish Executive publication 'River Crossings and Migratory Fish: Design Guidance – Consultation', issued in 2000 is used in planning the construction of bridges, culverts and other river crossings. As an example of the initiatives taken at local levels, the Tweed Foundation, in collaboration with local landowners and other groups, has undertaken major works including installing 116km of bankside fencing for bank stabilisation, and the removal or easing of 47 obstructions to ease passage of fish. A total of 189 monitoring sites has been established. Some £2m has been spent on habitat enhancement in the last decade. Major grant assistance has been provided by the EU Objective 5(b) programmes, the Heritage Lottery Fund, Scottish Natural Heritage, Scottish Borders Enterprise and many private sources. A total of 18 Scottish salmon rivers have been designated as Special Areas of Conservation. EU LIFE Funding has been obtained for works related to 8 Scottish salmon rivers, much of the work being habitat improvement/restoration.
Iceland	2003	No plan has been developed.
	2004	Each river association is responsible for salmon habitat protection on its river. Gravel mining and in-river structures need approval from the Directorate of Freshwater Fisheries. Most Icelandic salmon rivers do not need a habitat restoration plan as the habitat is in fairly good condition.
	2005	No change from 2004 return.

Norway	2003	No plan has been developed.
	2004	
	2005	National Salmon Watercourses and Fjords The aim is to provide enhanced protection to a number of Norway's most important salmon watercourses and appurtenant migratory areas in fjords and along the coast. In the protected areas the salmon and its habitat shall be given priority over any activity that may be harmful to the Salmon and its habitat. The plan is to include about 50 rivers in the scheme. First phase that included the establishment of 37 rivers in the scheme was accomplished in 2003. The plan is to complete the work with establishing the additional number of rivers in 2005/2006. Information according additional rivers was prepared in 2004 and sent on a hearing round.
Russian Federation	2003	Salmon habitat protection and restoration plans have been developed for two rivers.
	2004	
	2005	
USA	2003	A great deal of time and effort over the past year has been focused on the development of a recovery plan for endangered populations of Atlantic salmon. This plan includes provisions for the protection and restoration of Atlantic salmon habitat. Restoration programmes on other salmon rivers include provision for habitat protection.
	2004	A great deal of time and effort over the past year has been focused on the development of a recovery plan for endangered populations of Atlantic salmon. This plan includes provisions for the protection and restoration of Atlantic salmon habitat. Restoration programmes on other salmon rivers include provisions for habitat protection. There are a number of programmes within the U.S. to support and facilitate Atlantic salmon protection and restoration. A report by the National Research Council of the National Academies is being used as a guide for restoration and recovery activities.
	2005	The US continues to devote a great deal of time to develop a recovery plan for endangered populations of Atlantic salmon. This plan includes provisions for the protection and restoration of Atlantic salmon habitat. The Final Recovery Plan is expected to be completed in the summer of 2005 and has been updated on an annual basis while under development. A copy of the Draft Recovery Plan can be viewed at the following link: http://www.nmfs.noaa.gov/pr/readingrm/Recoverplans/Draft_ATS_plan.pdf As reported last year, Atlantic salmon restoration programs on other rivers, such as the Connecticut and Merrimack, are conducted under management plans that include provisions for salmon management and habitat protection and are ongoing. These programs are guided by strategic plans that outline management measures and are updated on a regular basis. As reported last year there are a number of programs within the U.S. that are ongoing to support and facilitate Atlantic salmon protections and restoration. These include the Atlantic Salmon Collaborative grants operated by the National Fish and Wildlife Foundation (http://www.nfwf.org/programs/atlantic_salmon.htm) and the NOAA Community Based Restoration program. http://www.nmfs.noaa.gov/habitat/restoration/funding_opportunities/funding.html). 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 U.S. 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.

3. Summary of progress in introducing or updating evaluation and monitoring systems.

Party	Year of return	Information provided
Canada	2003	Some monitoring to measure the efficacy of conservation and restoration initiatives has and continues to occur; however, it is recognized that further monitoring would be beneficial. The Habitat Management program is moving towards a more results-based approach.
	2004	
	2005	
Denmark (in respect of the Faroe Islands and Greenland)		
Faroe Islands	2003	
	2004	
	2005	Not applicable as no plan has been developed.
Greenland	2003	
	2004	
	2005	Not applicable as no plan has been developed.
European Union		
Denmark	2003	
	2004	
	2005	
Finland	2003	
	2004	
	2005	Not applicable as no plan has been developed.
Germany	2003	
	2004	
	2005	*Baden-Wuertemberg*: Salmon rivers are regularly monitored by researchers in order to evaluate the stocking or restoration programmes. *Brandenburg*: • Annual monitoring of smolts (survival rates, growth) • Annual monitoring of returns (electric fishery; telemetry) • Annual reports for the State Fishery Department. *Northrhine-Westfalia:* Not applicable as no plan has been developed.
Ireland	2003	Monitoring of EU-funded physical enhancement works continued.

	2004	No change to 2003 return.
	2005	No change to 2003 return.
Spain	2003	
	2004	In Galicia: 5 operating adult traps, 2 operating smolt traps, 4 operating counters and 1 being installed, stocking programmes monitoring (tagging), juvenile abundance monitoring. In Cantabria, assessment of the success of restoration programmes is carried out through micro-tagging and recaptures of stocked adults both in home rivers and at sea. Recapture rates varied from 0% to 0.35% and stocked adults represented 10-20% of all the adults screened.
	2005	All the Autonomous Regions monitor the salmon returns in certain rivers to protect and restore salmon habitats. Therefore, in Galicia the control system monitors using: - 5 operating adult traps. - 2 operating smolt traps. - 4 operating counters and 1 being installed. - Stocking programmes monitoring (tagging). - Juvenile abundance monitoring. In the Principality of Asturias a marking programme takes place. Throughout 2004, 67,200 young fish were marked. These individuals were released at: - Sella River (13,200 salmon of age 1+ and 14,000 of age 0+). - Deva - Cares River (5,200 salmon of age 1+ and 4,500 of age 0+). - Esva River (9,000 salmon of age 0+). - Narcea River (21,500 salmon of age 0+). In the Autonomous Region of Cantabria, the assessment of the success of restoration programme is carried out through micro-tagging and recaptures of stocked adults both in home rivers and at sea. Recapture rates varied from 0% to 0.35% and stocked adults represented 10 - 30% of all the screened adults. The Basque Country is tracking the entry of adult salmon as well as the presence of the young ones in the river basins of the Urumea, Oria and Oiartzun rivers. All salmon captures are declared annually by anglers and are controlled by the Environmental Ministry of Regional Government of Navarre. Moreover, in order to control the upstream migration of the adult salmon during the year, a trap for capturing adult salmon operates in the Bidasoa River.
Sweden	2003	
	2004	
	2005	Evaluation and monitoring systems have not been established.
UK – England and Wales	2003	Evaluation and monitoring programmes are reviewed annually as part of the development and implementation of Salmon Action Plans. The national fisheries monitoring programme was revised in 2000. 2002 was the first full year of the new programme (comprising electrofishing, trapping, counters and catch recording). A review has been completed of salmon stocks in recovering rivers.

	2004	Stocks and fishery performance are monitored in all those rivers where the annual catch is >50 salmon. Evaluation and monitoring programmes are reviewed annually as part of the development and implementation of Salmon Action Plans.
	2005	Stocks and fishery performance are monitored in all those rivers where the annual catch is >50 salmon. The national juvenile programme started in 2002, and aims to identify spatial differences and temporal trends in the juvenile salmon population. It samples 380 quantitative sites each year to identify temporal trends in abundance, and 3,030 sites are sampled semi-quantitatively once every five years to identify spatial variation in the juvenile population. Evaluation and monitoring programmes are reviewed annually as part of the development and implementation of Salmon Action Plans. A review has been completed of salmon stocks in recovering rivers. A full review of salmon stock conservation measures was carried out across England and Wales by the Agency in 2004. An action plan has been drawn up to focus efforts as a result of this review.
UK – Northern Ireland	2003	Monitoring data (on adult escapement, juvenile populations, habitat quantity and quality) on specified catchments.
	2004	No change from 2003 return.
	2005	Adult escapement, juvenile population and habitat quantity and quality are routinely monitored on catchments covered by Salmon Management Plans including • Monitoring of adult returns using fish counters • Monitoring juvenile population by electrofishing • Re habit surveying catchments Habitat and juvenile population data is collated and recorded for other sites where impacts have been targeted or improvements made.
UK – Scotland	2003	Trust and Board biologists undertake regular sampling to assess fish population and habitat status.
	2004	
	2005	The Boards and Trusts monitor the salmon populations and habitat within their areas in the normal course of their work, and have identified inventories of habitat issues such as over-grazing and man-made obstacles. Many steps have already been taken to deal with these.
Iceland	2003	Not applicable as no plan has been developed.
	2004	Evaluation and monitoring systems have not been introduced.
	2005	Evaluation and monitoring systems have not been introduced.
Norway	2003	Not applicable as no plan has been developed.
	2004	
	2005	
Russian Federation	2003	Federal nature conservation authorities assess the effectiveness of plans for protection of salmon habitat.
	2004	
	2005	
USA	2003	Monitoring provisions will be included as part of the recovery plan for endangered Atlantic salmon populations. The process of identifying appropriate systems and evaluation criteria is ongoing.
	2004	No change from 2003 return.
	2005	Monitoring provisions are included as part of the Recovery Plan for endangered Atlantic salmon populations.

ANNEX 26

Council

CNL(05)19

Report of the Workshop on Marking of Farmed Atlantic Salmon

CNL(05)19

Report of the Workshop on Marking of Farmed Atlantic Salmon

1. Under the Williamsburg Resolution it is stated that tagging or marking could be used in order to facilitate the identification of farmed salmon in the wild and the separation from wild fish, to determine the source escapes and to assess the interactions of escaped farmed salmon with the wild stocks. The need to evaluate the effectiveness of marking methods, their feasibility for large-scale marking and their costs was recognized. Last year the Council accepted an invitation from the European Union on behalf of the Scottish Executive to host a Workshop to assess the current and developing methods of marking farmed Atlantic salmon. This Workshop was held in Edinburgh during 6-8 December 2004 and the report of the meeting is attached.

2. The Workshop first reviewed presentations by three companies involved in the manufacture or marketing of systems for mass marking juvenile farmed salmon. Information was also presented on existing tagging programmes in Ireland and in Iceland (where 10% of farmed salmon are required to be tagged with coded wire tags and fin clipped). Reports were also made on evaluations of methods of marking farmed salmon which had been carried out in Norway and in Maine, USA. The Workshop developed a number of criteria and evaluated a number of marking methods (external tags, combination method, genetic and chemical methods, fin clipping, otolith marking, passive integrated transponders (PIT tags) and coded wire tags (CWTs)) against these criteria.

3. In short, the Workshop came to the view that while many possible methods are available for marking fish, some methods are not suitable for mass marking, some require further development and others can provide very limited discriminating power. Of the methods evaluated, CWTs and otolith marking are most suitable for mass marking while, at their present costs, PIT tags are more suitable for smaller-scale trials. Genetic identification methods have potential for marking farmed salmon but further development is needed. All methods involve significant costs and the greater the discrimination power that is required the higher the cost. The industry representatives expressed concern about any additional cost and, while the Workshop was not in a position to consider who should bear these costs, there are also clearly significant costs associated with damage to the wild stocks from interactions with escaped farmed salmon. Welfare and food safety concerns were also raised in relation to a considerable number of the possible methods for marking farmed salmon. The Workshop felt that it would be valuable if each NASCO Party with salmon farming interests obtained advice at an early opportunity from the appropriate authorities in relation to the food safety and welfare aspects associated with marking farmed salmon.

4. It is not a simple matter to ascertain how many fish are in a cage at any given time and therefore how many may have escaped. Moreover, although there are estimates of escapes following catastrophic events such as storm damage, there is no information on escapes due to handling errors, so-called trickle losses or leakage. It is entirely possible that such small-scale regular trickle losses might well, on an annual basis, amount to similar levels to, or even exceed, the catastrophic losses. The Workshop recommended that further investigations should be carried out to improve

the accuracy of estimates of the number of fish in cages and the extent of trickle losses during routine operations, and that the NASCO Parties cooperate so as to plan and undertake such assessments. The Workshop suggests that progress in relation to these further assessments should be reviewed through the reporting procedures under the Williamsburg Resolution at NASCO's Annual Meetings and at the Liaison Group meetings.

5. The report of the Workshop has been made available to the NASCO/North Atlantic salmon farming industry Liaison Group which will consider the findings at its meeting on 26 April 2005. Any feedback from the Liaison Group on the recommendations arising from the Workshop will be made available to the Council in the report of the Liaison Group meeting.

6. The Council is asked to consider the recommendations from the Workshop and to decide on appropriate action.

Secretary
Edinburgh
5 April, 2005

WMFS(04)6

Report of the Workshop on Marking of Farmed Atlantic Salmon Holyrood Suite, Balmoral Hotel, Edinburgh, Scotland 6-8 December 2004

1. Opening of the Meeting

1.1 The Secretary of NASCO, Dr Malcolm Windsor, opened the meeting and welcomed Workshop participants to Edinburgh. He thanked the Scottish Executive for hosting the meeting, for developing the Terms of Reference and for the arrangements made. He indicated that under NASCO's Williamsburg Resolution to minimize impacts of salmon aquaculture on the wild salmon stocks it is recognized that tagging or marking could be used in order to facilitate the identification of farmed salmon in the wild and their separation from the wild fish, to determine the source of escapes and to assess the interactions of escaped farmed salmon with the wild stocks. This Resolution also recognizes that while tagging or marking is being used on a small scale for these purposes, there is a need to evaluate the effectiveness of these trials, the possibility of large-scale marking and the associated costs. Furthermore, NASCO and the North Atlantic salmon farming industry have developed Guidelines for Containment of Farm Salmon and there is a requirement to evaluate their effectiveness in minimizing escapes. He noted that the task before the Workshop was not to recommend to the Council whether or not farmed salmon should be marked or tagged but rather to evaluate the pros and cons of the various approaches, the results of which would then be available if a NASCO Party decided to proceed with a requirement to mark or tag farmed salmon. In this regard he particularly welcomed participation in the meeting from representatives of tagging companies and the salmon farming industry.

1.2 A list of participants is contained in Annex 1.

2. Appointment of a Chairman and a Rapporteur

2.1 The Workshop appointed Mr Gordon Brown (European Union) as its Chairman. He added his welcome to that of Dr Windsor and described the background to the Scottish Executive, on behalf of the European Union, proposing to the Council of NASCO that a workshop on marking of farmed salmon be held. He referred to the importance of both salmon farming and the wild stocks to the Scottish economy and described the Strategic Framework for Scottish Aquaculture, which had been developed through a Ministerial Working Group comprising public sector, industry, environmental NGOs, wild fish interests and scientific organizations. This framework includes a proposal that an international assessment of current and prospective techniques for marking farmed fish be conducted during 2004. He indicated that the recommendations arising from the Workshop would be presented to the Ministerial Working Group at its next meeting in March 2005 so that it could consider the case for marking farmed fish.

2.2 The Workshop appointed Dr Peter Hutchinson, Assistant Secretary of NASCO, as its Rapporteur.

3. Adoption of the Agenda

3.1 The Workshop adopted its agenda, WMFS(04)5 (Annex 2).

3.2 This report reflects the views of the Workshop. However, where there are differences in views these are clearly attributed.

4. Consideration of the Terms of Reference

4.1 The Workshop reviewed its Terms of Reference as agreed by the Council of NASCO. These are as follows:

- to evaluate the current and developing techniques available for marking large numbers (many millions each year) of juvenile salmon destined for sea cage operations;

- to develop protocols to ensure that smolts destined for different sea cage locations may be separately identified. (Each smolt-rearing station may supply smolts to a number of different fish farms, and each fish farm may receive smolts from a number of different smolt farms);

- to develop recommendations for screening techniques that may have to be used (often in remote fisheries) to identify marked fish farm escapees;

- to examine the compatibility of marking techniques with food safety requirements, and their consistency with the requirement not to devalue the fish farm product.

5. Presentations on current and developing technologies for mass-marking juvenile farmed salmon

5.1 Mr John Taylor (Fish Eagle Trading, UK) presented an overview of the development of methods for tagging fish from the earliest report in Sir Izaac Walton's book 'The Compleat Angler' published in 1653. He referred to the development of external tags, coded wire tags (CWTs), Passive Integrated Transponder (PIT) tags, radio and acoustic tags and visible implant tags. He indicated that given the wide array of tagging methods available today it is essential that care is taken to ensure that the appropriate tag is selected for the purposes of the study being undertaken. In this regard, he suggested that CWTs were the obvious candidate for tagging farmed salmon and noted that in addition to the environmental aspects of interest to NASCO, there may be advantages to the industry in terms of product traceability. In 1993, Fish Eagle had developed a proposal for marking farmed salmon (SALMARK) using CWTs in support of initiatives being considered at that time to address over-production in the industry and the consequent low market price of farmed salmon.

5.2 Dr David Solomon (Northwest Marine Technology, UK) made a presentation on the marking of farmed salmon with CWTs. He indicated that the CWT is a tiny, biologically inert tag with no adverse impact on the fish; is very rapidly, easily and inexpensively applied; has huge coding capacity allowing batch or individual identification; represents no human health risk and is proven technology with 50

million juvenile salmon tagged annually with CWTs. Furthermore, automatic tagging equipment can sort, grade (by length), count and vaccinate fish cost-effectively and without the need for anaesthetic. As such, he believed that the CWT offers great potential advantages for monitoring escapes and for stock husbandry, product traceability, improved vaccination efficiency and precise grading. A summary of this presentation is contained in Annex 3.

5.3 Mr Jeroen Bolscher (Texas Instruments Holland BV) made a presentation on radio frequency identification (RFID) systems in which there is wireless radio communication between the transponder (tag) and a receiver. Texas Instruments has produced more than 400 million transponders (PIT tags) since 1990 for a wide range of applications, including livestock traceability and studies of fish passage at hydro-electric installations. With regard to tagging farmed salmon, he indicated that PIT tags were permanent (being retained in the body cavity), could be used on fish as small as 75mm in length, had no impact on survival, did not cause stress, would not interfere with vaccines, had no impact on marketability of the product if placed in the body cavity, had a high success rate of detection, and could be detected without handling of the fish. The cost of the tags would be below US$1 for quantities in excess of 1 million tags and receivers cost in the range US$ 300 – 5,000 depending on the unit chosen. He strongly recommended that the ISO Standard for Animal Identification (ISO11784 and ISO11785) be adopted in deciding on any PIT tagging system for farmed fish. A summary of this presentation is contained in Annex 4.

5.4 In addition to these presentations, information was made available to the Workshop by Trovan Ltd on its PIT tags. Trovan had indicated that tag costs could be in the region of Euro 0.35 – 0.45 depending on volume.

5.5 Information was presented on the CWT tagging programme in Ireland by Mr Tom McDermott. Since 1980 in excess of 6.5 million salmon have been tagged, of which approximately 121,000 have been recovered. The objective of the programme is to assess the exploitation rate of salmon in the Irish commercial and recreational fisheries, to assess the contribution of Irish-origin salmon to distant water fisheries at West Greenland and the Faroes, to assess the contribution of hatchery-reared salmon to the fisheries, and to assess marine survival of salmon. He indicated that while the cost of the CWTs is very low, there is a substantial effort and cost involved in obtaining the recapture data. The current retrieval cost of each tag in the Irish fishery is approximately Euro 6. In addition to the fishery assessments, tagging studies had also been conducted by the former Salmon Research Agency in order to assess theft of hatchery fish. He noted that production of farmed salmon in Ireland amounted to approximately 17,000 tonnes in 2003 and some escapees were evident in the fishery, although it was becoming increasingly difficult to distinguish these from wild and ranched salmon on the basis of external appearance. At present there is no problem of major escapes from farms in Ireland but on-going leakage is a significant issue. He referred to the possible mutual benefits and the opportunities for cooperation between wild and farmed salmon interests on any proposal to tag farmed salmon.

5.6 A document, WMFS(04)3 (Annex 4), describing the experience of using CWTs in Iceland, was tabled and introduced by Mr Summarlidi Oskarsson. Since 2001, operators of marine salmon farms in Iceland have been required to tag and adipose fin clip 10% of hatchery smolts planted into sea cages. Icelandic salmon farmers had initially objected to this requirement claiming that it was too costly and distorted their

competitive ability in international salmon markets. However, a compromise was found where the salmonid management agency donated the tags and funded the tag recovery programmes in rivers but the fish farmers paid for the application of the tags. Since the smolts are mostly tagged in large batches up to 6 months prior to stocking into cages, some difficulties had arisen related to hatchery practices (e.g. grading into size classes, transport of smolts between hatcheries before stocking to sea cages) and to the supply of cage sites from a number of hatcheries.

5.7 A summary of the findings of a Norwegian Committee established by the Directorate of Fisheries to review methods for identifying escaped farmed Atlantic salmon was presented by Dr Tor Heggberget. This Committee had reviewed a number of possible methods (morphological characters, external and internal physical tags, electronic tags, chemical methods and genetic methods) taking into consideration aspects such as animal welfare, public health, life stage at which the tag could be applied, current availability of the method for mass marking and costs. While morphological techniques are well developed they cannot give information on the origin of the fish. The Committee had concluded that external tags (Carlin, anchor and visible implant tags) were not appropriate because of their high cost, welfare issues, and their unsuitability for mass marking. Genetic and chemical methods (natural trace elements, fatty acid components, fish-feed components and vaccination markers) were considered to need further development before they could be utilized for mass marking farmed salmon. Electronic tags were not considered suitable for mass marking although the Committee felt that the μ chip (Hitachi) was a very promising development. Two approaches were considered most appropriate – CWTs and the 'combination method'. He indicated that while CWTs have been developed for mass marking, there are logistical problems to resolve, such as the fact that each marine cage site may receive smolts from a number of hatcheries and each smolt production facility may supply a number of marine sites. The 'combination method' does not involve marking but utilizes a variety of information about the escaped farmed fish (site of recapture, smolt characteristics, year stocked to sea, stomach contents, genetic and chemical profiles) to identify the site of escape. The Committee had concluded that this method was primarily appropriate in the case of large-scale escapes. In Norway there is probably a large difference between the number of reported escaped farmed salmon and the numbers estimated by monitoring, indicating significant unreporting of escapes (probably the result of small-scale but frequent 'leakage' of fish) and the Committee had recommended further scientific investigations to assess the magnitude of unreported escapes and enhancement of monitoring programmes in both the freshwater and marine environments.

5.8 A report on evaluations of marking methods carried out in Maine, USA, was presented by Mr Mike Pietrak (Maine Aquaculture Association). Sixteen methods were evaluated against 15 criteria (including fish health and welfare, economic implications, identification strategy, ease of readability and verification). Three marking techniques showed particular promise, including scale reading/otolith marking, microtaggets (microscopic multi-layered fragments of plastic combined with vaccines and injected into the body cavity of the fish) and genetic identification. In addition, CWTs were considered worthy of further consideration by the government agencies. He indicated that concerns about scale reading relate to the accuracy of the reader in correctly identifying the origin of the fish but trials had indicated that 80% of samples could be accurately assigned. The highest misclassification occurred between hatchery-reared smolts released for restoration purposes and farmed fish.

Concerns about thermal marking of otoliths are related to the possible increase in deformities. The cost of genetic analysis is high but costs are declining. In order to confirm that European strains are not being used by the salmon farming industry in Maine, samples are provided for analysis at seven loci and expert opinion suggests that these analyses may be capable of confirming the parentage of fish. He indicated that both mictotaggets and CWTs raise food safety and fish health (related to vaccine efficacy) issues. In particular, CWT tagged fish would need to be marketed without their heads which could not be used as by-products in producing pet food or fish meal. Field trials are now being undertaken with CWTs and otolith marking. The costs (both direct and indirect, although the latter are difficult to assess) of marking are considered a major obstacle by the industry and would have to be assessed in relation to the benefits in terms of preventing interactions with wild fish and traceability. The direct cost (excluding capital costs) of marking 1.5 million salmon has been estimated to be US$ 1,500 and US $223,000 for otolith marks and hand-applied CWTs respectively. It was noted that marking is ineffective if the marked fish are not recaptured, and in Maine only 2 of the 7 rivers with salmon populations listed under the Endangered Species Act have counting fences installed. He suggested that an alternative solution to marking would be to further enhance containment methods. This would benefit both wild fish and the farming industry while marking might offer benefits in protecting wild salmon from genetic impacts but would have a negative impact on the industry.

5.9 It was noted that any proposal to mark farmed salmon might be more acceptable to the industry if the costs were minimized and if there were associated benefits to the industry. The tagging companies suggested that these benefits might include enhanced traceability of product and prevention of theft. However, the industry representatives indicated that the existing system of record keeping is acceptable to the retail sector and allows individual fish to be traced back to the source of eggs from which they were derived through paper trails. Furthermore, while theft of farmed salmon is a concern to the industry in some locations in Maine, there is a concern that marking could encourage theft by those opposed to salmon farming with the intention of releasing the fish to the wild in an attempt to lead to closure of an aquaculture facility. It was recognized that while marking of fish will not stop escapes, it could allow better estimates of the scale of the problem and the source of the escapes. It was also recognized that escaped farmed salmon migrate over large distances and there is, therefore, a need for international cooperation in monitoring escaped farmed salmon in the wild. For example, there have been incidences of escaped farmed salmon in rivers in Denmark, which has no salmon farming industry. There may also be benefits from considering any proposal to mark farmed salmon internationally so as not to disadvantage the industry in any particular country. Reference was made to the situation in Maine where there is currently a requirement to mark farmed salmon, which will be introduced in 2006**.** The view was expressed that if there is no such requirement in the neighbouring Canadian province of New Brunswick, it could undermine the effectiveness of the marking programme.

6. Evaluation of current and developing technologies for mass-marking juvenile farmed salmon

Introduction

6.1 In this report where costs are mentioned they are generally in relation to the costs of applying a certain mark. The report also refers to the cost of mark recovery programmes and analysis costs. The farmers could also incur logistical costs associated with rearing marked fish. There is no doubt that all such costs can be significant and will increase as the discriminating power required increases, and the Workshop was made well aware by the salmon farming representatives that their industry would resist additional costs because their customers, the retail sector, would resist price increases. The other participants understood the industry's difficulty but it was not part of the remit to advise whether or not farmed salmon should be marked or to suggest who should bear the cost. They wished to emphasise that there are also significant environmental costs to allowing the present situation of escapes to continue because of the serious risk of changes in genetic diversity ('genetic pollution') to the wild salmon stocks. Such changes may be irreversible and contrary to the Precautionary Approach which had been adopted by NASCO and its Contracting Parties. Escapees also pose a risk to the wild stocks through transmission of disease and their presence in the wild can confound scientific assessments. It was stated that the salmon farming industry has a responsibility for stewardship of the environments it utilises. The environmental costs of existing practices could well exceed the cost of any marking programme. It was also recognized that there was a need for urgency in minimizing escapes. Marking would not itself solve the problem of escapes but could form one component of any integrated management programme to quantify the scale and causes of, and thus to minimize, escapes. However, the industry felt that third-party audited containment management systems to ensure high containment would be of more benefit than marking, which they perceived as an additional cost with little benefit to them. An example of such a system is the Maine Aquaculture Association's Generic Containment Management System introduced in 2002. The Workshop was not in a position to evaluate such procedures and welcomes any such measure to improve containment. The Workshop recommends that further information be obtained on the causes and scale of escapes, and commends further assessments as detailed in paragraph 6.14 below.

Evaluation criteria

6.2 The Workshop discussed the goals for mass marking juvenile farmed salmon and agreed that this might be undertaken for two principal management purposes as identified in the Williamsburg Resolution, i.e. to facilitate the identification of farmed salmon in the wild and to determine the source of escapes. Different marking methods might be required if the goal was to simply indicate that a fish was either farmed or wild, than if more detailed information was required on its origin. The Workshop considered the scale of resolution required in relation to the source of escapes and agreed that while it would probably not be feasible, or necessary, to use marking methods to identify a particular cage from which losses occurred, some marking methods could be used to allow identification of the site of escape, the hatchery of origin or the company whose fish had escaped. In the event that marking was introduced the Workshop felt that resolution to company level would be appropriate and could allow representations to be made to, or sanctions to be taken

against, any company shown to have a poor track record on containment. The Workshop evaluated seven marking methods (external tags, the 'combination method', fin clipping, genetic and chemical methods, otolith marking in conjunction with scale reading, PIT tags and CWTs) against the following criteria:

- permanency of mark
- applicability to early life-stages
- impacts on survival
- potential for interference with vaccines
- capital costs of marking
- operational and logistical costs of marking
- stress caused by detection
- costs and success rate of recovery and identification
- discrimination power
- marketability impacts and impacts on production cost
- the compatibility of marking techniques with food safety and welfare requirements
- the need to maintain farmed salmon product quality
- concerns of the retail sector

External tags

6.3 The Workshop considered that while external tags had the advantage of being readily identifiable without sacrificing the fish, there were concerns about their suitability for marking farmed salmon because they are time-consuming and therefore costly to apply, they have impacts on survival of the fish, there is a question mark over their retention, they cannot be applied to small fish and there may be welfare issues associated with their use. Batch marks such as pan jet marks, brands and tattoos may be problematic to detect and may also raise food safety and welfare issues.

Combination method

6.4 The combination method (see section 5.8 above for a description) is a low-cost method that does not involve application of a mark, but it cannot be used to obtain precise information about the location of the escape and is generally only applicable in the case of large-scale escapes (not leakage losses) and where a proportion of the escapees are recovered from around the vicinity of the farm site at the time of the escape.

Genetic and chemical methods

6.5 Genetic identification methods offer potential for marking farmed salmon and may be implemented in Maine from 2006/2007. Genetic stock identification methods are being used in the West Greenland fishery, in real-time management of the Foyle fishery in Northern Ireland, and have been proposed in relation to the SALSEA project in order to identify post-smolt origin. Part of this project will involve the development of an atlas of baseline genetic information on the wild stocks. In relation to marking farmed salmon, genetic identification fulfills a number of the criteria including permanency of mark, lack of impacts on survival, no interference with vaccines, applicability to early life stages (all stages, including eggs), no marketability, welfare or food safety issues and no concerns for the retail sector.

However, except in the case of Maine, where there is vertical integration in the industry production, there could be problems related to discrimination power, although the technique would be capable of distinguishing wild and farmed salmon, and there would be a need to establish baseline datasets.

6.6 The Workshop believes that this is a promising approach for the future. The Workshop also noted that chemical methods such as feed additives, analysis of the chemical composition of otoliths and fatty acid analysis also hold potential for future application but further development work is required. It was noted that there might be marketability issues, particularly in relation to using feed additives for marking.

Fin clipping

6.6 The Workshop recognized that fin clipping is a low-cost method of mass marking that could be used to differentiate between farmed and wild salmon, but not to finer scales. It fulfills a number of the criteria but there may be welfare issues associated with this method. Rayed fins regenerate after clipping, leading to difficulties in detection, so the only feasible method is to remove the adipose fin. Clipping of the adipose fin is currently used by the Icelandic salmon farming industry as a secondary mark when applying CWTs. However, the Group was advised of a draft recommendation concerning farmed fish which is being developed by the Standing Committee of the European Convention for the Protection of Animals Kept for Farming Purposes. Under this draft recommendation, the mutilation of farmed fish, defined as any procedure carried out other than for therapeutic purposes and resulting in damage to or loss of a sensitive part of the body or alteration of the bone structure, would be prohibited. This recommendation also states that marking methods may be used for research purposes but only where they cause minimal damage to the fish. The Workshop also recognized that fin clipping is used as a secondary mark in relation to CWT tagging programmes and that adipose clipping of farmed salmon could adversely impact these research programmes.

Otolith marking

6.7 Thermal otolith marking of eggs or alevins can be used to batch mark large numbers of farmed fish at very low cost (see paragraph 5.8 above), for example through exposure to a rapid change in temperature ($4^{o}C$) over a period of 30 minutes. There is a limited number of marks that could be induced (a few hundred) so the technique would not be applicable for identification to an individual site but it could be used to identify farmed fish to a particular company. This approach is used for stock identification of hatchery-origin Pacific salmon. There are no food safety concerns and marks can be applied at the egg stage. Used in conjunction with scale reading, to first identify fish of farmed origin, this approach could be a possible method of marking farmed salmon but the welfare issues would need to be considered, particularly with regard to deformities associated with the process. The Workshop was advised that rapid changes in temperature for marking purposes may not be permitted under forthcoming EU legislation.

PIT tags

6.8 The Workshop considered that PIT tags fulfill many of the criteria including permanency, applicability to early life stages (fish of 75mm length or greater), lack of

impact on survival, lack of interference with vaccines, and high discrimination power (identification of individual fish is possible at no additional cost). However, their cost (see paragraph 5.4 and Annex 4) and slow rate of application could, at present, preclude their use for mass marking purposes. There are food safety concerns associated with the use of glass casing for the tags, welfare issues associated with their application, and the industry expressed concerns about the stress imposed on the fish during a prolonged tagging operation. The Workshop recognized, however, that PIT tags could be a valuable research tool, for example in relation to assessing small-scale leakage from marine sites

CWTs

6.9 CWTs, particularly when applied automatically, fulfill many of the evaluation criteria, particularly with regard to permanency of the mark, applicability to early life stages (fish of >57mm in length), they have no impact on survival, have vast coding capacity, high discrimination power and do not affect product quality. The manufacturers indicated that the cost of tags and tagging are low (see Annex 3) and a system (AutoFish) has been developed which is capable of automatically tagging and vaccinating up to 8,000 fish per hour without the use of anaesthetic. There may, however, be food safety concerns although these have not been a problem in the Pacific where very large numbers of microtagged salmon are harvested for human consumption. Furthermore, it has not been identified as a problem in Iceland, where 10% of farmed salmon are tagged with CWTs, or in relation to the Irish fishery. In Canada, the food safety authorities had indicated that microtagged farmed fish could only be marketed 'head off' and there may be difficulties in utilizing the heads as by-products for pet food or fish meal.

Summary of evaluation

6.10 In short, the Workshop came to the view that while many possible methods are available for marking fish, some methods are not suitable for mass marking, some require further development and others can provide very limited discriminating power. Of the methods evaluated, CWTs and otolith marking are most suitable for mass marking while, at their present costs, PIT tags are more suitable for smaller-scale trials. Genetic identification methods have potential for marking farmed salmon but further development is needed. The major disadvantage with CWTs and otolith marking is that the fish must be sacrificed in order to obtain data to identify the location of escape, whereas the information from PIT tags can be obtained without sacrificing or stressing the fish. There is no doubt that the cost of marking farmed salmon, the associated mark recovery programmes, analysis of the information recovered, and the logistical costs in aquaculture facilities, are significant, and that these costs increase the greater the discrimination power that is required. All methods involve significant costs and the industry representatives expressed concern about any additional cost. The Workshop was not in a position to consider who should bear these costs but there are also clearly costs associated with damage to the wild stocks from interactions with escaped farmed salmon.

Welfare and food safety issues

6.11 It is clear from the evaluations above that welfare and food safety concerns have been raised in relation to a considerable number of the possible methods for marking

farmed salmon. The Workshop felt that it would be valuable if each NASCO Party with salmon farming interests obtained advice at an early opportunity from the appropriate authorities in relation to the food safety and welfare aspects associated with marking farmed salmon.

Protocols for the separate identification of smolts destined for different sea cage locations

6.12 There were repeated references during the Workshop to the difficulties of marking farmed salmon arising from the practice of smolt-rearing stations supplying smolts to a number of marine sites, and marine sites receiving smolts from a number of smolt-rearing facilities. This aspect will require careful consideration in the event that the decision is taken to proceed with a marking programme for farmed salmon but the Workshop did not feel that it had the appropriate technical expertise to develop protocols or procedures during its meeting. This issue is not likely to arise where the industry is vertically integrated and where tagging is used to identify to company rather than individual site.

Screening techniques to facilitate identification of marked escaped farmed salmon in the wild

6.13 The Workshop noted that the feasibility of recovery of marked fish could prove more problematic than the marking because escapees are widely distributed throughout the ocean and in rivers over large geographical areas. With regard to recoveries in the ocean, the SALSEA project may offer opportunities for recovery of information from marked escapees. The Workshop also discussed the need to consider a secondary mark when using internal marking methods so as to facilitate identification of tagged fish in the wild. The absence of such a mark would lead to increased screening costs for marked farmed salmon, although it would not impact on existing screening for wild and hatchery-reared fish tagged as part of on-going assessment programmes.

Further assessments

6.14 The Workshop is aware that some basic information is not available. For example, it is not a simple matter to ascertain how many fish are in a cage at any given time and therefore how many may have escaped. Moreover, although there are estimates of escapes following catastrophic events such as storm damage, there is no information on escapes due to handling errors, so-called trickle losses or leakage. There is an obligation on salmon farmers to report the former to the authorities but not the latter. Furthermore, as cage technology continues to improve and be implemented in the industry, it is perhaps likely that the catastrophic losses may be reduced, whereas the trickle losses would not be and are essentially unknown even to the farmer. It is entirely possible that such small-scale regular trickle losses might well, on an annual basis, amount to similar levels or even exceed the catastrophic losses. The Workshop believes that further investigations should be carried out to improve the accuracy of estimates of the number of fish in cages and the extent of trickle losses during routine operations. The Workshop recommends that the NASCO Parties cooperate so as to plan and undertake such assessments.

6.15 The Workshop had noted a number of possible benefits from international cooperation in relation to the containment of farmed salmon and evaluation of the

scale and causes of escapes and the behaviour of escapees in the wild. The Member Parties of the North-East Atlantic Commission are undertaking a coordinated trial release of farmed salmon in 2005 in order to study the migration and distribution of escapees, and the Workshop believes that the results of this project will be of considerable interest to other NASCO Parties and to the NASCO/North Atlantic salmon farming industry Liaison Group. It believes that progress in relation to the further assessments detailed in paragraph 6.14 should be reviewed through the reporting procedures under the Williamsburg Resolution at NASCO's Annual Meetings and at the Liaison Group meetings.

7. Other Business

7.1 There was no other business.

7.2 Although the Workshop had no remit to consider species other than Atlantic salmon, some of the issues considered in this report may be of relevance to the farming of other fish species.

8. Report of the Meeting

8.1 The Workshop agreed a report of its meeting. This report will be presented for information to the NASCO/North Atlantic salmon farming industry Liaison Group at its meeting in May 2005 and the Council of NASCO in June 2005.

9. Close of the Meeting

9.1 The Chairman closed the meeting and thanked participants for their contributions.

Secretary
Edinburgh
8 December, 2004

Annex 1 of CNL(05)19

List of Participants

CANADA

Mr Tim Young	Department of Fisheries and Oceans, Ottawa

EUROPEAN UNION

Mr Gordon Brown – (Chairman)	SEERAD, Edinburgh, UK
Mr David Dunkley	SEERAD, Edinburgh, UK
Mr Gordon Jeffrey	Aqualife Services Ltd, Lasswade, UK
Mr Tom McDermott	The Marine Institute, Galway, Ireland
Mr Daniel Pendrey	Fisheries Research Services, Aberdeen, UK
Mr Paul Shave	SEERAD, Edinburgh, UK
Dr Joseph Thorley	Fisheries Research Services, Pitlochry, UK
Mr Andrew Wallace	Association of Scottish Fishery Boards, Edinburgh, UK
Dr John Webster	Scottish Quality Salmon, Perth, UK
Dr Ken Whelan	The Marine Institute, Newport, Ireland

ICELAND

Mr Sumarlidi Oskarsson	Directorate of Freshwater Fisheries, Reykjavik

NORWAY

Mr Arnfinn Aunsmo	VESO Trondheim, Trondheim
Mr Vidar Baarøy	Directorate of Fisheries, Rådal
Dr Tor G Heggberget	Norwegian Institute for Nature Research, Trondheim
Mr Arne Sivertsen	Directorate for Nature Management, Trondheim

USA

Mr George Lapointe	Department of Marine Resources, Augusta, Maine
Dr Christopher Legault	National Marine Fisheries Service, Woods Hole, Massachusetts

Mr Mike Pietrak	Maine Aquaculture Association, Hallowell, Maine

TAGGING COMPANIES

Mr Jeroen Bolscher	Texas Instruments Holland BV, Almelo, The Netherlands
Dr David Solomon	Northwest Marine Technology Limited, Salisbury, UK
Mr John Taylor	Fish Eagle, Gloucestershire, UK

SECRETARIAT

Dr Malcolm Windsor	Secretary
Dr Peter Hutchinson	Assistant Secretary

WMFS(04)5

Workshop on Marking of Farmed Atlantic Salmon
Holyrood Suite, Balmoral Hotel, Edinburgh, Scotland
6-8 December 2004

Agenda

1. Opening of the Meeting

2. Appointment of a Chairman and a Rapporteur

3. Adoption of the Agenda

4. Consideration of the Terms of Reference

5. Presentations on current and developing technologies for mass-marking juvenile farmed salmon

6. Evaluation of current and developing technologies for mass-marking juvenile farmed salmon, including development of recommendations on:

   (a) protocols for the separate identification of smolts destined for different sea cage locations;

   (b) screening techniques to facilitate identification of marked escaped farmed salmon in the wild;

   (c) the compatibility of marking techniques with food safety requirements and the need to maintain farmed salmon product quality.

7. Other Business

8. Report of the Meeting

9. Close of the Meeting

Marking Farmed Salmon with Coded Wire Tags

D J Solomon, Northwest Marine Technology

Full documentation was tabled at the meeting discussing the feasibility of tagging all farmed salmon using NMT coded wire tags (CWT) and AutoFish System. It had been prepared by NMT and its aim was to explain how such a tagging programme might be achieved and what the costs are likely to be. If such a scheme is to be introduced it is, of course, essential that maximum benefit accrues all round; therefore the potential benefits to wild salmon stock management, the salmon farming industry and to the consumer were also considered.

The CWT is a very small section of magnetised stainless steel wire (standard tag 1.1 mm in length) that is injected into suitable tissue. An area of connective tissue and cartilage in the snout is the usual location selected for juvenile salmonids, and fish as small as 50 mm can be tagged. The tag is marked with decimal numbers which allow batch or individual identification. Presence of the tag is determined using a magnetic detector but the tag must be recovered for decoding. Around 50 million CWT are currently put into hatchery-reared salmon each year, mostly on the US Pacific Coast. They have also been used extensively on Atlantic salmon, with more than 15 million being used since 1990 in 15 countries. The CWT has proven to be an extremely useful and inexpensive tool for salmon hatchery managers.

While hand-tagging using NMT Mark IV injectors has been used to tag of the order of 50 million juvenile salmon per year, using such an approach to tag 300 million fish in a matter of several months each year would pose major logistical problems. What makes this proposal viable is the availability of the NMT AutoFish System which automatically grades, sorts, counts, aligns, holds and coded-wire tags small fish. The AutoFish System can handle and tag fish at a rate of up to 8,000 per hour and requires one operator plus an assistant. No anaesthetic is required. The system can also locate and excise the adipose fin at the same time it is tagging if required. Development of a grading and vaccination version of AutoFish has recently been completed, and a grading/vaccination/tagging version could be produced if the application were to be developed.

The process is computer-controlled throughout and at no time are the fish touched by hand or anaesthetised. The machine uses a patented volitional entry device at two stages of the process. First, fish enter the sorter by swimming against the flow. This determines the length of the fish to within 1.0 mm using video imaging, and sorts them into one of eight size classes. Five of these are fed to individual tagging lines; the other three classes, (too small, too large, and "reject") are separated for later processing. The fish distributed to each line again pass through a volitional entry device into the clipping and tagging chamber. Here the fish is firmly but gently held. The adipose fin is removed (if required) using a robotic clipper guided to the correct location by automatic video imaging; the imaging system also acts as a quality control, to check that the fin has been effectively excised. A coded wire tag is injected into the snout at the same time. The fish then passes through a CWT quality control device which checks that it contains a properly magnetised tag; any that are not properly tagged are rejected and the system computer is informed. A five-line trailer is capable of clipping and tagging up to two fish per second, or 40,000 per eight hour shift; tagging alone is quicker, possibly as fast as 80,000 per hour.

It became apparent early on during development that this fish handling system could potentially be adapted to perform a range of tasks, including vaccination, in one pass. However, in order for the machine to overcome problems associated with other manufacturers' attempts to develop automatic and semi-automatic vaccination machines, significant development was required. This has recently been completed and includes achieving a very accurate location for needle penetration, accurate needle penetration depth, and carefully controlled dosing. These can be achieved as the equipment is capable of determining the length of the fish within close tolerances, and allocating them to different processing lines. Combining tagging and vaccination at a single pass offers significant cost savings and potentially a considerable reduction in handling of the fish with associated stress.

Detailed costings for programmes designed to tag different proportions of the total farmed stock are presented in the full documentation. Based upon experience of deploying the AutoFish System in North America we estimate that the cost per fish to tag all farmed fish is of the order of 6.5 cents US; this includes all capital and operational costs of a stand-alone tagging programme including the tag itself, but does not include the cost of the subsequent monitoring and tag recovery programme. If tagging were to be added to existing use of the AutoFish System for vaccination, the add-on cost per fish would be of the order of 3.5 cents US. Higher costs per fish would apply if only a proportion of production were to be marked.

It is essential that any marking system for widespread use in farmed fish must represent no hazard whatsoever for human health. The coded wire tag is a tiny, biologically inert section of stainless steel wire. It represents no hazard to humans if ingested, and in any case would be injected into tissue (the nasal cartilage) which is not commonly consumed in any country or culture. Up to 50 million CWT are put into Pacific salmon released to the wild each year in North America. The Japanese, who are fastidious over food hygiene and safety and consume most edible parts of fish, readily accept landings of salmon with CWT and are now using this marking system in their own investigation. We are confident that the CWT system will satisfy the most vigorous examination of human health concerns.

Further, in allowing individual fish traceability, the CWT system would make a contribution to the interests of consumer safety and reassurance. Thus routine checks, or special checks of batches or individual fish of concern, at any stage in the rearing and prior to filleting in the wholesaling or retailing process, would allow the rearing and husbandry history to be accessed.

The coded wire tag, being small, biologically inert, and completely enclosed in tissue represents the most benign of all existing fish tagging methods. Histological studies have demonstrated that there is no adverse tissue reaction to the presence of the tag, while other investigations have shown there is no effect upon survival, growth or behaviour. These observations contrast with those for some other marking methods, particularly those involving permanent penetration of the skin. We are confident that the CWT system will satisfy the most vigorous examination of animal welfare issues.

More information can be found on the NMT website at www.nmt.us. Copies of the feasibility study can be obtained from David Solomon; email djsolomon@nmt.us.

1. Texas Instruments RFid Systems

Texas Instruments Radio Frequency Identification (TI-RFid™) Systems is an industry leader in radio frequency identification (RFID) technology and the world's largest integrated manufacturer of RFID tags, smart labels and reader systems. With more than 400 million tags manufactured, TI-RFid technology is used in a broad range of applications worldwide including access control, automotive, document tracking, livestock, product authentication, retail, sports timing, supply chain, ticketing and wireless payment.

TI-RFid, as an industry leader, has been a driving force behind large-scale RFid implementations and ISO standardization for livestock identification programmes. The ISO 11784 and 5 standards published in 1996 are a result of that. These standards today are the basis for official regulations for national and international tracking and tracing schemes. Consumer concerns about food safety, diseases such as BSE and FMD, beef import regulations such as those in the EU and Japan have forced beef exporting countries to assure traceability of livestock. Major producers like Australia, Botswana, Uruguay, Canada and USA have or will have nationwide systems in place based on ISO RFid. The EU has published a sheep and goat regulation which envisages tagging of all sheep and goats in the EU with ISO RFid tags.

TI-RFid offers to share the wealth of experience with RFid applications, and animal tagging in particular, with other industries like salmon production. TI's standard technology and off-the-shelf components will allow systems integrators to easily set up systems with high performance. The high performance level of the TI HDX technology will assure error-free, hands-free data capture of animal movement registration. New industries can benefit from the high number of integrators offering solutions and back-up worldwide. Ready-to-go fish identification equipment is already on the market.

During the presentation, application examples in USA, Sweden, Australia and New Zealand were discussed. All examples provide low-cost solutions based on standard components, but allowing fully automatic fish detection at dams, fishways and culverts, and even in small open streams. Researchers so far are overwhelmed with the amount of fish behaviour and migration data being collected generating ground-breaking results. Studies have already led to improvements to barriers not previously imagined.

For more information about animal ID, contact Jeroen Bolscher, TI-RFid, at +31 546 879409 or visit the website site at www.ti-rfid.com. E-mail: j-bolscher@ti.com

Texas Instruments Incorporated provides innovative DSP and analog technologies to meet our customers' real world signal processing requirements. In addition to Semiconductor, the company's businesses include Sensors & Controls, and Educational & Productivity Solutions. TI is headquartered in Dallas, Texas and has manufacturing, design or sales operations in more than 25 countries. Texas Instruments is traded on the New York Stock Exchange under the symbol TXN. More information is located on the World Wide Web at www.ti.com.

ANNEX 27

Council

CNL(05)30

Comments from the International Salmon Farmers' Association (ISFA) on the Williamsburg Resolution

At the Liaison Group meeting held in Leuven, Belgium, on 26 April (see CNL(05)21), the industry agreed to provide comments to the Secretariat on the Williamsburg Resolution. I have now received the attached comments from Mr James Ryan, President of the International Salmon Farmers' Association. The Council may wish to consider these comments from the industry, and decide on appropriate action. The NASCO delegates to the Liaison Group had asked that a rationale for any changes be provided but the industry has not been able to do this in the time available.

Secretary
Edinburgh
27 May, 2005

CNL(05)30

Comments from the
International Salmon Farmers Association (ISFA)
May 15, 2005

Proposed revisions in **Bold**
Comments and suggestions in italics

Council

CNL(04)54

Resolution by the Parties to the Convention for the Conservation of Salmon in the North Atlantic Ocean To Minimise Impacts from Aquaculture, Introductions and Transfers, and Transgenics on the Wild Salmon Stocks

The Williamsburg Resolution

(Adopted at the Twentieth Annual Meeting of NASCO in June 2003 and amended at the Twenty-First Annual Meeting of NASCO in June 2004)

1) *In the introductory page under "The Parties"*

Please add **(See Explanatory Memorandum, Annex 8)** *to*:

NOTING that NASCO and its Contracting Parties have agreed to apply the Precautionary Approach to the conservation of salmon and acknowledging the need for measures taken in accordance with this Resolution to be consistent with the Precautionary Approach AWARE of the need for cooperation between the Parties in order to maintain and to restore the wild salmon stocks, and promote sustainable conservation and management of such stocks;

Please add the following item after "Recognising the benefits….

NOTING the progress made by the Liaison Group of the North Atlantic Salmon Conservation Organization (NASCO) and the International Salmon Farmers Association (ISFA) in establishing mutually beneficial working arrangements in order to make recommendations on wild salmon conservation and sustainable salmon farming practices that maximize potential benefits and minimize potential risks to both. (Attach as Appendix 2 Annex SLG(01)11 "Guiding Principles for Cooperation between NASCO and its Contracting Parties and the North Atlantic Salmon Farming Industry") ;

Please change the word "can" to "might" as follows:

RECOGNISING that in order to protect wild salmon stocks from adverse impacts that **might** be caused by aquaculture, introductions and transfers, and transgenics, there is a need to take into account local conditions in determining appropriate management measures;

2) ARTICLE 3 – please note revisions in bold

Burden of Proof

Each Party, in accordance with the Precautionary Approach, should require the proponent of an activity covered by this Resolution to provide all information necessary to demonstrate that the proposed activity will not have a **significant** adverse impact on wild salmon stocks or lead to irreversible change. **If the required information is not available and cannot be obtained at reasonable cost, the decision-making process should rely on a full Risk Assessment as outlined in Article 4.**

3) ARTICLE 5

- Minimise the risk of disease and parasite transmission **between** wild salmon stocks and all aquaculture activities, introductions and transfers.

4) ARTICLE 7 – please add second paragraph

Transgenic Salmonids

The Parties should apply the Guidelines for Action on Transgenic Salmon, CNL(97)48 (Annex 5), to protect against potential impacts from transgenic salmonids on wild salmon stocks. In view of the current lack of scientific knowledge on the impact of transgenic salmonids on wild salmon stocks, the use of transgenic salmonids should be considered a high-risk activity. There should be a strong presumption against any such use.

The International Salmon Farmers Association affirms this position in its Policy on Transgenic Salmon, which was adopted at its Seventeenth General Meeting in Galway, Ireland on September 1996: *"In accordance with sound environmental practice, the ISFA firmly rejects transgenic salmon production."*

*5) ARTICLE 9 – please add word **"significant"***

Mitigation and Corrective Measures

Where **significant** adverse impacts on wild salmon stocks are identified, the Parties should initiate corrective measures without delay and these should be designed to achieve their purpose promptly.

*6) ARTICLE 10 (additions and comments in **bold**)*

Implementation

In order to have confidence that the wild stocks are protected from irreversible genetic change, from **significant** ecological impacts and from **significant** impacts of diseases and parasites, full implementation of the measures in this Resolution and its Annexes is **recommended**. ***(Comment - If WR is non-binding on the parties and is not intended to be prescriptive "recommended" is more appropriate than "essential")*** Local conditions may warrant consideration of stronger **or more moderate** measures. **All measures should be regarded as adaptable to improved salmon aquaculture technologies and methodologies. (e.g. use of sterile fish, lice vaccine, etc.)**

Where detailed agreements are developed by a regional Commission of NASCO in support of this Resolution, they will be appended. Appendix 1 indicates the current situation within the North American Commission as outlined in the NAC Protocols (94). **Appendix 11 indicates the Canadian Code for Introductions and Transfers which will be followed in Canada.** Any further guidelines to assist in implementing this Resolution will be annexed.

7) ANNEX 1- Please note the following slightly changed defiinition

Containment of diseases and parasites: Implementation of measures to prevent the **transfer** (spread) of diseases and parasites **between** aquaculture facilities **and wild fish**.

8) ANNEX 2 - Please add the following introductory paragraph

General Measures To Minimise Impacts

This annex is designed to provide guidance to NASCO's Parties on minimizing impacts of salmon aquaculture on wild salmon stocks. The guidelines will be regularly reviewed and updated as appropriate in the light of new scientific information and changing technologies and methodologies.

9) ANNEX 2, 1. Siting and Operation of Aquaculture Activities (items in **bold**)

1.1 Salmon aquaculture facilities should only be located where hydrographical, epidemiological, biological and ecological standards can be met. Factors which may be taken into consideration include: availability of water supply and receiving waters for discharge; water quality and exchange; water depth; site protection; separation distances between aquaculture facilities; and distance from salmon rivers. Further guidance on containment is provided in Annex 3.

Existing protocols employed by the NASCO parties should be referenced here or in separate Annex e.g. Canadian Environmental Assessment Act, Environmental Management Guidelines (New Brunswick), Ireland: Environmental Impact Statement Requirements for Fish Farms and The 5 Fish Farm Monitoring Protocols on Benthic Impacts, Water Column Impacts, Sea Lice, Site Fallowing and Operations Audits (More examples could be added from other countries)

1.2 Consideration should be given to the establishment of "wild salmon protection areas" where salmon aquaculture is restricted or prohibited. Such protection areas may minimise genetic, disease, **and** parasite (and environmental **–** ***delete, not an issue*****) impacts. In the event wild salmon protection areas are to be used to prohibit salmon aquaculture activities a risk assessment should be conducted to determine the degree to which the protection area will effectively help protect wild salmon stocks. In areas with existing salmon aquaculture facilities that are proposed for wild salmon protection areas and in which restrictions or prohibitions on those existing facilities are proposed consideration should be given to the socio-economic impacts of imposing those restrictions or prohibitions.**

1.3 *This clause should be deleted.*
(Comment - Aquaculture-free regions already exist in all jurisdictions because of unsuitable topography. Furthermore, most jurisdictions already have strong policies on single generation sites and adequate separation between sites. The next clause covers this question adequately).

1.4 The separation distance between aquaculture facilities at marine sites should be based on a general assessment of local conditions. Wherever possible, different generations of salmon should be reared in separate locations. As local conditions permit, a fallowing regime should be practised as a means of minimising outbreaks of disease and parasites. Aquaculture production should

be adapted to the holding capacity of an individual site and should not exceed density levels based on **good science** and good husbandry practices.

1.5 Dead and dying fish should be removed ~~immediately~~ **as quickly as possible from aquaculture production facilities taking into account worker safety and weather and sea state conditions. Mortalities should be ~~and~~ disposed of, along with waste materials, in an approved manner.** Procedures should be established to address the effective removal and disposal of infectious material. Contingency plans should be established for the disposal of mortalities from emergency situations.

1.6 **Depending on local regulations and protocols,** tagging, marking, **inventory tracking systems or audited containment management systems** could be used in order to facilitate the identification of farmed salmon in the wild and their separation from wild fish to determine the source of escapes and to assess the interactions of escaped farmed salmon with the wild stocks. **These systems should be coupled with river monitoring and recapture systems that allow holding and close examination of returning fish in the rivers.**

2.6 **diseases of wild fish:** there is a need to strengthen and amend disease controls **to minimise disease transfer between salmon aquaculture activities and wild fish** ~~(ensure adequate protection of wild fish).~~

2.8 Medicines and disinfectants to control diseases and parasites must be used with care and in accordance with the manufacturer's instructions and any Codes of Practice, and in compliance with regulatory authorities.

References for Fish health management systems that are currently being implemented and cover the above items should be included here.

National Aquatic Animal Health Program (NAAHP) Canada
New Brunswick Fish Health Surveillance Program (FHSP)
Ireland: Fish Health Management Protocol (in preparation), Sea Lice Protocol.
(Other countries to follow)

10) *ANNEX 4 – Section III B*

3. Fish with restricted diseases, as defined by national, state, or provincial authorities, may be transferred between facilities or released into waters within the NASCO Convention area, provided that this does not result in changing the disease status of the receiving facility or waters. These transfers must also comply with national, state or provincial regulations. ***(Comment - given the fact that stocking programmes are intentionally releasing aquaculture fish into the wild, there should be close correlation between the recommendations on disease management in fish stocking operations and those in fish farms – see Section 2, Annex 2.)***

11) *ANNEX 7 – Items in bold*

Tagging and marking

Tagging and marking is being used on a small scale in order to facilitate the identification of farmed salmon in the wild and their separation from wild fish, to determine the source of escapes and to assess the interactions of escaped farmed salmon with the wild stocks. Full evaluation of those trials should be conducted in order to assess effectiveness, the feasibility of large-scale marking, and associated costs. **Consideration should also be given to food safety, product quality and animal welfare.**

Alternative production methods

(Comment - This section should be deleted as no longer relevant in light of the numerous failed commercial and experimental projects which have been carried out in many different countries over the last 25 years. The focus should be on the improvement of containment technologies and the development of suitable strains of sterile fish).

Diseases and parasites

The transmission of diseases and parasites **between** salmon reared in aquaculture **and** the wild stocks is an area of considerable concern. Research on vectors for transmission, and methods to prevent and control disease and parasite outbreaks **in wild salmon and in** aquaculture should be encouraged.

Escape Prevention

Research into escape detection technologies and improved containment systems should be encouraged.

12) Add Appendix 2

Canadian Introductions and Transfers Code

ANNEX 28

Council

CNL(05)20

Returns Made in Accordance with the Williamsburg Resolution

CNL(05)20

Returns Made in Accordance with the Williamsburg Resolution

1. The Resolution by the Parties to the Convention for the Conservation of Salmon in the North Atlantic Ocean to Minimise Impacts from Aquaculture, Introductions and Transfers and Transgenics on the Wild Salmon Stocks, the Williamsburg Resolution, was adopted by the Council at its Twentieth Annual Meeting. It restructured five of NASCO's existing agreements into one new 'umbrella' Resolution. These agreements are:

   - Resolution to Minimise Impacts from Salmon Aquaculture on the Wild Salmon Stocks (the Oslo Resolution);

   - Guidelines on Containment of Farm Salmon (developed by the Liaison Group with the salmon farming industry);

   - Guidelines for Action on Transgenic Salmon;

   - North-East Atlantic Commission Resolution to Protect Wild Salmon Stocks from Introductions and Transfers;

   - North American Commission Protocols for the Introduction and Transfer of Salmonids.

   New elements on burden of proof, risk assessment, mitigation and corrective measures, implementation and reporting and Guidelines on Stocking were also included.

2. Under Article 10 (Implementation) of the Williamsburg Resolution the Parties are required to report annually to NASCO on the measures adopted and actions taken under Article 5 (Measures to Minimise Impacts of Aquaculture and Introductions and Transfers in accordance with Annexes 2, 3 and 4 of the Resolution), Article 6 (Non-Indigenous Fish), Article 7 (Transgenic Salmonids) and Article 9 (Mitigation and Corrective Measures). Reporting formats had previously been agreed for the Oslo Resolution, the Guidelines on Containment of Farm Salmon (developed by the Liaison Group) and the NEAC Resolution. The Standing Committee on the Precautionary Approach (SCPA) had proposed a format for reporting on the Guidelines for Action on Transgenic Salmon. While the NAC Protocols are appended to the Williamsburg Resolution, there is no requirement for reporting under the Resolution, and they are currently under review. These existing reporting formats were combined and used on a trial basis for the first returns under the Williamsburg Resolution last year. The same format has been used again this year and the returns are attached. It should be noted that with regard to Section 2, Guidelines on Containment of Farm Salmon, more comprehensive reports were made to the Liaison Group and are contained in Annex 6 of document CNL(05)21.

3. The absence of information under any section of the attached returns does not mean that there are no measures in place. The Council had previously agreed that it wished only to be advised of new measures. In previous years, the Secretariat had checked

the returns to ensure that only new measures were presented in the report to the Council. We have not done so in this report but merely presented the returns as received from the Parties except that we have not included returns of 'No' or 'Not applicable' unless an explanation has been given.

4. It should be noted that not all forms of aquaculture are practised by all Parties. For example, Greenland has no salmon aquaculture at all. Within the EU, there are no marine cage salmon farming sites in Sweden, Spain, Finland, Germany or the UK (England and Wales). At the time of preparation of this paper, no return of information was available for some EU Member States with salmon interests (France and Portugal). Canada has provided a return under the Oslo Resolution rather than using the return format for the Williamsburg Resolution and this is attached as Annex 1.

5. Some of the returns were received quite late and we have, therefore, been unable to carry out any analysis of them or draw conclusions.

Secretary
Edinburgh
2 June, 2004

1. General Measures to Minimise Impacts (Annex 2 of Williamsburg Resolution)

1.1 Siting and Operation of Aquaculture Activities

1.1.1 Have salmon aquaculture facilities only been located where hydrographical, epidemiological, biological and ecological standards can be met?

European Union

Spain

In Spain, all the fish farms that cultivate salmons are for restocking, none of them are for commercialising. In all Spanish salmon fish farms, the sanitary controls are very strict. In Galicia two fish farms of salmon exist and belong to the Xunta of Galicia. In Asturias there are three fish farms that cultivate salmon belonging to the Principality of Asturias. There is also a salmon fish farm property of a fishermen association. In the Autonomous Region of Cantabria there is only a fish farm of salmon and it belongs to the Government of Cantabria. There is only a fish farm of salmon in Guipúzcoa that is controlled by the Local Delegation of Guipúzcoa. This fish farm is located in the race of Ibarla (Irún). The salmon fish farm of Navarre is located in the Bidasoa basin where permanent sanitary controls are carried out by microbiological standards and it is isolated of the rest of salmonid fish farms (trout production). This means that "San Francisco de Asis salmon fish farm" is an independent area for salmon. The Environmental Ministry of Regional Goverment of Navarre is responsible of all the processes. No transformation of salmon products exists in the area. The fish farm-produced, parr and smolts salmons, are used in the enhancement programs of wild population of the Bidasoa River.

UK (England and Wales)

Not applicable for marine cage sites (none in England and Wales). Freshwater hatchery sites are typically sited where disease and ecological risks are in accord with good practice.

UK (Northern Ireland)

These standards were investigated at the initial application stage.

Russian Federation

These standards are taken into account when site-specific requirements to an aquaculture facility are developed.

1.1.2 Have "wild salmon protection areas", where salmon aquaculture is restricted or prohibited, been established?

Iceland

Regulation # 460/2004 banning the rearing of salmonids in salmon producing areas (see CNL(04)32).

Norway

No new measures, but a proposal for additional number of salmon fjords will be put forward to the Parliament in 2005.

1.1.3 Have any "aquaculture regions", where all steps in the production process are carried out and which are separated from similar regions by areas without aquaculture, been designated?

Iceland

Regulation # 460/2004 banning the rearing of salmonids in salmon producing areas (see CNL(04)32).

1.1.4(a) Has the separation distance between aquaculture facilities at marine sites been based on a general assessment of local conditions?

European Union

Ireland

Minimum distance of 1km is required.

UK (Northern Ireland)

This was investigated at the initial application stage.

Norway

No new measures. Previously reported measures still apply, but the regulation is put into the new "Regulation concerning the approval of establishment and expansion of aquaculture farms, and the registration of ponds", 16. Jan. 2004 ("Etableringsforskriften").

Russian Federation

According to veterinary and sanitary requirements to sea cage farms the following separation distances are applied: aquaculture facilities belonging to different owners are to be located at a distance of at least 5 km from each other.

1.1.4(b) Have different generations of salmon been reared in separate locations?

European Union

Germany (Brandenburg)

See report on stock rebuilding programmes in CNL(05)23.

Ireland

Farms divided into "smolt sites" and "grower sites" which are geographically separate.

UK (England and Wales)

Not applicable. Freshwater hatchery sites now largely avoid holding more than one generation of fish.

UK (Northern Ireland)

This would be the case at the sea sites but not in the hatchery operation of the company.

Norway

No new measures. Previously reported measures still apply, but the regulation is put into the new "Regulation concerning the management of aquaculture farms" 22. Dec. 2004 ("Akvakulturdriftsforskriften").

USA

There is a requirement in the State discharge permit (MEPDES) to rear a single year class of fish through harvest at a particular site.

1.1.4(c) Has fallowing been used as a means of minimising outbreaks of diseases and parasites?

European Union

Ireland

Minimum 1 month fallow required on most sites.

Spain

In the fish farm of Ibarla (Gipúzcoa) preventive measures are taken to avoid sanitary problems. In Navarre, when the restocking program has been concluded, the tanks are emptied and all the working areas are fallowed. At the same time cleaning and disinfecting are carried out.

UK (England and Wales)

There would be a compulsory fallowing period following any outbreak of a serious notifiable disease.

UK (Northern Ireland)

There is a requirement to fallow under the IPN Infected Waters Order currently in operation.

UK (Scotland)

A routine fallow between successive stockings of a site is considered to be good husbandry practice. Our Area Management Agreements seek to introduce synchronous fallowing. In 2004 an AMA was signed for West Mull.

Norway

No new measures. Previously reported measures still apply, but the regulation is put into the new "Regulation concerning the management of aquaculture farms" 22. Dec. 2004 ("Akvakulturdriftsforskriften").

Russian Federation

The area of a site allocated to an aquaculture facility should be enough to allow to use a part of it for fallowing.

1.1.4(d) Has aquaculture production been adapted to the holding capacity of individual sites, with density levels based on good husbandry practices?

European Union

Ireland

Benthic conditions are monitored. Stocking levels are controlled under the terms of each Aquaculture Licence.

Spain

In the Autonomous Region of Cantabria, salmon aquaculture is only carried out for stocking enhancement programmes. The fish farm of Ibarla (Guipúzcoa) has a low density of salmon in relation to its capacity to avoid handling and sanitary problems. In Navarre, the number of animals that will be reintroduced in the river and that will be needed to produce in the farm, is decided every year according to the possibilities of the fish farm in order to get a correct density and animal husbandry and to reduce stress.

UK (England and Wales)

Not applicable in terms of marine sites. Production in freshwater is governed by water availability and waste discharge consents, which typically ensure good practice in terms of fish density.

UK (Northern Ireland)

The company have a recognised organic status which specifies the stocking density for the holding of fish.

Norway

The holding capacity was earlier based on volume of the nets on the location, but is now, on the basis of the new regulation of 16. Jan 2004, based on total biomass.

Russian Federation

Stocking densities are applied according to established standards.

1.1.5(a) Have dead and dying fish been removed immediately from aquaculture production facilities and disposed of, along with waste materials, in an approved manner?

European Union

Ireland

This is required under the terms of the licence.

Spain

In Navarre, like in the rest of the Autonomous Regions, when an infectious disease is confirmed or suspected to happen, animals are destroyed and tanks and work material are disinfected. In the case of viral infections (not present to date) an eradication program has been designed in order to get a fast eradication of the disease.

UK (Northern Ireland)

The company regularly uses divers to collect the mortalities from the sea cages. All mortalities have to be disposed of in an appropriate manner as a condition of the Infected Waters Order.

Norway

No new measures. Previously reported measures still apply, but the regulation is put into the new "Regulation concerning the management of aquaculture farms" 22. Dec. 2004 ("Akvakulturdriftsforskriften").

Russian Federation

According to veterinary and sanitary regulations and requirements to aquaculture facilities.

1.1.5(b) Have procedures been established to address the effective removal and disposal of infectious materials?

European Union

Germany (Brandenburg)

Only fishes certified free of diseases and parasites used.

Ireland

Animal By-Products Regulations, 2002.

Spain

For example, in the farm of Navarre there is a permanent control of deaths in tanks. Dead animals are removed of the tanks immediately and incinerated if there is any suspect of infectious diseases.

UK (Northern Ireland)

Again this is a requirement of the Infected Waters order.

Russian Federation

According to veterinary and sanitary regulations and requirements to aquaculture facilities.

1.1.5(c) Have contingency plans been established for the disposal of mortalities from emergency situations?

European Union

Germany (Baden-Wuertemberg)

For ISA: EC Decision 2003/466/EC.

Germany (Brandenburg)

See report on stock rebuilding programmes in CNL(05)23.

Germany (Lower Saxony)

No new measures. Previously reported measures still apply - for ISA: EC Decision 2003/466/EC

Ireland

Contracts established with certified Rendering Plants.

Spain

In the Autonomous Regions of Galicia and Cantabria a contingency plan has not been established for the disposal of mortalities from emergency situations. In Navarre a permanent epidemiological surveillance program is carried out in order to detect diseases in the farm and also in the river, not only clinical cases but also asymptomatic carriers. If bacterial or parasitic diseases are detected, control programs (usually treatments) are applied. If it is a viral disease (never detected) the eradication program will be applied. In all that cases cleaning and disinfecting programs are routines in the farm.

UK (Northern Ireland)

This procedure is in place for the existing and future situations. A rendering company can collect or will take delivery of infected materials at short notice.

Norway

No new measures. Previously reported measures still apply, but the regulation is put into the new "Regulation concerning the management of aquaculture farms" 22. Dec. 2004 ("Akvakulturdriftsforskriften").

1.1.6 Has tagging or marking of farmed fish been used, e.g. to facilitate their identification in the wild and to determine the source of escapes?

European Union

Germany (Brandenburg)

See report on stock rebuilding programmes in CNL(05)23.

Spain

All animals, parr and smolts, that will be introduced in the river are tagged by micro-tag (CWT) and/or adipose fin clipping (ADC).

Iceland

10 % of smolts put into sea-cages must be tagged.

USA

In 2003, an MEPDES general permit for Atlantic salmon aquaculture was finalised and includes special conditions for protection of endangered Atlantic salmon. These conditions focused on finfish aquaculture operations in four primary areas: (1) fish husbandry and culture; (2) loss prevention through audited containment practices; (3) marking cultured fish to identify the origin of escapes; and (4) use of only North

American strains of Atlantic salmon. Effective April 1, 2004 all new fish placed into marine net pens must be identifiable through external means as commercially reared and identifiable through other means as stocked within State of Maine waters. In 2004, mostly all fish stocked for aquaculture purposes received a fin clip.

1.2 Diseases and Parasites

1.2.1 Have all steps in the aquaculture production process, from hatchery to processing plant, including transportation of live fish materials, been conducted in accordance with appropriate fish health protection practices?

European Union

Spain

In Navarre the program for health of salmon is carried out in the fish farm and the rivers where salmon live (also trout rivers). It is based on the epidemiological surveillance program that means a permanent evaluation of the health status of the animals by microbiological diagnosis (bacterial, parasitological, virological and fungal diagnosis). Every three months random samples are taken in the fish farm and at 5 different points of the rivers where salmon live. On these animals the microbiological analyses are carried out using the OIE standards for diagnosis. Also the number of selected animals in every point is determined according to the OIE standards for zones qualification. European Directive 91/67 and Spanish legislation Royal Decree 1882/94.

Ireland

Most farms operate to an Approved Fish Health Management Plan.

UK (Northern Ireland)

The Fish Health unit monitors and approves all fish movements into and out of the sites in accordance with EU legislation

Russian Federation

Compliance with veterinary requirements at all stages of aquaculture production process. Regular inspections of aquaculture facilities for diseases and parasites.

Specified diseases and parasites

1.2.2(a) Have epidemiological zones (either with or without specific pathogens) been established for at least the following diseases: VHS, IHN, ISA and the parasite *Gyrodactylus salaris*?

Denmark (in respect of the Faroe Islands and Greenland)

Faroe Islands

In 2004, 12 seafarms have experienced outbreak of ISA. IHN, VHS and *Gyrodactylus salaris* have never been diagnosed

European Union

Finland

Ministry of Agriculture and Forestry has revised decrees concerning the prevention of the spread of *Gyrodactylus salaris* to the rivers flowing into the Arctic Ocean:

The new Statute of the Ministry of Agriculture and Forestry for the protection of the water systems of the Rivers Tenojoki (Tana), Näätämöjoki (Neiden), Paatsjoki, Uutuanjoki and Tuulomanjoki from the spread of *Gyrodactylus salaris* was stipulated on the basis of Fisheries Act and Act on Animal Diseases and came into force 10.1.2005.

Restrictions on movement of live fish and eggs: Transfer of live farmed and wild fish as well as undisinfected eggs from other parts of Finland to the water systems of the Rivers Tenojoki, Näätämöjoki, Paatsjoki, Uutuanjoki and Tuulomanjoki is forbidden.

Transfer of live farmed and wild fish as well as undisinfected eggs from the water systems of the Rivers Paatsjoki, Uutuanjoki and Tuulomanjoki to the Rivers Tenojoki and Näätämöjoki is forbidden. The Tenojoki – agreement between Finland and Norway applies as well.

Baitfish etc.: It is forbidden to transfer baitfish from other parts of Finland to the water systems of the Rivers Tenojoki, Näätämöjoki, Paatsjoki, Uutuanjoki and Tuulomanjoki, as well as to transfer them between these water systems. The Use of baitfish is forbidden in angling, ice-fishing and lurefishing.

Gutting of fish originating from other water systems is forbidden, if gutting waste can end up in natural waters of the water systems of the Rivers Tenojoki, Näätämöjoki, Paatsjoki, Uutuanjoki and Tuulomanjoki.

Fishing equipment, boats, etc.: Boats, canoes, fishing equipment like reels, rods, lures, nets, boots, wading trousers transferred from other parts of Finland must be completely dried or disinfected before their use in these water systems.

Germany (Baden-Wuertemberg)

Trout farming: Yes, one new VHS-/IHN-free zone was established according to EC Decision 2004/373/EC.

Ireland

At the moment, the entire country is a single zone, since we are free of the diseases listed. Should an outbreak /outbreaks occur, appropriate local epidemiological zones would be established.

Spain

In Cantabria epidemiological zones for VHS, IHN and ISA have been established. In Navarre, all the area is free of these diseases according to the Spanish and European legislation for free areas. (EU 91/67 and RD 1882/94).

Sweden

Sweden was given additional guarantees for three fish diseases: SVC (spring viremia of carp), IPN-V (infectious pancreatic necrosis) on coast and inland and BKD (bakterial kidney disease) on inland (Commission Decision 2004/453/EG). The decision concerns all species intended for aquaculture, implying that the fish only can be brought from countries having the same health status.

UK (Northern Ireland)

Established in relation to 91/67 and as amended.

UK (Scotland)

Evidence to suspect the presence of ISA virus was obtained during a routine investigation into increasing fish mortalities at a farm in South Uist, off the west coast of Scotland, in November 2004. Clinical signs of disease were not consistent with ISA as described in the current OIE Aquatic animal health code. Great Britain is a zone with recognised freedom from these diseases under Directive 91/67/EEC (as amended).

Norway

ISA: Report of outbreaks and epidemiological evaluation for 2004 has been produced by the National Veterinary Institute. Epidemiological zones have been established for all. *G. salaris*: Application for free status (EU) in process. BKD: Application for free status (EU) is under evaluation. VHS and IHN: No new measures. Bufferzone along the border to Russia and the free zone in the rest of the country still apply.

Russian Federation

No. However, in 2004 the Veterinary Service for the Murmansk Region carried out targeted investigations in the wild to identify the presence and spreading of parasites of particular threat to juvenile Atlantic salmon, *G.salaris* in the first place. This was

done on the river system, Tuloma river, in the border area between Russia and Finland. *G.salaris* was not found.

1.2.2(b) If epidemiological zones have been established, have management measures (including monitoring to confirm disease status and eradication) been introduced within these zones?

European Union

Germany (Baden-Wuertemberg)

Trout farming: In the epidemiological zones monitoring plans are established and the monitoring itself is conducted by the National Fish Health Service based on Council Directive 91/67/EEC.

Ireland

The FHU carries out an annual monitoring programme for all the diseases listed.

Sweden

The additional guarantees imply that detections of above mentioned fish diseases must be eradicated.

Spain

In Cantabria, all aquaculture facilities are screened twice every year. In Navarre, all the measures included in the epidemiological surveillance program (diagnostic, programs for control of bacterial diseases and eradication of viral diseases) were described in previous points.

UK

Temporary Control and Surveillance Zones were established as laid down in Commission Decision 2003/466/EC. Controls were implemented according to Council Directive 93/53/EEC. An epizootic investigation is being conducted. The affected fish were culled on a voluntary basis within 16 days of the declaration of suspicion of ISA under the supervision of the Official Service.

UK (England and Wales)

Monitoring is in accord with EU legislation under Directive 91/67 EEC (as amended), and related Decisions, notably Decision 2001/183 EC on sampling and testing.

UK (Northern Ireland)

Wild fish sampling programme, farmed fish sampling programme and appropriate contingency planning in progress.

Norway

ISA: The contingency plan (Contingency Plan for control of Infectious Salmon Anaemia (ISA) in Norway) has been revised and is now under scrutiny by ESA.

1.2.3 Have there been any known movements of live salmonids and their eggs from a zone where any of the specified diseases is present to a zone free of these diseases?

European Union

Spain

All the areas of the Autonomous Regions where salmon live are free of diseases.

1.2.4 Has a list of prevailing infectious diseases and parasites, including methods used for their control, been established and maintained by the appropriate authorities?

European Union

Germany (Baden-Wuertemberg)

A list of such diseases and parasites exists and is maintained by the National Fish Health Service.

Germany (Northrhine-Westfalia)

Such a list is maintained by Bundesforschungsanstalt für Viruskrankheiten der Tiere in Riems.

Ireland

Available from Marine Institute/Dept. Communications, Marine & Natural Resources.

Spain

In Galicia, Asturias and Basque Country, a list of prevailing infectious diseases and parasites has not been established or maintained by the appropriate authorities. In Navarre they have two lists: List I and II of aquatic diseases for the UE and standards of the OIE for sampling and diagnostic in aquaculture

Sweden

Complementary directions from the Swedish National Board of Agriculture (SJVFS 1994:94).

UK (England and Wales)

ISA, VHS, IHN, BKD, IPN are notifiable diseases controlled under EU and national legislation. The first four are subject to eradication programmes if found on farms in

GB. IPN is notifiable in salmon in GB, and is managed by movement controls on farms and a broodstock management programme on marine sites.

UK (Northern Ireland)

This is a living document and updated as necessary.

Russian Federation

There is a list of diseases and parasites which may occur at aquaculture facilities established by the Veterinary Service.

Unknown diseases and parasites

1.2.5 Have procedures been established for the early identification and detection of, and rapid response to, an outbreak of any new disease or parasite infection likely to affect Atlantic salmon?

European Union

Germany (Baden-Wuertemberg)

The National Fish Health Service regularly controls commercial trout (fish) hatcheries and production units as well as non-commercial trout (fish) farms in programme and applied epidemiological zones by sampling fish and controlling their health status. New diseases or parasites would be detected during this programme.

Germany (Northrhine-Westfalia)

Control of health status of imported salmon ova for stocking programmes is performed in collaboration with Bundesforschungsanstalt für Viruskrankheiten der Tiere

Ireland

Generic Contingency Plans available.

Spain

Since 1995 the epidemiological surveillance program to detect the referred viral diseases. Authorised reference laboratories carry out diagnostics for Fish Diseases in Spain (Madrid, Zaragoza).

UK (England and Wales)

The official services are legally obliged to investigate mortalities suspected to be caused by notifiable or emerging diseases. Appropriate movement controls would be placed on suspect sites.

UK (Northern Ireland)

There are wild fish and farmed fish sampling programmes in place.

Norway

No new measures. Previously reported measures still apply, but the regulation is put into the new "Regulation concerning the management of aquaculture farms" 22. Dec. 2004 ("Akvakulturdriftsforskriften").

Russian Federation

The Veterinary Service undertook investigations to identify: the presence and spreading of parasites of particular threat to juvenile salmon; the presence of diseases in fish and how they are spread in the wild populations.

1.2.6 Have any additional protective measures been introduced, e.g. establishment of zones, restrictions on trade in live fish, or strengthening and amendment of disease controls to ensure adequate protection of wild fish?

European Union

Germany (Brandenburg)

Only fishes certified free of diseases and parasites used.

Germany (Baden-Wuertemberg)

The introduction and release of fish into programme and applied epidemiological zones is restricted due to Commission Decision 916/67/EEC and 93/53/EEC.

Spain

The Classification of free of Diseases (viral and parasitic *Gyrodactylus salaris*) is made according to Spanish and EU regulation and according to the OIE standards (EU 91/67 and RD 1882/94).

UK (England and Wales)

Additional guarantees for the control of diseases on List II of Annex 1 of Directive 91/67/EEC were given to certain EU Member States under Commission Decision 2004/453/Ec in May 2004. For Great Britain, this included formal controls for Bacterial Kidney Disease (BKD), and increased controls for *Gyrodactylus salaris*

UK (Northern Ireland)

The Disease of Fish Act 1967 allows for the imposition of restrictions to protect the wild fish stocks. None have been introduced in this reporting period.

UK (Scotland)

Commission Decision 2004/453/EC of 29 April 2004 granted the UK additional guarantees (control of imports) and approved the control programmes for *Gyrodactylus salaris*, Bacterial Kidney Disease (BKD) and Spring Viraemia of Carp (SVC).

Health inspection of donor facilities

1.2.7 Have there been any known movements of live salmonids and their eggs from hatcheries to areas containing Atlantic salmon stocks, or to facilities where there is a risk of transmission of infection to such areas, other than those from facilities where regular inspections have not detected significant diseases and parasites?

European Union

Spain

Only movements from the farm to the river (free of the referred diseases) where restocking releases are made (also free of diseases) are according to the epidemiological surveillance program.

Use of medicines and disinfectants

1.2.8 Have medicines and disinfectants been used with care and in accordance with manufacturers' instructions and any Codes of Practice, and in compliance with regulatory authorities?

European Union

Germany (Lower Saxony)

Medicines are prescribed by the Fish Health Service of Lower Saxony on the basis of the *Verordnung über Standardzulassungen von Arzneimitteln* (Regulation for standard license of medicines) BGBl I v. 15.12.2004, S. 3334. Disinfectants are used on the basis of the *Fischseuchen-Verordnung* (Fish Epidemic Regulation) BGBl I v. 9.11.2004, S. 2754.

Germany (Baden-Wuertemberg)

Medicines are prescribed by the National Fish Health Service on the basis of the Verordnung über Standardzulassungen von Arzneimitteln (Regulation for standard license of medicines) BGBl I v. 15.12.2004, S. 3334. Disinfectants are used on the basis of the Fischseuchen-Verordnung (Fish Epidemic Regulation) BGBl I v. 9.11.2004, S. 2754.

Ireland

Monitored by private veterinarians, Dept of Agriculture and Marine Institute.

Spain

The treatment of bacterial, fungal and parasitic diseases is made with accepted medications in the UE regulation (especially those referred to antibiotics and disinfectants) and application is made according to the manufacturer instructions.

In Navarre, the efficacy of the treatments is evaluated also by the epidemiological surveillance program and studies of resistance are carried out periodically.

UK (England and Wales)

Veterinary medicine use on farms is monitored by the official services, and residue testing is carried out to look at illegal and legal use of medicines. There is no official monitoring of farm disinfectant use, other than for confirmation of egg disinfection following import to the GB approved zone

UK (Northern Ireland)

All codes of practice are adhered to.

1.3 Gene Banks

1.3.1 Have gene banks been established for stocks that are in danger of extirpation?

European Union

Denmark

A gene bank has been established at the Danish Center for Wild Salmon**.**

Germany (Brandenburg)

The gene data banks are at Leibnitz-Institute of Freshwater Ecology and Inland Fisheries Berlin (Germany); Dr. Klaus Kohlmann (Department of Inland Fisheries).

Germany (Northrhine-Westfalia)

No, because of extinction of Rhine salmon stock 50 years ago.

Spain

In Cantabria there is sperm criopreservation.

In Galicia a living gene bank has been created with females from the Eo, Ulla, Lérez and Miño rivers. Also sperm freezing is under development in these rivers.

Norway

By the end of 2004, milt from a total of 6,511 wild salmon from 169 stocks had been included in the Norwegian Gene Bank (cryopreservation) 11 new milt samples were

included in the gene bank in 2004. Norway currently operates 3 living gene banks; one in northern Norway, one in middle Norway and one in south-western Norway. The threats to the stocks that are kept in these stations are hydropower development, acidification, high proportion of escaped farmed salmon and the freshwater parasite *Gyrdactylus salaris.* Of the 29 salmon stocks that are, or have been, taken care of in the gene banks, nine have been reintroduced to their rivers and seven of them are taken out from the gene banks. Two is kept for safety reasons. Ten stocks are under restoration, while nine stocks waiting to be restored after eradication of *G. salaris* from the rivers.

2. Guidelines on Containment of Farm Salmon (Annex 3 of the Williamsburg Resolution)

2.1 Is there currently an Action Plan for containment of farm salmon so as to achieve a level of escapes that is as close to zero as practicable? If yes, please attach a copy. If no, what is the anticipated timetable for development of an Action Plan?

European Union

Ireland

Industry has developed a code of practice and reported escape levels are exceptionally low. Copy previously supplied to NASCO.

UK (Northern Ireland)

This is currently in draft form and will be introduced by May 2005.

Iceland

Regulation # 1011/2003 on sea-cage integrity and internal inspection on fish farms was set in December 2003. An abstract of the regulation is attached. The original in Icelandic can be obtained on the Directorate´s web page: www.veidimalastjori.is

Regulatory measure regarding equipment and internal inspection on Icelandic Fish Farms

Abstract

Prepared by

Árni Ísaksson
Directorate of Freshwater Fisheries

Provisions

- The regulatory measure is composed of 9 chapters and 8 annexes.
- Chapter 1 (articles 1-2) defines the scope of the measure and technical words.

- Chapter 2(article 3) contains provisions regarding a production log and its accessability by inspectors.
- Chapter 3 (article 4) contains provisions regarding accidental releases from fish farms and how these should be dealt with through emergency measures.
- Chapter 4 (articles 5-9) defines the integrity of equipment used on fish farms as well as maintenance.
- Chapter 5 (articles 10-12) defines the inner inspection and risk analysis, which shall be performed on fish farms and approved by the Directorate of Freshwater Fisheries.
- Chapter 6 (article 13) contains provisions for the runoff from landbased farms, which shall be fish proof.
- Chapter 7 (article 14-15) specifies methods used for the transport of life salmonids between fish farms, especially if well boats are used. Towing of cages outside jurisdiction of the fish farms is prohibitted as well as the cotainment of salmonids in cages, which are not part of a licensed unit.
- Chapter 8 (article 16) contains provisions regarding official inspection of the fish farms by the Directorate of Freshwater Fisheries.
- Chapter 9 (article 17-18) specifies penalties and validation of the regulatory measure.

Annexes

- Annex 1 specifies the contents and the processing of the log book kept on the fish farm, which shall be available for inspection at any time.
- Annex 2 specifies procedures regarding accidental releases both with respect to reporting and emergency procedures.
- Annex 3 specifies how a fish farm shall be designed and constructed. It defines environmental variables that shall be withstood by different classes of sea-cages. Necessary anchors for each class are also specified.
- Annex 4 contains provisions regarding the inspection of netting used on sea-cages both above and below the sea-surface.
- Annex 5 specifies monitoring of the vicinity of the fish farm through netting series.
- Annex 6 outlines procedures to be devised by the fish farm management in order to to minimize accidental releases from sea-cages.
- Annex 7 specifies necessary training of personnel working in fish farms.
- Annex 8 contains provisions on official verification of the effectiveness of the internal ispection performed by the fish farm management at least once a year.

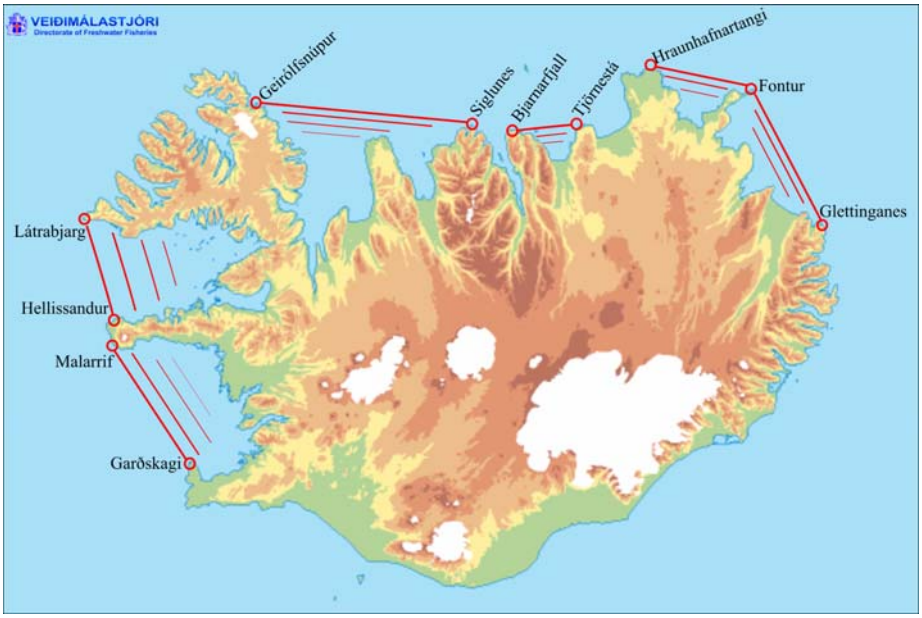
A new regulation for the protection of wild Atlantic salmon

In May of 2004 the Ministry of Agriculture in Reykjavík issued a regulatory measure (nr. 460/2004) prohibiting the rearing of salmonids of reared origin in sea-cages in fjords and bays close to major salmon rivers. This ban, which is set in the light of the Precautionary Approach, replaces a regulation set in 2001 (nr. 226/2001), which prohibited rearing of fertile salmon in these same areas.

The map below designates the protection areas and an English translation of the regulations is attached in Annex 1.

With this regulation in force no farming of salmonids (fam. Salmonidae),i.e. salmon, brown trout, char or rainbow trout or related species can be carried out in sea-cages in the designated areas.

The setting of this regulation limits farming of salmonids in sea-cages in Iceland to limited north coast areas in addition to the Western and Eastern fjords.



Coastal protection areas where farming of salmonids (fam. Salmonidae) in sea-cages is prohibited.

Annex 1
Nr. 460

27th of May 2004

Notification
on protection areas, where rearing of salmonids (fam. salmonidae) in sea-cages is prohibited

Article 1

In order to protect wild salmon stocks it is prohibited to rear salmonid species of reared origin in sea-cages in the following areas along the Icelandic coast:

1. In Faxaflói inside a line drawn from Garðskagi to Malarrif on Snæfellsnes.
2. In Breiðafjörður inside a line drawn from Hellissandur to Látrabjarg.
3. In Húnalói and Skagafjörður inside a line drawn from Geirólfsgnúpur to Siglunes.
4. In Skjálfandaflói inside a line drawn from Bjarnarfjall to Tjörnestá.
5. In northeastern Iceland inside a line drawn from Hraunhafnartangi to Fontur on Langanes and from Fontur to Glettinganes.

Article 2

This notification, which enters immediately into force, is set according to an authorization in article 77 in the Salmonid Fisheries Act nr. 76/1970 with subsequent

amendments. It replaces notification nr. 226/2001 on protection areas where the rearing of fertile salmon (Salmo salar) in sea-cages is prohibited.

Ministry of Agriculture 27th of May 2004

Guðni Ágústsson
(Minister of Agriculture)

Guðmundur B. Helgason

Norway

The two measures of highest priority in the Action Plan of March 2000 were introduced in 2004.

- Quality management systems on production and operation are mandatory; called Internal Control
  NYTEK, a scheme of approval of floating fish farm. Requirements based on NS 9415, Marine fish farms: Requirement for design, dimensioning, production, installation and operation

Russian Federation

There is presently only one commercial marine cage rearing facility for Atlantic salmon in Russia – "Gigante-Pechenga" salmon farm (Kola Peninsula). The Plan of Action for this farm was developed in 2001. It is being followed and continuously developed further. In 2004 and 2005 new legislation was adopted to regulate aquaculture and protect wild Atlantic salmon stocks (see references below).

USA

In 2003, an MEPDES general permit for Atlantic salmon aquaculture was finalised and includes special conditions for protection of endangered Atlantic salmon. Some of these conditions focused on operations and loss prevention through audited containment practices. Each facility shall employ a fully functional marine Containment Management System (CMS) designed, constructed, and operated so as to prevent the accidental or consequential escape of fish to open water. The CMS will be audited at least once per year and within 30 days of a reportable escape i.e., more than 50 fish 2 Kg or larger. Containment audits for all active facilities were completed for 2004.

2.2 Is information available on the level and causes of escapes?

European Union

Ireland

Yes - must be reported under terms of the Aquaculture Licence.

Scanning of 30-60% of Irish commercial wild salmon is carried out annually, in June and July, as part of National Coded Wire tagging and Tag Recovery Programme. Occurrence of fish farm escapees in this summer survey is generally less than 1%.

Other indices such data from index systems, rod catches and video linked fish counting facilities indicate that levels of farmed fish entering freshwater are low. No escapes were reported from fish farms in 2004.

UK (Northern Ireland)

This will be included as a result of the contingency plan.

UK (Scotland)

Information on escapes is available in the Scottish Executive annual fish farm production survey. See: http://www.marlab.ac.uk

Iceland

There are only 2 marine cage farms operating in Iceland, both on the east coast. Escapes as judged by occurrence of escapees in rivers seem to have been minimal.

Russian Federation

For the whole period of operations at the rearing facility "Gigante Pechenga" there was only one small-scale leakage of salmon juveniles from cages at on-growing site at Trifonojarvi lake in April 2004. As a follow-up of this case a requisition was issued by relevant authorities and measures were taken by the farm to prevent escapes.

USA

In 2004, mandatory escape reporting protocols were in place for all MEPDES permitted facilities. The facility shall report any known or suspected escapes of more than 50 fish with an average weight of 2 Kg each or more within 24 hrs to the Maine Department Marine Resources (MEDMR). In 2004, one escape event was voluntarily reported; damage to a cage during a storm caused a small hole in the primary containment net, which held fish approximately 800 grams in size. Information on the number of fish escaped is not available. There were 4 aquaculture origin fish documented captured within the St. Croix River in 2004 (USASAC draft report 2004).

2.3 Is information available on implementation of, and compliance with, the Action Plan?

European Union

Ireland

Yes – details of escapes must be reported under terms of the Aquaculture Licence.

Iceland

The fish farms are responsible for the preparation of a contingency plan related to escapes and other emergency events. The inspectors of the Directorate of Freshwater Fisheries have enforced that this is prepared.

Russian Federation

The implementation of and compliance with the Action Plan by "Gigante- Pechenga" are monitored by relevant government organisations (Murmanrybvod - Directorate for Fisheries Control and Enforcement and Fish Protection and State Veterinary Services). There is good cooperation between them and the company which ensures that the best practices are used and the Plan of Action is further refined in the light of new legislation adopted.

USA

In 2004, all active marine sites acquiring MEPDES permits were required to develop, implement and adhere to appropriate CMS plans. These facilities were audited for compliance through a collaborative of State and federal agencies.

2.4 Is information available on the effectiveness of the Action Plan in minimising escapes?

European Union

Ireland

Levels of escapes before and after introduction of plan were already low.

Iceland

Another regulation # 460/2004 has been set, which bans salmon and salmonid farming from areas close to salmon rivers. An English translation is attached **. This further ensures that reared salmon do not enter salmon rivers.

Norway

Difficult to say due to the fluctuations. Since April 2003 there has been, with exception of two collision incidents, a significant reduction of *reported* escapees. However we still have considerable uncertainty with *unreported* escapees.

Russian Federation

The effectiveness of the Action Plan can be assessed as rather good as there were no escapes of fish from sea cages over the years of operation of the farm. The cooperation with government organisations improved and new legislation was adopted, which will further enhance the effectiveness.

USA

All salmon aquaculture facilities are required to develop and maintain an inventory tracking system that allows clear, accurate inventory tracking of all size classes (i.e. average weight and age) of Atlantic salmon, including documentation of mortality

events and any escapes. All inventories are reported monthly to MEDMR in accordance with MEPDES permit requirements.

2.5 Have areas for research and development in support of the Action Plan been identified?

European Union

Ireland

Joint simulated control release and subsequent recovery of farmed salmon has been designed but not yet implemented due to concerns in some home water countries. This plan will be considered again in due course.

Iceland

Iceland will follow the international development on the standards of sea-cages, which is being developed e.g. in Norway.

Norway

Proposal for National Monitoring Program reg. National Salmon Fjords also includes focus on escaped farmed salmon and salmon lice.

3. Non-indigenous Fish (Article 6 of the Williamsburg Resolution)

3.1 Have there been any known introductions of non-indigenous fish into a river containing Atlantic salmon, other than where a thorough evaluation of potential adverse impacts has indicated that there is no unacceptable risk of adverse ecological interactions?

European Union

Germany (Brandenburg)

The indigenous stock of salmon in river-system Elbe is extinct. The restocking program uses closely related gene stocks.

UK (England and Wales)

Rainbow trout are released into some rivers containing salmon on a put-and-take basis but this is subject to consenting requirements accounting for risks to the fishery and environment.

USA

As reported last year, non-indigenous fish have been intentionally introduced into rivers containing wild Atlantic salmon. Some of these introductions have been discontinued, however, as a result of discussions between NMFS, MEASC, and

MEIFW. NMFS is continuing to work with state agencies in ME to evaluate the risks of the introductions that are continuing.

3.2 Have there been any known introductions into a Commission area of reproductively viable non-indigenous anadromous salmonids or their gametes?

European Union

UK (England and Wales)

Rainbow trout eggs from health certified sites in South Africa and USA.

USA

In 2004, all fish placed in Maine waters within the US were of North American origin, due in part to a court order and injunction pursuant to US Clean Water Act violations, issued in May 2003. The court ordered two major companies operating in Maine to rear only North American Atlantic salmon in Maine waters. The other major company settled out of court and agreed to use only North American stocks in the US. State MEPDES permits require that after July 31, 2004 all reproductively viable Atlantic salmon stocked into Maine waters for the purpose of aquaculture must be of North American origin. All reproductively viable non North American Atlantic salmon must be removed from net pens prior to March 1, 2006.

4. Guidelines for Action on Transgenic Salmon (Annex 5 of the Williamsburg Resolution)

4.1 Have there been any proposals to permit the commercial rearing of transgenic salmonids? If 'yes', please provide details of the proposed method of containment and other measures to safeguard the wild stocks.

No proposals to rear transgenic salmonids have been reported by any Party.

4.2 Has any research been undertaken to improve knowledge on the potential impacts of transgenic fish on the wild stocks and their habitat?

USA

A small biotech company AquaBounty (based out of Waltham, Massachusetts) is currently working with the US Food and Drug Administration on specific research needs to market transgenic salmon in the US. As part of the application process, there is a requirement to conduct an assessment of the potential impacts of selling and/or raising transgenic salmon on humans, fish and the overall environment.

4.3 Have any other relevant actions been taken (e.g. to advise the salmon farming industry of the potential risks to wild stocks from transgenic salmon; to examine the trade implications associated with transgenic salmon; to implement the Protocol on Biosafety)?

USA

NOAA Fisheries and USFWS have advised the US Food and Drug Administration of the need to consult under the Endangered Species Act on the potential impacts of this application on endangered Atlantic salmon. Holding of transgenic salmon is currently prohibited under the MEDEP permit.

5. Mitigation and Corrective Measures (Article 9 of the Williamsburg Resolution)

5.1 Where adverse impacts on wild salmon stocks have been identified, have corrective measures, designed to achieve their purpose promptly, been initiated without delay?

European Union

Denmark

Genetic research is going on in rivers Ribe and Varde going to the Wadden Sea.

Germany (Brandenburg)

See article 15; no. 3.
The cooperation between authorities of fishery, water engineering and nature protection is difficult, because of different laws, regulations or aims.

UK (Northern Ireland)

These corrective measures, netting at sea of escapes etc, have been highlighted and will be incorporated into the contingency planning.

Norway

By reported escapes and sudden accidents - mandatory recapture of escaped fish is activated.
Reg. gene banks see 1.3.1.

6. Research and Development and Data Collection (Annex 7 of the Williamsburg Resolution)

6.1 Have any trials been undertaken to evaluate the performance of strains of sterile fish under production conditions?

USA

The United States Department of Agriculture (USDA) has initiated a breeding program to assist in the development of suitable North American strains of Atlantic salmon for use in aquaculture. Researchers at the USDA facility are working with sterile triploid salmon of the "Cascade" strain, believed to be of Gaspé Peninsula origin.

6.2 Have the effectiveness, feasibility and cost of tagging or marking of farmed fish been assessed?

European Union

Ireland

Undertaken by Irish Salmon Growers Association and thought not to be feasible at present. Current low level of escapees present in Irish commercial catch (<1%) suggests low overall abundance.

Spain

Salmon of the fish farm of Ibarla (Irún) that are released in the rivers of Guipúzcoa are marked. It carries out a monitoring of the tagging salmons that enter in the rivers through programs established by the Local Delegation of Guipúzcoa that is the Organisation that assessed all the costs.

Both the effectiveness and the feasibility have been assessed and the Regional Government of Navarre assumes the cost.

UK (Scotland)

The Scottish Executive was part of the EU delegation in the NASCO workshop on the marking of farmed fish held in Edinburgh in December 2004, and chaired the workshop.

Norway

Different tagging/marking methods evaluated by an interdepartmental group of administrators and researchers. DNA viewed as being effective in distinguishing between farm strains, but having logistic problems as the same group of smolts may

end up in several farms. (Same problem applies to some physical tags). However a smaller study in Hardangerfjord will be initiated with the aim of using chemical and biochemical tracing techniques. The first step will be DNA based methods.

6.3 Have current and new production methods and technology been evaluated with regard to their potential to reduce the risk of disease and parasite transmission and escapes?

Denmark (in respect of the Faroe Islands and Greenland)

Faroe Islands

Vaccination against ISA has been approved by the EU Commission and will be initiated in spring 2005 under surveillance by the veterinary authorities.

Norway

Evaluated in review articles (BioScience, May 2005 vol 55 No 5, by R Naylor, K Hindar, IA Fleming et al.,
and another one in Aquaculture, Review of the Norwegian "National Action Plan Against Salmon Lice on Salmonids": The effect on wild salmonids. Heuch et al. Aquaculture 246, 2005.).

6.4 Has any research been undertaken on broodstock selection methodology to minimise impacts on wild salmon stocks?

European Union

Denmark

Genetic research is going on in rivers Ribe and Varde going to the Wadden Sea.

UK (Northern Ireland)

The purchase of eggs from an IPN free source has been implemented due to the present situation at the sea sites. This is in place of holding their own broodstock.

Spain

In Navarre spawners are captured in the river every year, preferably not tagged.

The rest of the Autonomous Regions have not undertaken any research on broodstock selection methodology to minimise impacts on wild salmon stocks

Norway

Two studies on variation in susceptibility and resistance to lice infections:
Glover et al. 2005. Variation of Atlantic salmon families (*Salmo salar* L.) in susceptibility to the sea lice L. salm. and C. elong. Aquaculture 245: 19-30

Kolstad et al. Genetic variation in resistance of Atlantic salmon to the salmon louse. Aquaculture, In press.

6.5 Has any genetic research been conducted to investigate interactions between wild salmon and salmon of aquaculture origin, e.g. extent of hybridization, composition of stocks and identification of disease strains and appropriate treatment?

European Union

Germany (Brandenburg)

Genetic research for identification of best suitable origin.

Ireland

P McGinnity, P. Prodohl, A. Ferguson, R. Hynes, N. O'Maoileidigh, N. Baker, D.Cotter, B. O'Hea, D. Cooke, G. Rogan, J. Taggart & T. Cross, 2003.
Fitness reduction and potential extinction of wild populations of Atlantic salmon as a result of interactions with escaped farm salmon. Proc. R. Soc. Lond. B

Spain

The study of the genetic structure of the populations of the Bidasoa River and Guipúzcoa´s rivers are under development.

UK (Northern Ireland)

Genetic studies on the impact of escaped farmed salmon on wild salmon have been carried out on the Glenarm River and the River Bush in County Antrim.

Norway

Research projects being carried out at the Institute of Marine Research (IMR) and the Norwegian Institute for Nature Research (NINA). An EU project (Salimpact) co-ordinated from the Netherlands has studied impacts of aquaculture on immune response genes of wild salmon and trout (to be concluded 2005). Reviews in Naylor *et al.* (2005) and in book chapter for EU-Salgen (Ferguson, A. et al.) to appear soon.

A study has been conducted to assess the genetic variability in the five major Norwegian strains of farmed salmon, and to compare this with genetic variability in wild salmon populations. The study is based on both DNA microsatellie loci and allozyme loci. The microsatellite data are published, while the allozyme data are in press.
Skaala, Ø., J. B. Taggart, K. Gunnes. 2005. Genetic differences between five major domesticated strains of Atlantic salmon (Salmo salar) and wild salmon. Journal of Fish Biology. In press.
Skaala, Ø., Høyheim, B., Glover, K.A., Dahle, G. 2004. Microsatellite analysis in domesticated and wild Atlantic salmon (Salmo salar L.): allelic diversity and identification of individuals. Aquaculture 240: 131–143.

Russian Federation

In 2004 the Moscow University continued studies on the topic: "Genetic monitoring of wild populations of Atlantic salmon in areas of salmon farming". Information was gathered on the genetic make-up of wild salmon populations in rivers B.Z.Litsa, Ura located in the vicinity of Atlantic salmon farm in the Pechenga inlet.

6.6 Has any research been conducted on vectors for transmission of diseases and parasites and on methods to prevent and control disease and parasite outbreaks in aquaculture?

European Union

Germany (Baden-Wuertemberg)

Salmon farming: Not applicable. Trout farming: Yes. Research concerning the occurrence of VHS in Lake Constance as well as of IPN, Red-Mouth-Disease, VHS and IHN in rivers was conducted.

UK (Scotland)

In 2004 the following FRS projects were completed:
FC1186 Disease susceptibility and immunology of cultured marine fish.
FC1188 Limiting the disease impact from new species.
FC 1190 IPN Epidemiology.
FC 1192 IPN Testing and Transmission.

Norway

Focus on salmon lice and on *Gyrodactylus salaris*, especially in fjords with varying degrees of salinity and farm concentration. One aim is to model acquisition of lice on salmon smolts (e.g. Wagner, G.N., et al. 2004. J. Fish Biol. 64: 1593-1604, Otterå et al., 2004. Fisken & Havet, ISSN 0071-5638; IMR).

A considerable research effort is carried out in order to improve prophylaxis in aquaculture. In particular, all salmon and trout is routinely vaccinated against common bacterial diseases, and in some cases viral diseases. Research is carried out on:

- Improved vaccines and immunostimulants
- Improved vaccination protocols
- Improvement of environmental and nutritional conditions

Other prophylactic strategies
*Research on development of vaccine against salmon lice is continued. (MR).
(Promising results so far – not published).

*Review of the Norwegian "National Action Plan Against Salmon Lice on Salmonids": The effect on wild salmonids. (Heuch et al. Aquaculture 246, 2005.).

*One study on population dynamics of salmon lice. (Stien et al. 2005, Mar.Ecol.Prog.Ser. vol 190.)
Reg lice; research on population dynamics, epidemiology and interactions are going on in several fjords in Norway.

USA

Yes, the USDA APHIS is currently studying ISA vectors to minimise and control transmission between farm sites. NOAA Fisheries is currently researching other fish species (non-salmonid) harbouring the ISA virus.

6.7 Has any information been collected and analysed on the extent of intermingling between wild salmon and salmon of aquaculture origin?

European Union

Denmark

Genetic research is going on in rivers Ribe and Varde going to the Wadden Sea.

Finland

Research focusing on the genetic differences between wild and escaped farmed salmon in the River Tenojoki and the possible genetic impact of escapees on wild salmon reproduction was started in 2003 and continued in 2004.

UK (England and Wales)

In 2003, a sampling programme, initiated by CEFAS and the Agency, to identify any salmon suspected of being of farmed origin in the England and Wales catch was expanded in 2004 to include commercial fisheries in the NW Region. There was only one report in 2004 of a salmon suspected to be of farmed origin, from the NE Region, though this fish was confirmed as unlikely to have originated in a fish farm.

UK (Northern Ireland)

A hybridisation experiment was carried out on the River Bush to test the consequences in production terms, of interbreeding between escaped farmed salmon and wild salmon. Results are currently being evaluated. Also DARD carries out an annual monitoring programme to quantify the occurrence of escaped farmed salmon in coastal salmon fisheries and in the River Bush.

Norway

*****Surveillance being carried out along the coast and in several rivers (NINA). New project to be initiated summer 2005 based on experimental release of farm fish from sea cages (IMR).
*Historical and recent samples of five salmon populations have been collected and genotyped at 11 DNA microsatellite loci to assess genetic temporal stability. Not published (IMR).

6.8 Have any appropriate factors been identified for inclusion in a risk assessment in order to evaluate the potential impacts of aquaculture, introductions and transfers and transgenics on wild salmon stocks?

Norway

Parts of risk assessment being carried out in review paper (Naylor *et al.*, BioScience vol.55 no5, May 2005).
Project at NINA aimed at quantifying risks posed by aquaculture of genetically modified fish, using a physiological model of comparing fast-growing fish with wild fish.

6.9 Has any research been undertaken on biological interactions between wild salmon and salmon of aquaculture origin, including competitive and behavioural interactions, that may affect the viability and success of the wild populations?

European Union

Finland

Research focusing on the genetic differences between wild and escaped farmed salmon in the River Tenojoki and the possible genetic impact of escapees on wild salmon reproduction was started in 2003 and continued in 2004.

Ireland

P McGinnity, P. Prodohl, A. Ferguson, R. Hynes, N. O'Maoileidigh, N. Baker, D.Cotter, B. O'Hea, D. Cooke, G. Rogan, J. Taggart & T. Cross, 2003.
Fitness reduction and potential extinction of wild populations of Atlantic salmon as a result of interactions with escaped farm salmon. Proc. R. Soc. Lond. B.

UK Scotland)

In 2004 the following FRS research project was completed:
AE 1158 Impacts of salmon farming on wild fish populations.

Norway

Parts of ongoing research at IMR and NINA (but probably less activity in 2004 than in previous years). Reviews in Ferguson *et al*. (Salgen book chapter) and Hindar & Fleming (book chapter from Aqua 2000, to appear soon).
A study (Survival, growth and disease resistance in offspring of domesticated and wild Atlantic salmon and their hybrids) has been initiated to investigate biological interactions between offspring of wild and farmed salmon. Altogether about 60 families and 200,000 eggs of known parentage were planted in a natural river habitat with downstream traps. The study is not finished. (IMR).

USA

The Atlantic Salmon Federation is engaged in an ongoing study that began in 2004 with funding from NOAA Fisheries. The proposed research consists of tracking experimentally released farmed salmon in the Bay of Fundy region to obtain information that can be used to determine recapture feasibility and potential interactions with wild Atlantic salmon. The study is a tracking study to learn about the behavior of fish when they leave a cage site. If the released fish stay in the proximity of the cage site for a period of time then that will indicate that there may be opportunities to attempt to recapture escaped fish. If fish disperse more rapidly then recapture attempts may not be feasible as a measure to reduce the potential for escapees to interact with wild Atlantic salmon. The study has not yet been completed and results are not available.

Return by Canada under the Oslo Resolution

1. General Measures

1.1 Sites

1.1.1 Sites only to be assigned for aquaculture where hydrographical, epidemiological, biological and ecological standards can be met

New Brunswick is currently reviewing site separation distances to take into consideration epidemiology and hydrographics. The Province of New Brunswick continues to use a multi-level government review for site evaluation and a comprehensive Environmental Assessment must be carried out under the Canadian Environmental Assessment Act.

1.1.3 Adequate marking of aquaculture units

In Newfoundland, an annual site inspection programme was initiated to ensure compliance with *Navigable Waters Protection Act* authorization on site configuration and marking.

1.2 Operations

1.2.1 Management of aquaculture units to prevent and control diseases and parasites

Newfoundland industry initiated revision of industry Code of Practice. New Brunswick has developed wharf usage and aquaculture vessel traffic corridors to limit the movement of aquaculture vessels from one bay area to another. New Brunswick continues to run a Fish Health Surveillance Programme by both government and industry. Private veterinarians as well as the Provincial Aquaculture Veterinarian are active in surveying and managing any disease issues. The focus of the programme is on early detection and removal of ISA infected fish as soon as possible.

1.2.2 Management of aquaculture units to prevent escape of fish

Newfoundland industry initiated revision of industry Code of Practice which meets or exceeds ISFA/NASCO requirements. In New Brunswick a draft Containment Code is being incorporated into the industry Code of Practice. Previously reported measures still apply.

1.3 Transfers

1.3.1 Transfers conducted so as to minimise potential for disease/parasite transmission and for genetic and other biological interactions

New Brunswick, Nova Scotia, Newfoundland, PEI and Fisheries and Oceans Canada are developing new requirements for movement of alternate species such as cod,

halibut and haddock. The National Code for Introductions and Transfers is being implemented for all transfers.

1.3.2 Introduction of mechanisms to control transfers where necessary

In addition to disease diagnostics required under Fish Health Protection Regulations (FHPR) in Newfoundland, veterinary inspections of all imported lots conducted both pre- and post-transfer. Measure not new but previously unreported. The National Code for Introductions and Transfers is fully implemented by all provinces, territorial and federal governments.

2. Measures To Minimise Genetic And Other Biological Interactions

2.1 Design standards for aquaculture units

2.1.2 Optimisation of containment of fish through use of appropriate technology for prevailing conditions

The New Brunswick industry continues to invest in the best technology for the Bay of Fundy region.

2.1.3 Regular routine inspection and maintenance of aquaculture systems and upgrading of equipment as new technological improvements become available

In Newfoundland, an annual reporting process was initiated to report on compliance with Code of Containment.

3. Measures To Minimise Disease And Parasite Interactions

3.1 Control and prevention of diseases and parasites

3.1.1 Aquaculture production process conducted in accordance with appropriate fish health protection and veterinary controls, including the application of appropriate husbandry techniques to minimise risk of diseases

Newfoundland completed a Comprehensive Draft Fish Health Management Plan, which involves additional site licencing to facilitate large area fallowing as fish health precautionary measure. In New Brunswick previously reported measures such as Fish Health Surveillance Programme and use of private and government veterinarians still apply.

3.1.2 Treatment or removal of diseased stock and measures to ensure diseased fish are not released to the wild

Procedures on containment of stocks during harvesting and removal of diseased stocks are implemented and audit by the Province of New Brunswick. Harvest

vessels undergo a rigorous authorization process. Previously reported measures still apply.

3.4 Adequate separation

3.4.1 Separation of aquaculture facilities on the basis of a general assessment of local conditions

New Brunswick is re-assessing distances between new sites and using epidemiological, biological and hydrographic information as part of this process.

3.6 Fallowing of sites

3.6.1 Use of a fallowing regime wherever possible

In Newfoundland, a Farm Fallowing Monitoring programme was implemented to complement mandatory fallowing period to confirm that farm sites are capable of assimilating organic inputs and to avoid causing a harmful alteration, disruption or destruction of fish habitat. Fallowing is required (6-8 weeks) in New Brunswick for ISA-infected areas. All other sites have a minimum 2-week fallow; however, longer periods are generally implemented. Farms are run as single-year-class sites. Previously reported measures still apply.

4. Research And Development

4.1 Research, small-scale testing and full-scale implementation of:

4.1.4 Designation of aquaculture regions

Barry Hargrave of Fisheries and Oceans Canada published 'Far-field Environmental Effects of Marine Finfish Aquaculture' in Canadian Technical Report of Fisheries and Aquatic Sciences 2450.

4.1.8 Prevention and control of disease and parasites

In Newfoundland laboratory trials of novel vaccines and immunostimulants for atypical furunculosis of Atlantic salmon (*Aeromonas salmonicida* subspecies *nova*), the most relevant pathogen to Newfoundland salmonid aquaculture, completed. Field trials planned for 2004. In New Brunswick, increasing biosecurity by controlling wharf usage and aquaculture vessel traffic routes. Further collaboration with US Department of Agriculture on coordinating ISA and fish health management strategies across the border between New Brunswick and Maine.

ANNEX 29

Council

CNL(05)21

Report of the Meeting of the Liaison Group with the North Atlantic salmon farming industry

CNL(05)21

Report of the Meeting of the Liaison Group with the North Atlantic salmon farming industry

1. Since 2000, the Liaison Group comprising NASCO and the North Atlantic salmon farming industry has met annually with the exception of 2004. Last year a Liaison Group meeting was not held, but NASCO and the International Salmon Farmers' Association (ISFA) met to see if the Liaison Group could be put back on a firmer footing with a higher level of commitment. In order to avoid the risk of failures in communication and understanding which had arisen following the 2003 Liaison Group meeting, a Statement of Commitment was agreed last year. This served as a basis for developing the agenda for the 2005 meeting of the Liaison Group which was held in Leuven, Belgium, on 26 April. The report of the meeting is attached. Ms Mary Colligan (USA) was appointed as Chairman of the Liaison Group.

2. The Liaison Group first considered comments from the industry on the Williamsburg Resolution. It is clear that the industry has particular concerns about the elements in this Resolution concerning aquaculture-free zones, marking or tagging of farmed salmon and application of the Precautionary Approach. The industry would prefer to see a risk assessment approach applied rather than the Precautionary Approach, but NASCO representatives pointed out that risk assessment is central to the Precautionary Approach and was one of a small number of new elements that had been added in developing the Williamsburg Resolution. There was also some concern from the industry about how the Resolution would be implemented and that NASCO is focussing undue attention on salmon farming. To address these concerns, the NASCO Secretariat was asked to develop an Explanatory Memorandum on the Williamsburg Resolution and this is included in Annex 5 of the attached report. The industry agreed that once it had this clarification it would be willing to provide specific comments on the various articles of the Resolution, with proposals for changes where the industry feels these are necessary and a rationale for such changes, together with references to relevant scientific papers and codes of practice. The industry has agreed to provide these comments and information by 15 May and they will be distributed to the Council for its consideration.

3. Reports on progress in developing and implementing action plans on containment of farmed salmon were presented. While some reports still lacked some of the detail requested in the reporting format previously agreed by the Liaison Group, the reports for 2004 were seen as a considerable step forward compared to previous years. They are continued in Annex 6 of the report.

4. A progress report was also made on arrangements for a Liaison Group Workshop entitled 'Wild and Farmed Salmon – Working Together' to be held in Trondheim on 9 August 2005 in conjunction with the European Aquaculture Society's (EAS) Aquaculture Europe 2005 conference (5-8 August) and the AquaNor international fish farming industry exhibition (9-12 August). The Workshop is being organised in cooperation with the EAS. The arrangements made and programme developed have been welcomed by the Liaison Group. An announcement of the Workshop has been available to all delegates and additional copies will be available at the Twenty-Second Annual Meeting.

5. The industry also provided comments to the Liaison Group on the report of the Workshop on Marking of Farmed Salmon, CNL(05)19. ISFA has indicated that it is fundamentally opposed to any form of physical or mechanical marking or tagging of farmed salmon and that the industry's audited containment management systems already in place can achieve conservation goals without the need for marking, which they believe will involve significant logistical costs, would provide no benefit to the farmers and raises welfare, food safety and product quality concerns. The Council will consider these views from the industry when it considers the report of the Workshop under agenda item 6.4(a).

6. Finally, the industry again indicated that it remains opposed to NGO participation in the Liaison Group. NASCO representatives expressed their disappointment at the position taken by the industry and referred to the work of the 'Next Steps for NASCO' Working Group which had developed recommendations to increase involvement of stakeholders in NASCO's work so as to increase transparency and inclusivity.

7. The Council is asked to:

- consider the specific comments provided by the industry in relation to proposed changes to the Williamsburg Resolution and decide if any action is required;

- consider the information on the level and causes of escapes and decide if any action is required;

- note the proposed arrangements for the Trondheim Workshop on 9 August 2005;

- consider the comments from the industry in relation to marking of farmed salmon when it reviews the report of the Workshop (CNL(05)19) under agenda item 6.4(a);

- consider what actions, if any, it wishes to take in relation to NGO involvement in the Liaison Group.

Secretary
Edinburgh
11 May, 2005

SLG(05)18

Report of the Fifth Meeting of the North Atlantic Salmon Farming Industry and NASCO Liaison Group

Leuven Institute for Ireland in Europe, Jansenlusstraat 1, 3000 Leuven, Belgium Tuesday 26 April, 2005

1. Opening of the Meeting

1.1 The Chairman of the Liaison Group, Mr James Ryan (President of the International Salmon Farmers' Association (ISFA)) opened the meeting and welcomed participants to Leuven. He made an opening statement on behalf of ISFA (Annex 1).

1.2 Dr Malcolm Windsor (Secretary of NASCO) made an opening statement on behalf of NASCO (Annex 2).

1.3 A list of participants is contained in Annex 3.

2. Appointment of a Chairman and a Rapporteur

2.1 Under its Constitution the Chairman of the Liaison Group is appointed for a period of two years and the office of Chairman and of Rapporteur are held alternately by representatives of NASCO and the North Atlantic salmon farming industry.

2.2 The Liaison Group appointed Ms Mary Colligan (USA) as Chairman. She referred to the solid foundation for cooperation through the Liaison Group that had been developed last year in Boston, and to the Statement of Commitment which had been agreed so as to guide the Liaison Group's work. She hoped that the Group would now be able to move forward in a positive manner.

2.3 Mr James Ryan (ISFA) was appointed as Rapporteur.

3. Adoption of the Agenda

3.1 The Liaison Group adopted its agenda, SLG(05)15, (Annex 4).

4. Comments from Industry on the Williamsburg Resolution

4.1 The Resolution to Minimise Impacts from Aquaculture, Introductions and Transfers and Transgenics on the Wild Salmon Stocks, the "Williamsburg Resolution" was adopted by NASCO at its 2003 Annual Meeting. In adopting this Resolution the Council had recognised that it would evolve in future in the light of experience with its implementation, consultations, improved scientific understanding of the impacts of aquaculture, introductions and transfers and transgenics and developments in measures to minimise them. The Resolution was amended in 2004 by the inclusion of a new definition of "transgenic", and revision of the Guidelines for Action on Transgenic Salmonids and the Guidelines for Stocking Atlantic Salmon.

4.2 Prior to adoption of the Williamsburg Resolution by the Council of NASCO, the Resolution had been made available to the industry through the Liaison Group. The industry had subsequently expressed concern about the way in which the development of the Williamsburg Resolution had been handled since, in their view, due process had not been followed. These views had been discussed thoroughly at a NASCO/ISFA meeting in March 2004 and a Statement of Commitment had been developed in order to avoid failures in communication and understanding in future. Under this Statement of Commitment the industry agreed to provide comments on the Williamsburg Resolution so that these could be discussed by the Liaison Group. Comments were provided by ISFA and by Scottish Quality Salmon, and these are contained in documents SLG(05)3 and SLG(05)4 respectively.

4.3 In summary, ISFA has particular concerns about the elements in the Williamsburg Resolution concerning aquaculture-free zones, marking or tagging of farmed salmon and application of the Precautionary Approach. With regard to the latter, ISFA would prefer to see a risk assessment approach applied rather than the Precautionary Approach. However, NASCO representatives indicated that risk assessment is central to application of the Precautionary Approach. One of the few new elements that had been introduced when NASCO's existing agreements were consolidated into the Williamsburg Resolution was an article on risk assessment and the need for the Parties to develop and apply appropriate risk assessment methodologies in considering the measures to be taken in accordance with the Williamsburg Resolution. Reference was made to a recent meeting in Seattle, USA, at which approaches to risk assessments in relation to aquaculture had been considered. The conclusions from this meeting might be of relevance to the Parties in considering risk assessment methodologies in relation to the Williamsburg Resolution. The industry also felt that the Williamsburg Resolution was too prescriptive but NASCO representatives indicated that the nature of the measures implemented is for each NASCO Party to decide in consultation, as appropriate, with its stakeholders. Furthermore, most of the Williamsburg Resolution existed in previous NASCO agreements which had been consolidated into the Williamsburg Resolution. NASCO representatives also pointed out that the industry had been involved in development of the Oslo Resolution, the predecessor to the Williamsburg Resolution.

4.4 Scottish Quality Salmon believed that it might be valuable to identify those articles of the Resolution on which the Liaison Group has been consulted and agreement reached, e.g. the Guidelines on Containment of Farm Salmon.

4.5 The industry also indicated that it feels that NASCO is focussing undue attention on salmon farming. However, NASCO representatives reported that agreements have been developed for application of the Precautionary Approach to management of salmon fisheries, habitat protection and restoration, and stock rebuilding programmes. It has also considered by-catch of salmon and developed guidelines for incorporating social and economic factors into decisions under the Precautionary Approach. During the Next Steps for NASCO consultation meetings, NASCO's stakeholders had indicated that while the agreements it had developed were good, there needed to be greater progress with their implementation and on reporting on measures taken.

4.6 The Liaison Group agreed that it would be helpful to the Council of NASCO if the industry representatives could provide specific comments on the various articles of the Williamsburg Resolution with proposals for changes where they felt these were necessary, a rationale for such changes and references to relevant scientific papers and

codes of practice. The industry agreed to provide these comments and information to the NASCO Secretariat no later than 15 May so that they can be made available to the Parties in advance of NASCO's Twenty-Second Annual Meeting. The NASCO Secretariat was asked to develop an Explanatory Memorandum detailing the background to the development and adoption by NASCO of the Williamsburg Resolution and the manner in which it is to be implemented by NASCO's Parties and their relevant jurisdictions. This Explanatory Memorandum is contained in Annex 5.

5. Report on Progress in Developing and Implementing Action Plans on Containment

5.1 At its 2001 meeting, the Liaison Group had adopted Guidelines on Containment of Farm Salmon and these had subsequently been incorporated, unchanged, into the Williamsburg Resolution. To assist the Liaison Group to monitor the development and implementation of the Action Plans envisaged under the guidelines, a format had been agreed for reporting on an annual basis. Information was provided, according to the format, by the European Union (Finland, SLG(05)10; Ireland, SLG(05)9; UK (England and Wales), SLG(05)5; UK (Scotland), SLG(05)13); Iceland, SLG(05)6; Norway, SLG(05)7; Russia, SLG(05)12; and the USA, SLG(05)11. Canada indicated that it felt somewhat constrained by the reporting format and had therefore prepared a report that did not specifically answer the questions raised but which detailed actions taken consistent with the containment guidelines. This report is contained in document SLG(05)16. After the meeting a report according to the agreed format was provided by the European Union (Sweden), SLG(05)14. A summary of these returns is contained in document SLG(05)17 (Annex 6).

5.2 The view was expressed that the Norwegian return might be considered as a model, providing as it did details of the containment action plan, an eight-year time series of the number of escapees, information on the causes of escapes, information on the implementation and effectiveness of the action plan and details of research being undertaken in support of the action plan. Some reports still lacked some of these details, although the reporting for 2004 was seen as a considerable step forward compared to previous years. Reporting on escapees from freshwater facilities is also not available.

5.3 The Workshop discussed the relative survival of farmed salmon which have escaped as smolts or later in the production cycle. There is information to suggest that fish that escape at the smolt stage survive considerably better than larger fish and may return to the area of escape. It is therefore important that careful attention is paid to net mesh size at the time of transfer of smolts to the sea. The question arose as to the impact of escapees on wild salmon stocks. The advice from population geneticists is that where genetic impacts on the wild stocks have been detected, they have always been negative. Reference was made to recent scientific studies conducted in Ireland concerning direct and indirect genetic effects arising from interactions between wild and reared salmon. The first of these studies compared the lifetime success and performance characteristics of communally reared offspring of wild, ranched native and non-native salmon. There were no differences between native and ranched salmon in smolt output or adult returns, but both of these measures were significantly lower for non-native salmon. A second study reported on fitness reduction and potential extinction of wild populations of Atlantic salmon as a result of interactions with escaped farm salmon. A third study examined the impact of aquaculture on the immune response genes of natural salmonid populations. The Liaison Group noted

that the findings and implications of these studies will be discussed at the Bergen Symposium referred to in paragraph 6.3.

6. Other Areas for Cooperation between Wild and Farmed Salmon Interests

6.1 At its 2003 meeting the Liaison Group reviewed the extent of existing cooperative ventures between wild and farmed salmon interests and identified future areas for cooperative work. This process was known as the SALCOOP project. In order to take forward the recommendations from this project the Liaison Group decided to hold a one-day workshop focusing on opportunities for cooperation between wild and farmed salmon interests with the following themes:

- area management initiatives;
- pros and cons of using sterile salmon in farming and the possible opportunities for cooperative trials;
- restoration programmes.

A Steering Group comprising Dr Ken Whelan, Dr Peter Hutchinson, Mr James Ryan and Mr Kjell Maroni had been appointed by the Liaison Group to develop the programme and make appropriate arrangements for the Workshop.

6.2 Dr Peter Hutchinson (Assistant Secretary of NASCO) reported that the Workshop entitled "Wild and Farmed Salmon – Working Together" will be held at the University of Science and Technology, Trondheim, Norway on Tuesday 9 August. The Workshop is being held in conjunction with the EAS Aquaculture Europe 2005 conference (5-8 August) and to coincide with the AquaNor international fish farming industry exhibition (9-12 August). He indicated that it will be open to all and the intention is that by holding the meeting in conjunction with these major events, there will be good representation from the salmon farming industry. NASCO's NGOs will also be encouraged to participate. The programme, which includes presentations by managers and scientists involved with aquaculture and the wild stocks from around the North Atlantic, has been agreed and funding secured. Registration and accommodation arrangements are being handled by the European Aquaculture Society which is also promoting the event. He concluded that the event will be unique in bringing together at an international level those involved in the management of reared and wild stocks with a view to seeing how best to pool existing resources for the betterment of both of these important sectors. A brochure for the Workshop was distributed to the Liaison Group.

6.3 Dr Malcolm Windsor (Secretary of NASCO) presented an update on arrangements for the ICES/NASCO Symposium entitled "Interactions between aquaculture and wild stocks of Atlantic salmon and other diadromous fish species: Science and Management, Challenges and Solutions". This major international Symposium will be held in Bergen, Norway, during 18-21 October 2005 and compared to the previous Symposium organised by NASCO and ICES on this subject in 1997, there will be greater emphasis on the management aspects.

7. Report on the Workshop on Marking of Farmed Atlantic Salmon

7.1 The report of the Workshop on Marking of Farmed Atlantic Salmon, WMFS(04)6, which had been held in Edinburgh during 6-8 December 2004 was introduced by the Workshop Chairman, Mr Gordon Brown (Scottish Executive Environment and Rural

Affairs Department). Under the Williamsburg Resolution it is stated that tagging or marking could be used in order to facilitate the identification of farmed salmon in the wild and the separation from wild fish, to determine the source of escapes and to assess the interactions of escaped farmed salmon with the wild stocks. The need to evaluate the effectiveness of marking methods, their feasibility for large-scale marking and their costs, was recognized. The task for the Workshop had been to evaluate different methods of marking, but not to decide whether or not farmed fish should be tagged. This would be a matter for each NASCO Party in the light of the Workshop evaluations. The Workshop was not able to fully assess the costs associated with marking farmed salmon.

7.2 He indicated that the Workshop had developed a number of criteria and evaluated a number of marking methods (external tags, combination method, genetic and chemical methods, fin clipping, otolith marking, passive integrated transponders (PIT tags) and coded wire tags (CWTs)) against these criteria. The Workshop had come to the conclusion that while many possible methods are available for marking fish, some methods are not suitable for mass marking, some require further development and others can provide very limited discriminating power. Of the methods evaluated, CWTs and otolith marking appear to be the most suitable for mass marking. Genetic identification methods have potential for marking farmed salmon but further development is needed. All methods involve significant costs and the greater the discrimination power that is required the higher the cost. He noted that welfare and food safety concerns had also been raised in relation to a considerable number of the possible methods for marking farmed salmon, and the Workshop had felt that it would be valuable if each NASCO Party with salmon farming interests obtained advice, at an early opportunity, from the appropriate authorities in relation to the food safety and welfare aspects associated with marking farmed salmon. The Workshop had also recommended that further investigations should be carried out to improve the accuracy of estimates of the number of fish in cages and the extent of 'trickle losses' during routine operations, and that the NASCO Parties should cooperate so as to plan and undertake such assessments.

7.3 He indicated that the report will be considered by the Council of NASCO at its Twenty-Second Annual Meeting in June and that feedback from the industry would be welcomed. He referred to the fact that documents SLG(05)3 and SLG(05)4 contain comments from the industry on tagging and marking of farmed salmon which he assumed fully reflected the industry's views. In document SLG(05)3 ISFA had indicated that it is fundamentally opposed to any form of physical or mechanical marking or tagging of farmed salmon and that the industry's traceability programme is based on the fact that individual fish already have a unique individual 'fingerprint'. ISFA believes that DNA or genetic marking is the only practical method available. ISFA considers that audited containment management systems already in place can successfully achieve conservation goals without marking farmed salmon, and that marking would involve significant logistical costs, would provide no benefit to the farmers, and raises welfare, food safety and product quality concerns. In document SLG(05)4 Scottish Quality Salmon stressed that marking raised fish welfare, fish health and food safety issues which would require evaluation before any commitment could be made to consider marking farmed salmon. A recent Council of Europe Committee had proposed that there be a presumption against mutilation of, including implantation of foreign bodies into, farmed animals. Reference was made to the significant costs of introducing a North Atlantic-wide programme of tagging farmed

salmon (£20 million in Scotland alone), and to the fact that these costs would not apply to the Chilean industry, giving that country's industry a competitive advantage.

7.4 Mr Sebastian Belle (Maine Aquaculture Association) raised two points in connection with the report of the Workshop. Firstly, the Maine Aquaculture Association had provided a report on its Generic Containment Management System which it had requested be annexed to the report. This had not been done. Secondly, he indicated that he had been advised that the Northwest Marine Technology system for microtagging fish was not capable of vaccinating fish, as claimed in paragraph 5.2 of the report. Dr Peter Hutchinson indicated that the report on the containment management system had only been provided about 2 months after the report of the meeting had been agreed and distributed to participants and to the Liaison Group members. It had not, therefore, been possible to annex the document to the report and he stressed that there are good reasons not to change a report after it has been agreed, and certainly not after it has been distributed. He had, however, agreed to distribute the report to all participants at the Workshop and to annex it to the report of the Liaison Group meeting, since it is clearly relevant to the Group's discussions on the containment guidelines. Mr Belle agreed to this approach. The report on the Maine Aquaculture Association's containment management system is contained in Annex 7. Mr Belle also agreed to send further details of the capabilities of the NMT AutoFish system to the NASCO Secretariat so that this could be referred back to the appropriate representative of the tagging company.

7.5 Mr Øyvind Walsø (Directorate for Nature Management, Norway) referred to the 'combination method' approach described in the Workshop report. This method does not involve marking farmed salmon but rather relies on a variety of information from the escapees, including site of recapture, smolt characteristics, stomach content analysis, and genetic profiles to identify the site of escape. Following meetings in Norway with the salmon farming industry and the fish health authorities, a pilot study to assess the feasibility of the 'combination method' has been initiated in the Hardangerfjord, the most intensively farmed part of the Norwegian coast. Sampling of farms has commenced to build up a 'bio-bank' and funding for the study is being sought from the Norwegian Research Council.

7.6 Mr Arni Isaksson (Directorate of Freshwater Fisheries, Iceland) noted that in Iceland it is a condition of the licence that farmers tag 10% of smolts destined for sea cages with CWTs in order to trace escapees to their farm of origin. He suggested that genetic marking would not allow the farm of origin to be identified since Icelandic farmed salmon all originate from the same stock.

7.7 The Liaison Group noted that, for the second year running, there had been no progress in undertaking the North-East Atlantic Commission of NASCO's coordinated trial releases of farmed salmon in order to study the migration and distribution of escapes. It was recognised that there may be some resistance to the deliberate release of farmed salmon to the wild, but the Liaison Group felt that this is an important study in order to better understand the fate of escaped farm salmon. There was also support for the further assessments in relation to 'trickle losses' from salmon farming identified in the Workshop report.

7.8 Reference was made to the EU-funded Atlantic Salmon ARC Project which aims to collect samples of salmon from all regions in Europe so as to facilitate genetic stock identification in fisheries. This project should also benefit the International Atlantic

Salmon Research Board's SALSEA programme by facilitating identification of the origin of salmon caught in research surveys at sea. The support of the salmon farming industry in obtaining baseline data on farmed salmon stocks would be valuable to the SALSEA programme, particularly in allowing identification of fish which have escaped at early life-stages. Reference was also made to the utility of data storage tags in studying salmon migrations.

8. Report on the Status of Wild Salmon Stocks

8.1 A brief summary of the 2004 stock status report from ICES was presented. The information highlights the continuing low returns, linked to low marine survival of both European and North American salmon stocks.

8.2 A brief report was made on the 'Next Steps for NASCO' process. Following consultation meetings with stakeholders and two Working Group meetings, a Strategic Approach had been developed which will be considered at NASCO's Twenty-Second Annual Meeting. This approach includes elements to:

- improve commitment to NASCO's measures and agreements and review of progress in implementation;

- increase NASCO's effectiveness and efficiency by ensuring it uses the best available knowledge to inform its actions and by actively seeking to identify and respond to new opportunities and threats;

- ensure transparency in its operations and enhance the use of NGO and stakeholder knowledge and experience;

- increase its visibility and raise its profile by developing its communications and public relations activities.

9. NGO Participation in the Liaison Group

9.1 At its 2003 meeting NASCO indicated that it strongly supported a request from the Chairman of NASCO's accredited NGOs, Mr Chris Poupard, that he or his nominee be invited to participate in future meetings of the Group in an observer capacity. The industry representatives had indicated that they felt there was a need to keep the Group as small as possible to ensure its effective functioning and referred to the problems in relation to communication with the media involving two NGOs at NASCO's 2001 Annual Meeting. The industry had indicated, therefore, that it did not wish to see NGO participation in the Liaison Group although they had agreed that the Trondheim Workshop referred to in paragraphs 6.1 – 6.2 above should be open.

9.2 NASCO representatives reiterated their support for NGO involvement in the Liaison Group through attendance at all or part of its meetings by the Chairman of NASCO's accredited NGOs. They referred to the work of the 'Next Steps for NASCO' Working Group which had developed recommendations to increase involvement of stakeholders in NASCO's work so as to improve transparency and inclusivity. They felt that NASCO's NGOs had become much better organised in recent years and were now making a valuable contribution to the Organization's work, and could equally contribute to the work of the Liaison Group. They believed that NASCO's accredited NGOs were not anti-salmon farming and that the Liaison Group could develop rules

governing attendance by NGOs at its meetings so as to reassure the industry. NASCO therefore asked the industry to very carefully consider its position with regard to future NGO involvement in the Liaison Group.

9.3 The industry representatives agreed that it is important to operate in a transparent manner, but again stressed the need to further enhance the Liaison Group's working methods and further build confidence before opening the meeting to NGOs. They indicated that they are involved in discussions with NGOs domestically and that the Liaison Group is transparent in that the reports of its meetings are made available to the NGOs. They questioned whether the NGOs could make a valuable contribution to the Liaison Group's meetings. They also referred to the activities of some NGOs which had been extremely damaging to the salmon farming industry and that it was naïve to think that their behaviour towards the industry would change through involvement in the Liaison Group. Rather the view was expressed that the NGOs would have to prove they could behave responsibly with regard to the industry before they could be admitted to the Liaison Group.

9.4 The NASCO representatives expressed their disappointment at the position taken by the industry with regard to NGO involvement. The Liaison Group agreed to review this issue again at its next meeting.

10. Date and Place of Next Meeting

10.1 The Liaison Group decided to agree the date and place of its next meeting by correspondence. It was agreed that a meeting should be held in 2006 at a date and venue that was convenient both to NASCO and the industry, and that the meeting might be held in North America.

11. Any Other Business

11.1 There was no other business.

12. Report of the Meeting

12.1 The Liaison Group agreed the report of its meeting.

13. Close of the Meeting

13.1 The Chairman closed the meeting and thanked participants for their contributions.

Opening statement by Mr James Ryan, President of the International Salmon Farmers' Association (ISFA)

Good morning, ladies and gentlemen. It is my pleasure to welcome you here to the Irish College in Leuven for this Liaison Group meeting. Since we met last in 2003 a lot of water has passed under the bridge. The salmon farming industry is facing difficulties in the market-place and the status of wild stocks is giving rise to increasing concern.

Over the last twelve months I have been working closely with the NASCO Secretariat and President so as to build further the foundation of cooperation between wild and farmed salmon interests. Together we have put in place plans for a Workshop in Trondheim in August entitled "Wild and Farmed Salmon – Working Together". An excellent programme of invited speakers has been agreed, funding has been secured, and arrangements have been made with the European Aquaculture Society, who will handle registrations, provide facilities in Trondheim, and publicise the event. The Workshop will be open to all interested parties, there will be plenty of time for discussions and the meeting promises to be an excellent initiative and a model of the cooperation that can be achieved through this Liaison Group.

Turning to other items on our agenda today, the industry is concerned about the application of the Precautionary Approach through the implementation of the Williamsburg Resolution since this approach could cause the industry enormous difficulties if applied over-zealously. The procedure by which NASCO developed and adopted this Resolution was a concern for the industry which believes due process was not followed. ISFA is also concerned that it was not invited to participate in the Workshop on marking of farmed salmon held in Edinburgh in December last year. However, planning for the Trondheim Workshop has shown that NASCO and ISFA can cooperate as equal partners and if we can resolve the differences that exist between us with regard to the Williamsburg Resolution then I believe we can move forward and build further the cooperation that has been developing through this Liaison Group. ISFA very much looks forward to a full and frank debate on the agenda items before us.

Opening Statement made by Dr Malcolm Windsor on behalf of NASCO

Good morning, ladies and gentlemen. On behalf of the NASCO representatives I would like to thank the International Salmon Farmers' Association for the arrangements made for this Liaison Group meeting here in the beautiful town of Leuven. It is a pleasure for us to participate in this meeting and we look forward to making progress on issues of mutual concern.

Last year we did not hold a full Liaison Group meeting but rather met to discuss how the liaison process could be put back on a firmer footing. The outcome of that meeting was a Statement of Commitment intended to strengthen and improve the future of the Liaison Group. The Council of NASCO has agreed to the actions outlined in this Statement of Commitment and in addition has acknowledged that the Williamsburg Resolution serves as a basis for NASCO's future involvement in the Liaison Group and for identification of other areas of cooperation. Our agenda today reflects the commitments we agreed to last year. Firstly, it is clear that the industry has concerns about the process used in developing the Williamsburg Resolution and its content, and we are grateful for elaboration of these. We will do our best to deal with the points you have raised and will convey them all to our Council.

Second, we welcome the progress reports on developing and implementing action plans on containment.

Third, we agreed two years ago in Williamsburg to arrange a one-day workshop on cooperative ventures between wild and farmed salmon interests. Ken Whelan, James Ryan and Peter Hutchinson (together with Kjell Maroni, who is not here today) have made real progress with the arrangements for this. We look forward to hearing from them on the proposals for this important workshop. We are also willing to explore other areas of cooperation.

Fourth, under the Statement of Commitment NASCO agrees to bring issues concerning salmon farming that it is considering to the Liaison Group for full discussion in a timely manner, where practicable before decision-making by NASCO. Last December we held a Workshop on marking of farmed salmon and in accordance with the Statement of Commitment we have made the report available to the Liaison Group prior to its consideration by the Council of NASCO in June. We would very much welcome feedback from the industry on this report.

Fifth, and also in accordance with the Statement of Commitment, NASCO will report on the status of wild salmon stocks and their management, although we do not yet have the final advice from ICES covering 2004.

Finally, NASCO would again like to raise with the industry the question of NGO participation in the Liaison Group. We believe that participation by a representative of the NGOs is unlikely to create problems, and would build trust and confidence. We will need to consider this issue carefully here in Leuven.

We in NASCO look forward to working with the industry on these issues, and to building on the spirit of cooperation that is being developed through the liaison process.

North Atlantic Salmon Farming Industry and NASCO Liaison Group

Leuven Institute for Ireland in Europe, Jansenlusstraat 1, 3000 Leuven, Belgium Tuesday 26 April, 2005

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SLG(05)15

Meeting of the North Atlantic Salmon Farming Industry and NASCO Liaison Group

Leuven Institute for Ireland in Europe, Jansenlusstraat 1, 3000 Leuven, Belgium

Tuesday 26 April, 2005

Agenda

1. Opening of the Meeting
2. Appointment of a Chairman and a Rapporteur
3. Adoption of the Agenda
4. Comments from Industry on the Williamsburg Resolution
5. Report on Progress in Developing and Implementing Action Plans on Containment
6. Other Areas for Cooperation between Wild and Farmed Salmon Interests
7. Report on the Workshop on Marking of Farmed Atlantic Salmon
8. Report on the Status of Wild Salmon Stocks
9. NGO Participation in the Liaison Group
10. Date and Place of Next Meeting
11. Any Other Business
12. Report of the Meeting
13. Close of the Meeting

CNL32.699

Explanatory Memorandum on the 'Williamsburg Resolution'

The following chronology provides background to the development and adoption by NASCO of the 'Williamsburg Resolution' and the method of its implementation by NASCO Parties and their relevant jurisdictions.

1. The North Atlantic Salmon Conservation Organization (NASCO) was established in 1984 with the objective of contributing through consultation and cooperation to the conservation, restoration, enhancement and rational management of salmon stocks taking into account the best scientific evidence available to it. Under Article 4 of the NASCO Convention, the Council has the authority to make recommendations to the Parties on matters concerning salmon stocks.

2. In 1991, the Council adopted Guidelines to Minimise the Threats to Wild Salmon Stocks from Salmon Aquaculture for use, as appropriate, by the Parties on a voluntary basis.

3. In 1994, the Council adopted the Resolution by the Parties to the Convention for the Conservation of Salmon in the North Atlantic Ocean to Minimise Impacts from Aquaculture on the Wild Salmon Stocks (the 'Oslo Resolution'). This Resolution had been developed through consultations with the salmon farming industry. In adopting the Oslo Resolution the Council agreed that it wished to strengthen the good relationship which had been established with the salmon farming industry. This led to initial meetings in 1998 and to the establishment of the NASCO/North Atlantic salmon farming industry Liaison Group in February 2000. This advisory group provides an international forum for liaison on issues of mutual interest and makes recommendations for action.

4. In 1990 and 1997 NASCO was involved in organising major international symposia to ensure that it had the best available scientific information on impacts of aquaculture so as to guide its decisions. A further symposium is planned for 2005.

5. In 1998, NASCO and its Contracting Parties agreed to adopt and apply a Precautionary Approach to the conservation, management and exploitation of salmon in order to protect the resource and preserve the environments in which it lives. Accordingly, NASCO and its Contracting Parties should be more cautious when information is uncertain, unreliable or inadequate and the absence of adequate scientific information should not be used as a reason for postponing or failing to take conservation and management measures. A Standing Committee on the Precautionary Approach (SCPA) was established in 1999 and has considered the application of the Precautionary Approach to management of salmon fisheries; stock rebuilding programmes; habitat protection and restoration; and impacts of aquaculture, introductions and transfers and transgenics. Technical workshops have been organised by the SCPA to consider how social and economic factors can be incorporated into management decisions under the Precautionary Approach. The SCPA has also considered the issue of by-catch of Atlantic salmon.

6. In March 2003, the SCPA met to review NASCO's agreements in relation to aquaculture, introductions and transfers and transgenics so as to advise the Council on their consistency with the Precautionary Approach and to make recommendations for additional measures, taking account of appropriate risk assessments. The Terms of Reference for this meeting had previously been made available to the salmon farming industry through the Liaison Group.

7. In general the SCPA concluded that the agreements were consistent with the Precautionary Approach but proposed that these be consolidated into one new agreement (the 'Williamsburg Resolution') and that new elements be added to ensure consistency with the Precautionary Approach. These included elements on: mitigation and corrective measures; implementation; burden of proof; risk assessment; Guidelines for Stocking Atlantic Salmon; and river classification and zoning. The Liaison Group's Guidelines on Containment of Farm Salmon were incorporated, unchanged, into the Williamsburg Resolution. The Guidelines for Stocking Atlantic Salmon were developed to address a concern from industry that the Oslo Resolution focused too heavily on salmon farming and largely ignored other practices involving cultured salmon.

8. Immediately following the SCPA meeting, and approximately 3 months before the Williamsburg Resolution was tabled at NASCO's Twentieth Annual Meeting, the draft Resolution was made available to the salmon farming industry through the Liaison Group so that the industry's views could be conveyed to the Council prior to adoption of the Resolution. Comments were provided by the International Salmon Farmer's Association (ISFA), indicating their dissatisfaction that the Liaison Group had not been fully engaged in the development of the Williamsburg Resolution according to the Guiding Principles of the Liaison Group (SLG(01)11) which state that "*The Parties agree to work cooperatively when consideration is given to the application of the Precautionary Approach to salmon aquaculture*". These comments were tabled at the Council meeting.

9. In June 2003, the Council adopted the Williamsburg Resolution but, in doing so, recognised that it would evolve in future in the light of experience with its implementation, consultations, improved scientific understanding of the impacts of aquaculture, introductions and transfers and transgenics on the wild stocks and developments in measures to minimise them. A detailed response to the comments from ISFA was sent by the Secretary on behalf of the Council but no modifications were made to the Williamsburg Resolution at this stage.

10. In accordance with an Action Plan for Application of the Precautionary Approach, NASCO has also developed agreements in relation to: management of North Atlantic salmon fisheries; habitat protection and restoration and stock rebuilding programmes. NASCO has also developed measures in relation to by-catch of Atlantic salmon and guidelines for incorporating social and economic factors in management decisions under the Precautionary Approach. Verbal reports on NASCO's work in applying the Precautionary Approach have been made to the Liaison Group at its meetings. Details of all these agreements are available on the Organization's website, www.nasco.int.

11. Under NASCO's Convention, the Organization can agree binding regulatory measures for certain salmon fisheries. All other agreements, including the

Williamsburg Resolution, are non-binding but provide guidelines or guiding principles to the Parties and their relevant jurisdictions. They facilitate consistency of approach (a "level playing-field") in developing measures for the conservation and management of wild salmon stocks. There is an obligation on the Parties and their relevant jurisdictions to report on the commitments made to implement the agreements in a manner appropriate to their situation. This reporting process also facilitates exchange of information on best practice. The precise nature of the measures to be taken and whether they are mandatory or voluntary is a matter for each Party and their relevant jurisdictions in consultation, as appropriate, with stakeholders.

12. In 2004, the Williamsburg Resolution was amended following a change to the definition of 'transgenic', and modification of the Guidelines for Action on Transgenic Salmonids and of the Guidelines for Stocking Atlantic Salmon. There were no other changes.

13. Under the Statement of Commitment agreed at a meeting of NASCO and ISFA in 2004, the North Atlantic salmon farming industry agreed to provide comments on the Williamsburg Resolution at the 2005 meeting of the Liaison Group. These comments were tabled and discussed at the 2005 meeting of the Liaison Group in Leuven, Belgium. At that meeting it was agreed that ISFA would respond to NASCO by May 15, 2005 with recommendations for minor revisions to the Williamsburg Resolution, along with additional relevant science and code of practice references, so that they could be brought to the June 2005 NASCO meeting for consideration by the Council.

North Atlantic Salmon Farming Industry and NASCO Liaison Group

SLG(05)17

Reports on the Development and Implementation of Containment Action Plans

At its meeting in 2001 the Liaison Group agreed Guidelines on Containment of Farm Salmon. A format was subsequently agreed by the Liaison Group for reporting on progress in developing and implementing action plans for containment as required under the guidelines. Under the agreed reporting format information will be exchanged annually on:

- progress on developing Action Plans on Containment;
- the level and causes of escapes;
- progress on implementation of, and compliance with, the Action Plan;
- the effectiveness of the Action Plan in minimising escapes;
- identification of areas for research and development in support of the Action Plan.

The returns provided are compiled in this report. Canada did not provide a return using the agreed format but rather a report on its containment measures is contained in Annex 4. No return was received for the Faroe Islands.

SLG(05)17

Reports on the Development and Implementation of Containment Action Plans

1. Is there currently an Action Plan for containment of farm salmon so as to achieve a level of escapes that is as close to zero as practicable? If 'yes', please attach a copy. If no, what is the anticipated timetable for development of an Action Plan?

European Union

Finland

In Finland there is no Atlantic salmon farming and within the catchments of the Atlantic salmon rivers discharging into the Arctic Ocean we have no fish farming at all. No Action Plans have been drawn up, because there is no need for such Plans.

Ireland

Voluntary – industry-based (see Annex 1).

Sweden

At present, there is no cage farming of salmon in Sweden and on the west coast there is practically no fish farming at all. There are, however, several land-based farms producing salmon smolts for compensatory releases in regulated rivers. These are normally situated in the same rivers in which the releases are undertaken. Two such farms are situated in rivers emptying to the west coast. Given this, there is currently no need for Action Plans for the containment of farmed salmon.

UK – England and Wales

There are presently no marine cage sites rearing salmon within England and Wales. However, there are a number of stream-, and river-fed juvenile production facilities within England and Wales, that rear salmon parr and smolts for restoration or enhancement stocking (predominantly Environment Agency hatcheries) or to supply commercial marine-based on-growing sites in Scotland (mainly located in northern England). Intakes and outfalls from such facilities are routinely screened to prevent ingress and escape of fish. There is no formal Action Plan for the containment of farmed salmon and none is planned.

UK - Scotland

The Scottish Executive requires site specific containment and contingency plans in support of all applications for fish farm sites to prevent escapes and minimise their impact in line with the Scottish Quality Salmon (SQS) and Shetland Salmon Farmers Association (SSFA) codes of practice.

In May 2002 the Scottish Executive introduced legislation *(The Registration of Fish Farming and Shellfish Farming Businesses Amendment (Scotland) Order 2002*) which requires the

mandatory notification of all escapes of farmed fish. Any suspected escape, or circumstance which gives rise to a significant risk of escape, should also be reported to the Executive.

This legislation provides for recovery action and the deployment of measures, such as the use of gill nets which would otherwise be illegal.

The Government/Industry/Wild Fish Interest Containment Working Group constituted in response to a recommendation in The Strategic Framework for Scottish Aquaculture has drafted a revised Containment Code of Practice that will be included in the Industry Code of Practice.

Iceland

Regulation # 1011/2003 on sea-cage integrity and internal inspection on fish farms was set in December 2003. An abstract of the regulation is contained in Annex 2. The original in Icelandic can be obtained on the Directorate's web page: www.veidimalastjori.is

Norway

Referring to the report from Norway, March 2003. The "National Action Plan to prevent escapees" is continuously being followed up. The board of FHL Aquaculture have decided to focus more on measures for preventing escapees. The following items are focused:

For all installations (smolt/fry producers, on-growing, slaughter plants and well boats):

- Information and education: Compulsory education/courses in "preventing escapees" by regulation.
    - In new regulations, in force from January 2005, every aquaculture plant must have staff that have competence and are trained in preventing, discovering and reducing possible escapees.
- Internal control systems in place and better routines of following up on the systems.
    - New regulation on internal control systems for fulfilling regulations related to aquaculture. An electronic guide as help for implementation the regulation has been developed.
- Implementation of "Environmental Management Systems".
    - An introduction to Environmental Management Systems in aquaculture has been fulfilled (see report from Norway, March 2003).
- Stronger official reactions for escapees because of negligence.
    - This has been taken care of through the new regulation on management, in force from January 2005.

Smolt/fry producers:

- Routines and systems for ensuring no escapees through outlets.
    - Through courses and meetings with the smolt producers, this has been highlighted. Also a part of the regulation on internal control and demand for routines and systems.
- Routines and systems for ensuring no escapees in transportation of fish.
    - Part of the internal control systems as above.
- Checking and upgrading fundaments if necessary.
    - Part of the internal control system as above.

On-growing plants:

- Pushing for certification of equipment, mooring and systems regulated by law.
    - New regulation on technical standard and certification for floating installations and parts thereof. This includes classification of locality (focus on current and waves), floating collars (focus on stability and floating ability), net (focus on strength, duration, mask width, antifouling and shrinking characteristics), barges and fleets (focus on strength and stability), moorings (focus on strength, stability, anchoring, corrosion, fouling and characteristics of materials), totality (how parts function together).
- Routines and systems with focus on preventing escapees.
    - Part of the internal control system and part of competence and part of obligatory plan of preparedness.
- Implementing R&D for new technology in surveillance of the nets and the fish for preventing escapees.
- Upgrading of electronic and basic maps used at sea.
    - Continuous ongoing process, including efforts to install radar reflectors on all floating installations.

Slaughterhouses:

- Routines and systems for keeping a high quality on the pens they have if used.
    - Part of the internal quality control system.
- Routines and systems for preventing escapees in operations when taking the fish "on shore".
    - Part of the internal quality system for slaughterhouses and for well boats.

Well boats:

- Implementation of quality assurance systems
    - Part of the internal quality system for well boats. Also a quality assurance system (including a hand book in procedures) has been worked out in cooperation with the well boat association. Implementation in progress (also including courses "up and down" the coast).
- Focus on routines and procedures in connection with well boats and on-growing plants.
    - Part of the internal control system, both on on-growing farms, smolt farms and well boats.

Russian Federation

There is presently only one commercial marine cage rearing facility for Atlantic salmon in Russia – "Gigante-Pechenga" salmon farm (Kola Peninsula). The Plan of Action for this farm was developed in 2001 (Annex 3). It is being followed and continuously developed further. In 2004 and 2005 new legislation was adopted to regulate aquaculture and protect wild Atlantic salmon stocks as follows:

- ***The Federal Act on Fisheries and Conservation of Aquatic Biological Resources***

Adopted on 20 December 2004. This Act is based on the principles giving priority to conservation of particularly valuable aquatic biological resources (Atlantic salmon is included into this category) and regulates relations in the sphere of fisheries and conservation of aquatic biological resources in the Russian Federation. The Act defines measures for conservation of aquatic biological resources and their habitat. For example, for protection of

habitat of aquatic biological resources fish protection zones could be established, where restrictions for economic or any other activities are introduced. Waters of particular importance for conservation of valuable species of aquatic biological resources can be awarded a status of fish preserve zones, where a special regime for economic or any other activities is established with the aim of conserving aquatic biological resources and providing conditions for development of aquaculture and fisheries at the same time. In addition the Act establishes a framework for regulation of commercial aquaculture. It is a mandatory condition that aquaculture meets all the requirements of conservation of aquatic biological resources and their habitat.

- ***Code of Practice for Commercial Aquaculture in the Murmansk Region***

Adopted on 1 April, 2005. This Code of Practice was adopted by the Government of the Murmansk Region. It defines the relations between executive bodies of the state power and subjects engaged in aquaculture. The Code defines responsibilities of users of water areas for fulfilling the requirements of nature conservation, veterinary and sanitary legislation of the Russian Federation.

USA

In 2003, an MEPDES general permit for Atlantic salmon aquaculture was finalised and includes special conditions for protection of endangered Atlantic salmon. Some of these conditions focused on operations and loss prevention through audited containment practices. Each facility shall employ a fully functional marine Containment Management System (CMS) designed, constructed, and operated so as to prevent the accidental or consequential escape of fish to open water. The CMS will be audited at least once per year and within 30 days of a reportable escape, i.e. more than 50 fish 2 Kg or larger. Containment audits for all active facilities were completed for 2004.

Further details of the CMS are contained in Annex 7 of the Liaison Group report.

2.	**Is information available on the level and causes of escapes? If 'yes', please provide details.**

Denmark (in respect of the Faroe Islands and Greenland)

European Union

Finland

No - see response to question 1.

Ireland

Requirement to inform Department of the Marine in some detail regarding escapes. No reports of escapes in 2004.

Sweden

No – see response to question 1.

UK – England and Wales

No - see response to question 1.

UK - Scotland

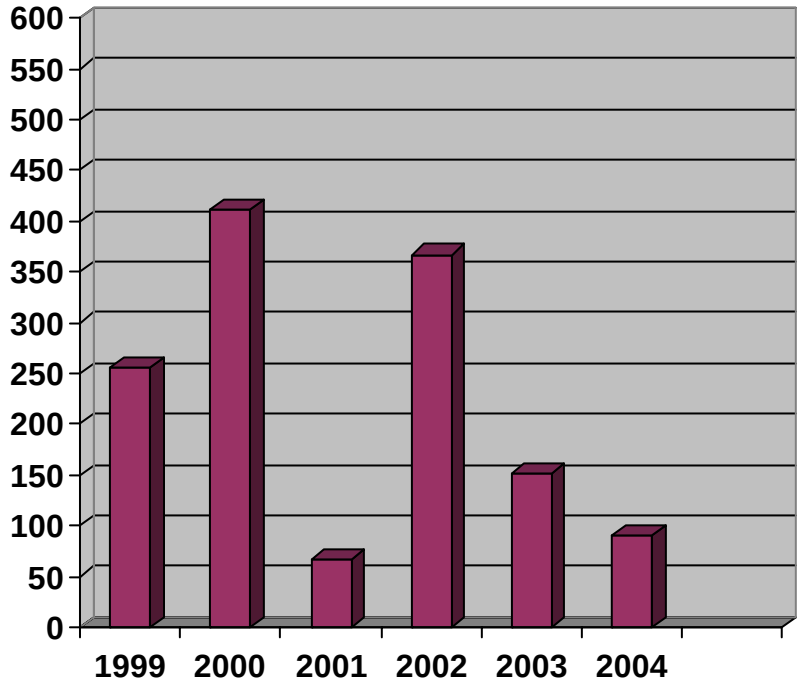
Information on the level of escapes is available in the Scottish Executive annual fish farm production survey published of the Fisheries Research Services web site:
http://www.marlab.ac.uk

In addition, a detailed database of reported escapes including causes of escapes is maintained by the Executive.

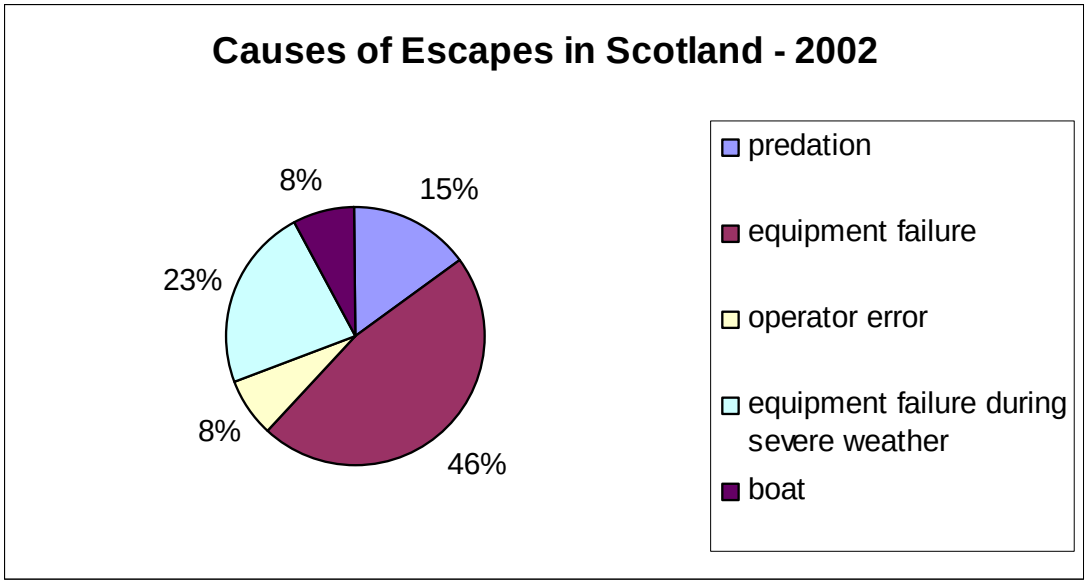
The legislation detailed in Section 1 is also relevant to this section.

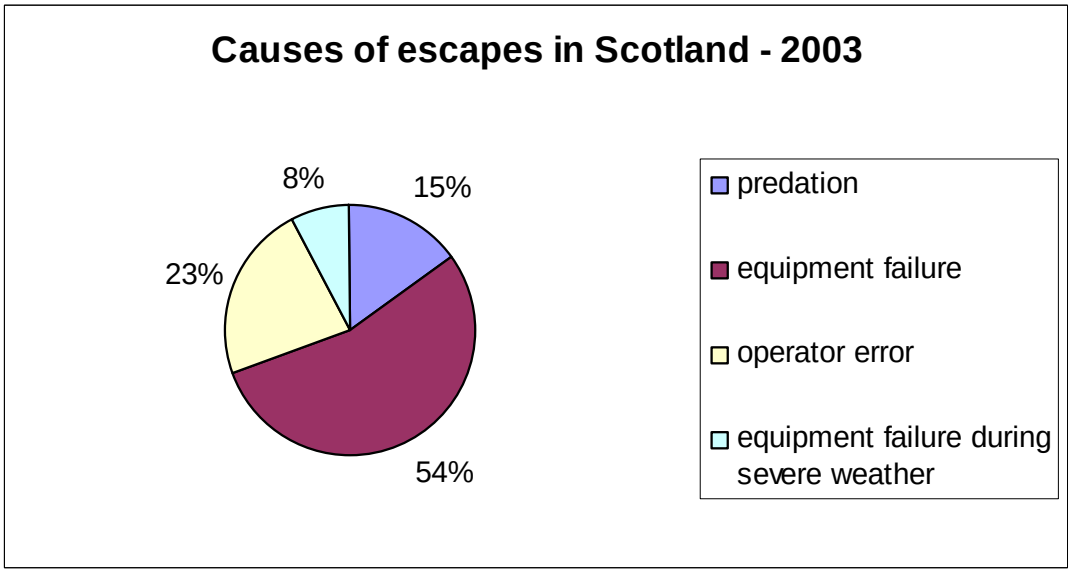
ATLANTIC SALMON ESCAPES FROM SCOTTISH SEAWATER SITES

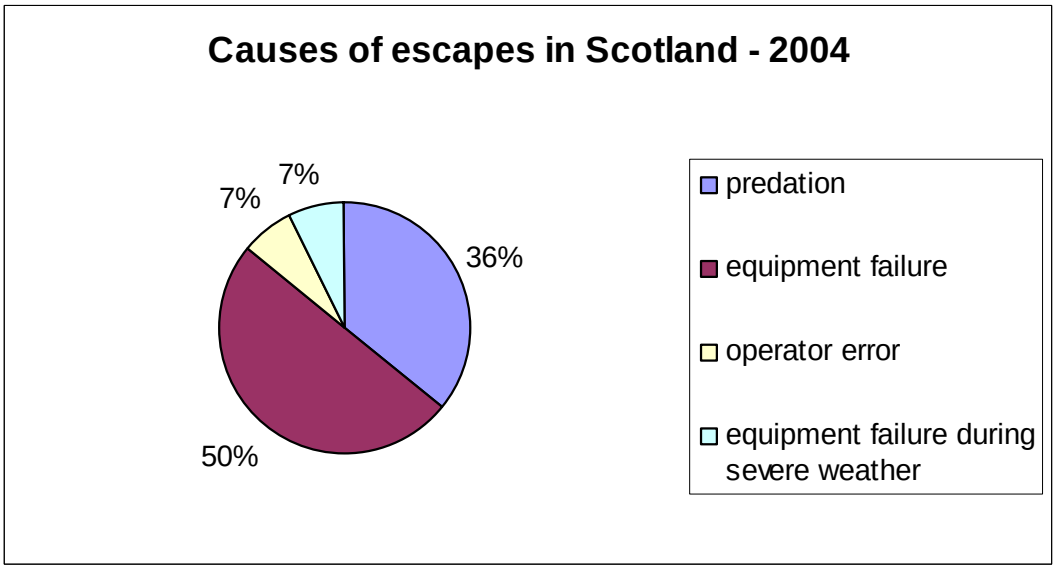
X 1,000



2005 In January of this year the Scottish west coast was hit by exceptional storms which caused the loss of 629,000 fish


Causes of Escapes in Scotland - 2002
8%
15%
23%
8%
46%
predation
equipment failure
operator error
equipment failure during severe weather
boat


Causes of escapes in Scotland - 2003
8%
15%
23%
54%
predation
equipment failure
operator error
equipment failure during severe weather


Causes of escapes in Scotland - 2004
7%
7%
36%
50%
predation
equipment failure
operator error
equipment failure during severe weather

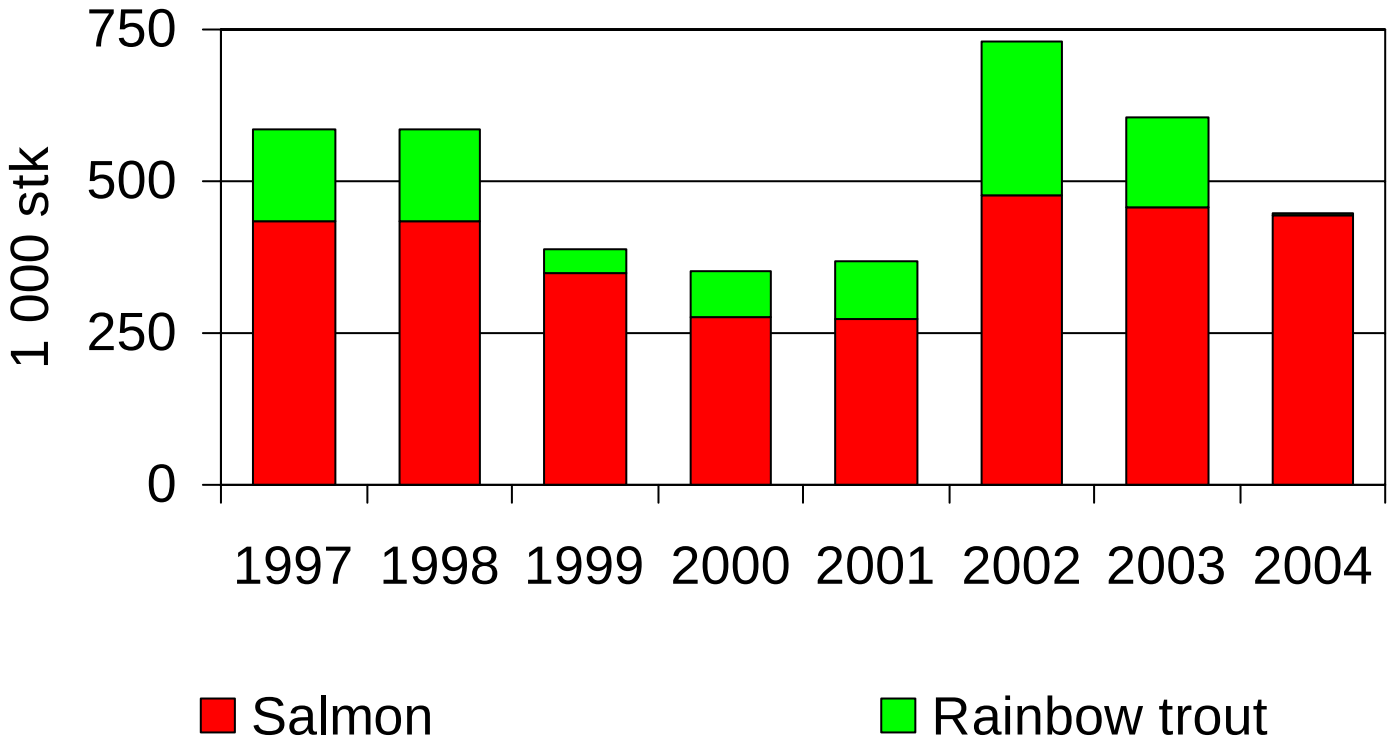
Iceland

There are only 2 marine cage farms operating in Iceland, both on the east coast. Escapes as judged by occurrence of escapees in rivers seem to have been minimal.

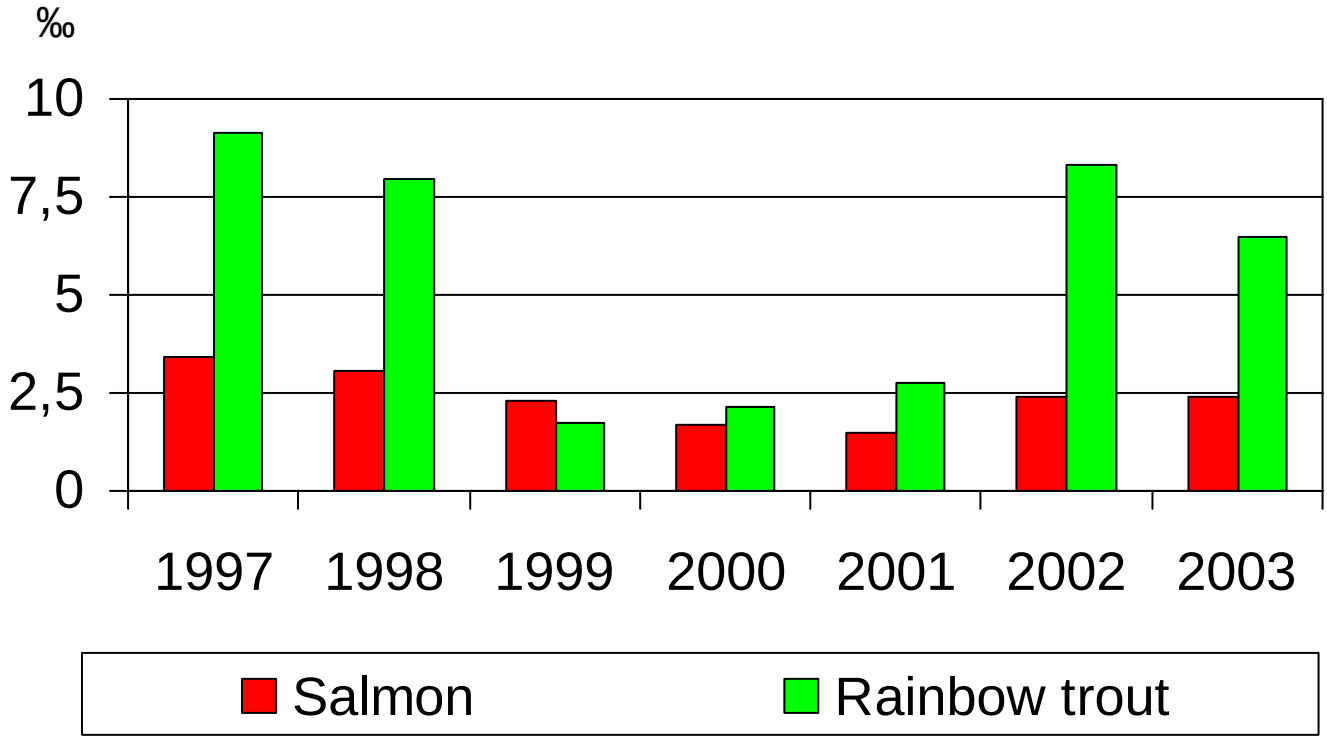
Norway

The following information is available:

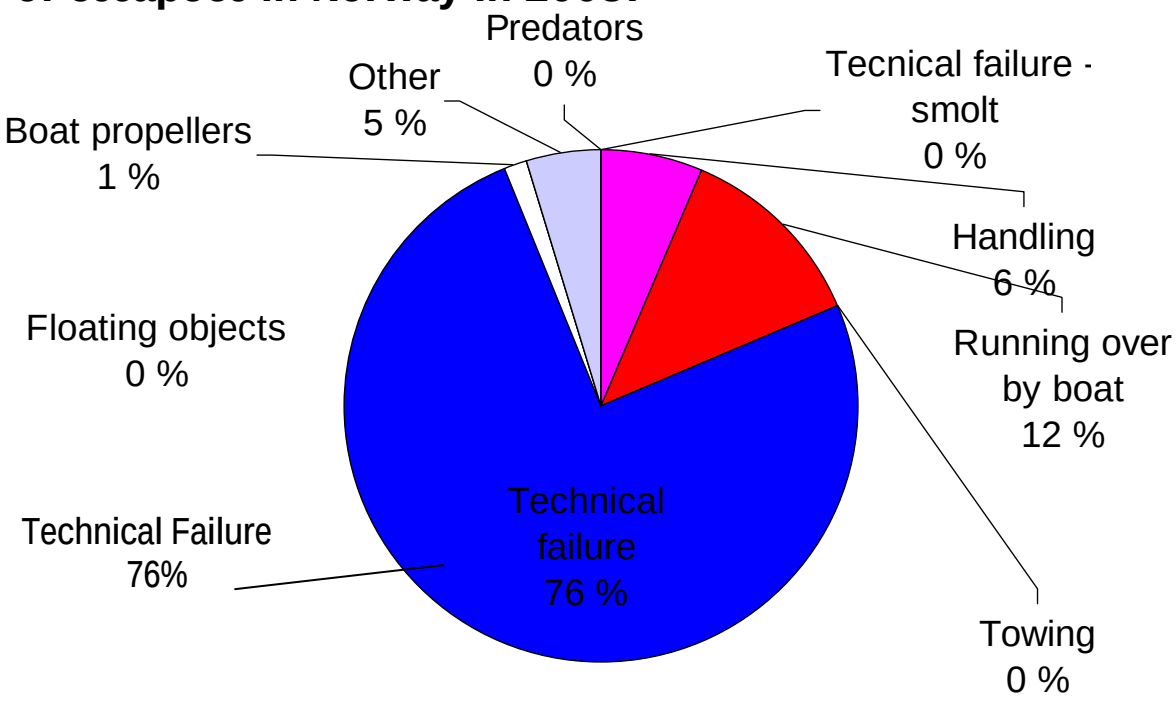
Escaped salmon and rainbow trout in Norway, 1997-2003



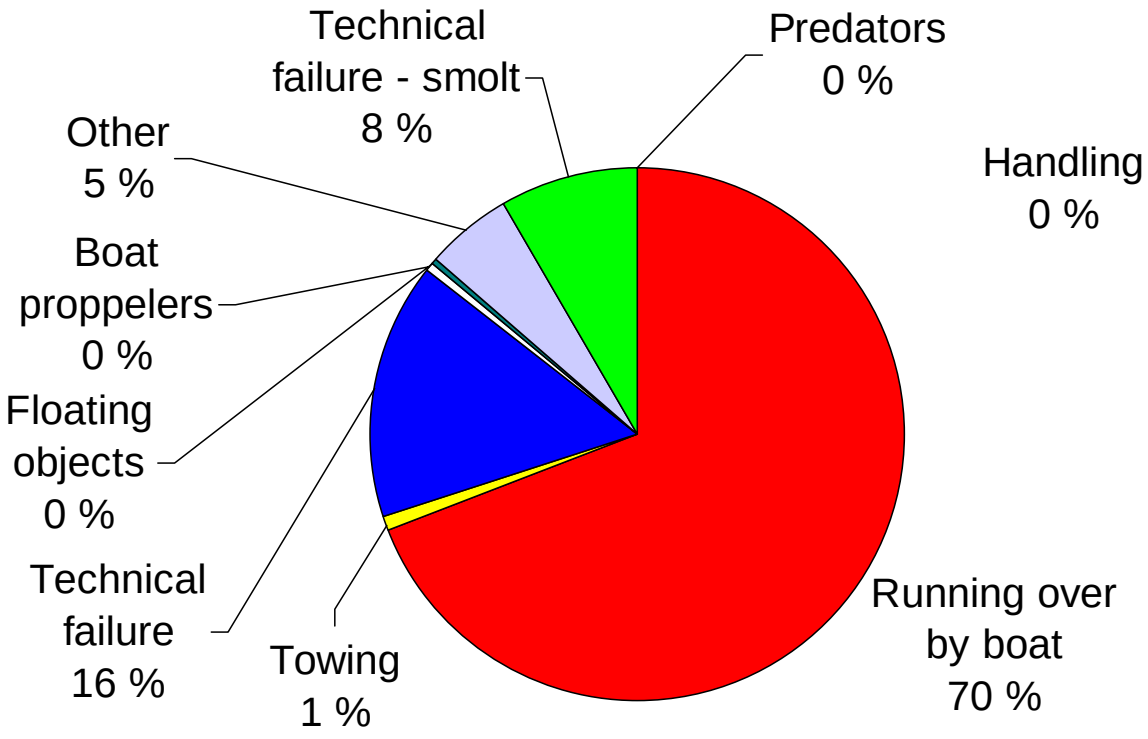
Escaped salmon and rainbow trout in Norway in parts of thousands (‰) of farmed population



Causes of escapees in Norway in 2003:



Causes of escapees in Norway in 2004:



Russian Federation

For the whole period of operations at the rearing facility "Gigante Pechenga" there was only one small-scale leakage of salmon juveniles from cages at on-growing site at Trifonojarvi lake in April 2004. As a follow-up of this case a requisition was issued by relevant authorities and measures were taken by the farm to prevent escapes.

USA

In 2004, mandatory escape reporting protocols were in place for all MEPDES permitted facilities. The facility shall report any known or suspected escapes of more than 50 fish with an average weight of 2 Kg each or more within 24 hrs to the Maine Department Marine Resources (MEDMR). In 2004, one escape event was voluntarily reported; damage to a cage during a storm caused a small hole in the primary containment net, which held fish approximately 800 grams in size. Information on the number of fish escaped is not available. There were 4 aquaculture origin fish documented captured within the St. Croix River in 2004 (USASAC draft report 2004).

3. Is information available on implementation of, and compliance with, the Action Plan? If 'yes', please provide details.

Denmark (in respect of the Faroe Islands and Greenland)

European Union

Finland

No – see response to question 1.

Ireland

Regular visits by Department of Communications, Marine and Natural Resources engineers to inspect facilities.

Sweden

No – see response to question 1.

UK – England and Wales

No – see response to question 1.

UK - Scotland

The Scottish fish farming Industry Associations have their own quality assurance schemes under which compliance with requirements is audited on an annual basis. Continuing membership of these schemes is dependent on compliance.

Besides this, elements of the containment plans are formally monitored by FRS Fish Health Inspectors as part of the arrangements to monitor compliance with the industry "ISA Code of Practice", "A Code of Practice To Avoid and Minimise the Impact of Infectious Salmon Anaemia (ISA)". This covers the requirement for net inspections and their frequency.

Iceland

The fish farms are responsible for the preparation of a contingency plan related to escapes and other emergency events. The inspectors of the Directorate of Freshwater Fisheries have enforced the preparation of plans.

Norway

See information under question 1. In 2004 the number of escaped salmon would have been approximately 140,000 if two separate causes had been avoided. Two localities were run over by boats not having anything to do with the aquaculture business. This led to approximately 311,000 escaped salmon.

Russian Federation

The implementation of and compliance with the Action Plan by "Gigante- Pechenga" are monitored by relevant government organisations (Murmanrybvod - Directorate for Fisheries Control and Enforcement and Fish Protection and State Veterinary Services). There is good cooperation between them and the company which ensures that the best practices are used and the Plan of Action is further refined in the light of new legislation adopted.

USA

In 2004, all active marine sites acquiring MEPDES permits were required to develop, implement and adhere to appropriate CMS plans. These facilities were audited for compliance through a collaborative of State and federal agencies.

4. Is information available on the effectiveness of the Action Plan in minimising escapes? If 'yes', please provide details of new actions since the last notification.

Denmark (in respect of the Faroe Islands and Greenland)

European Union

Finland

No – see response to question 1.

Ireland

Large subsample of the wild salmon drift net catch is examined each year and the % of farmed escapes is collected. Records also available from private and State rod fisheries and experimental fish traps.

Sweden

No – See response to question 1.

UK – England and Wales

No – See response to question 1.

UK - Scotland

We have figures for escapes before and after the introduction of the Scottish escapes legislation. No new measures since last notification.

Iceland

Another regulation # 460/2004 has been set, which bans salmon and salmonid farming from areas close to salmon rivers. An English translation is provided in Annex 2. This further ensures that reared salmon do not enter salmon rivers.

Norway

If 2004 (apart from the two above-mentioned incidents) is the beginning of a trend, then we regard that as a result of all efforts done. More focus, improved management and the action plan and implementation as a "back cloth".

Russian Federation

The effectiveness of the Action Plan can be assessed as rather good as there were no escapes of fish from sea cages over the years of operation of the farm. The cooperation with government organisations improved and new legislation was adopted, which will further enhance the effectiveness.

USA

All salmon aquaculture facilities are required to develop and maintain an inventory tracking system that allows clear, accurate inventory tracking of all size classes (i.e. average weight and age) of Atlantic salmon, including documentation of mortality events and any escapes. All inventories are reported monthly to MEDMR in accordance with MEPDES permit requirements.

5. Have areas for research and development in support of the Action Plan been identified? If 'yes', please provide details.

Denmark (in respect of the Faroe Islands and Greenland)

European Union

Finland

No – see response to question 1.

Ireland

No.

Sweden

No – see response to question 1.

UK – England and Wales

No – see response to question 1.

UK - Scotland

The Containment Working Group is exploring improved farm cage construction and maintenance as recommended by the Strategic Framework for Scottish Aquaculture and will report in due course. We await its recommendations which we expect to include calls for research and development.

Iceland

Iceland will follow international developments on standards for sea-cages, e.g. in Norway.

Norway

Ongoing projects:

- "Escape-proof floating installations": Improvement of escapees because of net failure and installation damage/failure. Finished medico/ultimo 2005.
- Video production: "Escaping": Production of a video (27 minutes) with focus on causes of escaping and what is being done to get more knowledge and how to prevent escapees. The video is produced and distributed to all members. Also available for others.

Russian Federation

A study was conducted by the Moscow University in 2003 on the subject: "Genetic monitoring of wild populations of Atlantic salmon in areas of salmon farming". Differences were identified in all characteristics, biological and genetic, between wild salmon juveniles from the Pechenga river and reared in the Pechenga fjord (Gigante-Pechenga farm, Kola Peninsula). The findings showed that in the event of escapes, foreign and different genetic material could potentially be introduced into the population of wild Atlantic salmon of the Pechenga river.

USA

No new measures. Previously reported measures still apply.

A code of practice for the prevention of stock escapes of Irish farmed salmon

Introduction.

- The Irish Salmon Growers' Association is committed to best environmental and husbandry practice in accordance with the principles of sound, sustainable development.
- ISGA is committed to ensuring that transparent codes relating to these principles are applied evenly throughout the industry; ongoing communication and co-operation between producers and the state is vital to ensure the long-term success of such codes.
- ISGA along with our colleagues in other North Atlantic salmon producing nations have concluded a groundbreaking agreement with NASCO on a Code of Containment for Farmed Salmon. This has directly lead to the development of this current document.
- It is the aim of the ISGA, through the promotion of the following procedures, to assist the Irish Salmon Industry in reducing to the absolute minimum any opportunity for salmon to escape from farms through failure of management, equipment or procedure. It is recognised that there is a potential for unavoidable natural catastrophes or uncontrollable outside forces to damage farms and potentially cause escapes. It is the aim of this document to ensure all events within the control of the farmer are managed to the highest standards in order to ensure full stock containment.
- The Irish salmon industry works in a unique physical and legislative environment within Europe. It is in the best interests of all farmers to ensure the highest farming standards are adhered to from both an economic and environmental viewpoint.
- It is therefore agreed that all ISGA members shall follow this Code of Practice for the containment of stock and the reporting of any escape that may occur. These procedures may be included in farm licence applications, including Environmental Impact Statements, in-house procedure manuals at the farm, appropriate Quality Assurance Schemes and also in Co-ordinated Local Aquaculture Management Plans.

1.Site Selection and Location

1.1 All fish farm boats, barges, nets and sea pens shall be adequately marked so as not to be a navigational hazard or obstruct the movement of sea traffic. All navigational marking shall comply with regulations as issued by the Department of Marine and Natural Resources.

1.2 Site location shall give due consideration to prevailing weather conditions in the area.

1.3 On choosing a site, in consultation with the equipment suppliers and the farm's insurance company, the farmer shall determine the most appropriate equipment, mooring system, pens, nets, etc to be used and their suitability for the specific location and purpose intended.

1.4 In the case of a new site, where a full Environmental Impact Statement is required, it shall, as a matter of course, assess wave climate, hydrography, prevailing weather conditions and any other factors which may cause stress to pens and nets.

2. Pen Structures, Tank Systems.

2.1 The Selected structure shall be designed and constructed so as to be capable of withstanding any reasonable environmental or extreme weather conditions that may be experienced at the site. Moorings in particular must be designed with adequate strength to withstand the worst conditions to be expected.

2.2 All Pens shall be installed in a professional manner and comply with the manufacturer's instructions and specifications. The farm should, where possible, engage the manufacturer to oversee the completed mooring installation.

2.3 All pens shall comply with DoMNR engineering requirements regarding anchorage, stability, strength and buoyancy.

2.4 All pens shall be individually identifiable and appropriate records maintained for each unit with regard to stocks as well as maintenance and repair records.

2.5 Pen moorings shall be compatible with the pen units installed. Installation shall be carried out to ensure that all loads or stresses imposed on the unit are distributed in accordance with its design and that the unit has adequate movement and flexibility. Moorings shall be installed in consultation with the pen and mooring manufacturer and tested regularly; the underwater fitting and chains should be inspected at least once every two years.

2.6 Tank systems should be designed to effectively contain fish and minimize the possibility of escape, where the outflow from tanks passes into a settling pond the outflow from the settling pond should incorporate a screen of suitable size and construction to avoid escape.

3. Pen Nets

3.1 The design of the net should account for extreme weather conditions likely to be encountered at the site and due consideration given to the net's ability to withstand such conditions. Net design shall ensure that under pressure stresses are directed into reinforced areas of the net specifically designed to deal with this and not into the main body of the net. The pen collar or waterline area of the net is more exposed to UV light and abrasion than the rest of the net therefore it should be suitably reinforced.

3.2 Pen nets shall be compatible with the pens being used and installed to manufacturer's specifications.

3.3 Pen nets shall be manufactured from a material of suitable quality that is fit for the purpose intended. All nets shall be treated with a UV-inhibitor in order to prevent deterioration from exposure to ultraviolet light.

3.4 Nets shall be tested on a regular basis during their life span, including breaking strength, in compliance with manufacturers and insurance company instructions and always visually inspected from above water and by divers in the immediate aftermath of extreme weather conditions.

3.5 In order to reduce the risk of drag and tear minimum recommended clearances (as defined by net manufacturer) between the base of the pen and the sea floor shall be adhered to at all times. Appropriate clearances are required from neighbouring cages and sub surface weights used to maintain net shape.

3.7 Appropriate and effective predator deterrence devices should be employed. These should be upgraded as more effective and cost efficient methods become available.

3.8 Each net should be marked and identifiable, all nets should have clear records showing a detailed history of its use, i.e. age, frequency and results of stress testing, last area of use etc.

3.9 Farms should have enough spare nets in good condition available at all times to replace damaged nets on all pens.

4. Farming practices and Staff.

4.1 Daily on-farm procedures shall be executed in a professional and careful manner to ensure that the highest standard of farming practice is achieved.

4.2 Due consideration and careful planning shall be given to any procedure that may increase the possibility of escape such as grading or fish transfer. Towing of stocked pens requires supervision on both the boat and the pen being towed. Diving personnel should be on stand-by where tows have to navigate past or over potential hazards.

4.3 The use of boats on site shall be conducted so as to minimize any possible damage that may occur to nets or pens. Where possible, boat propellers should be fitted into wells or fitted with guards to minimize the risk of contact with nets or rope.

4.4 Farm employees shall be suitably experienced or trained for the work required and be familiar with the farm's Comprehensive Emergency Plan.

5. Preventative Measures

5.1 Each licensed site shall have a maintenance and inspection program designed specifically for conditions at that site, including good housekeeping and the removal of surplus or unused equipment on site. Net cleaning or changing shall be regular to prevent undue stresses on nets consequent to fouling. Apart from the nets, all associated waterborne structures shall be subject to maintenance, inspection and repair procedures on a regular basis to minimize the risk of escape. The farm shall ensure the regular removal of fouling in situ of the pen collar, floats and related structures within the photic zone.

5.2 Each site shall devise a storm procedure detailing actions to be taken to ensure the site is prepared in the event of adverse weather; this shall include follow-up procedures for the inspection and testing of all nets and equipment after the storm. Measures to move pens to alternative sheltered sites in the event of forecasted very extreme weather should be agreed with the Department of Marine & Natural Resources.

5.3 All nets, screens and pen structures must be cleaned and inspected before new stock is added.

5.4 Precautions should be taken to protect stock and structures against malicious damage, *i.e.* by installing security systems where necessary.

5.5 When not in use nets should be stored in a dry area that is vermin free and away from direct sunlight.

5.6 Nets should only be put in long-term storage after cleaning as decomposition of organic material on the net during storage can lead to deterioration of quality.

6.Record Keeping

6.1 Maintenance records should be kept for each pen unit detailing repairs and tests, net changes, grading, transfers, treatments and any predator problems.

6.2 In order to assist in quantifying the number of escaped fish should an incident occur, adequate stock records should be maintained detailing numbers, types, origin and year classes of fish per pen unit.

7. Notification of Escapes

7.1 In the event of an escape the licensee shall notify the Department of the Marine and Natural Resources, Coastal Zone Administration Division, Leeson Lane, Dublin 2, the appropriate Regional Fishery Boards and the Irish Salmon Growers' Association within twenty-four hours of the escape. The licensee shall make available records of fish escaped, including numbers, types, origin, and year classes.

8. Measures for Recapture of Escaped Fish

8.1 The licensee should liase with the local Fisheries Board on methods best suited to the recapture of escaped fish.

ISGA
April 2002

Regulatory measure regarding equipment and internal inspection on Icelandic Fish Farms

Abstract

Prepared by

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Provisions

- The regulatory measure is composed of 9 chapters and 8 annexes.
- Chapter 1 (articles 1-2) defines the scope of the measure and technical words.
- Chapter 2(article 3) contains provisions regarding a production log and its accessability by inspectors.
- Chapter 3 (article 4) contains provisions regarding accidental releases from fish farms and how these should be dealt with through emergency measures.
- Chapter 4 (articles 5-9) defines the integrity of equipment used on fish farms as well as maintenance.
- Chapter 5 (articles 10-12) defines the inner inspection and risk analysis, which shall be performed on fish farms and approved by the Directorate of Freshwater Fisheries.
- Chapter 6 (article 13) contains provisions for the runoff from landbased farms, which shall be fish proof.
- Chapter 7 (article 14-15) specifies methods used for the transport of life salmonids between fish farms, especially if well boats are used. Towing of cages outside jurisdiction of the fish farms is prohibited as well as the containment of salmonids in cages, which are not part of a licensed unit.
- Chapter 8 (article 16) contains provisions regarding official inspection of the fish farms by the Directorate of Freshwater Fisheries.
- Chapter 9 (article 17-18) specifies penalties and validation of the regulatory measure.

Annexes

- Annex 1 specifies the contents and the processing of the log book kept on the fish farm, which shall be available for inspection at any time.
- Annex 2 specifies procedures regarding accidental releases both with respect to reporting and emergency procedures.
- Annex 3 specifies how a fish farm shall be designed and constructed. It defines environmental variables that shall be withstood by different classes of sea-cages. Necessary anchors for each class are also specified.
- Annex 4 contains provisions regarding the inspection of netting used on sea-cages both above and below the sea-surface.
- Annex 5 specifies monitoring of the vicinity of the fish farm through netting series.
- Annex 6 outlines procedures to be devised by the fish farm management in order to minimize accidental releases from sea-cages.
- Annex 7 specifies necessary training of personnel working in fish farms.
- Annex 8 contains provisions on official verification of the effectiveness of the internal inspection performed by the fish farm management at least once a year.

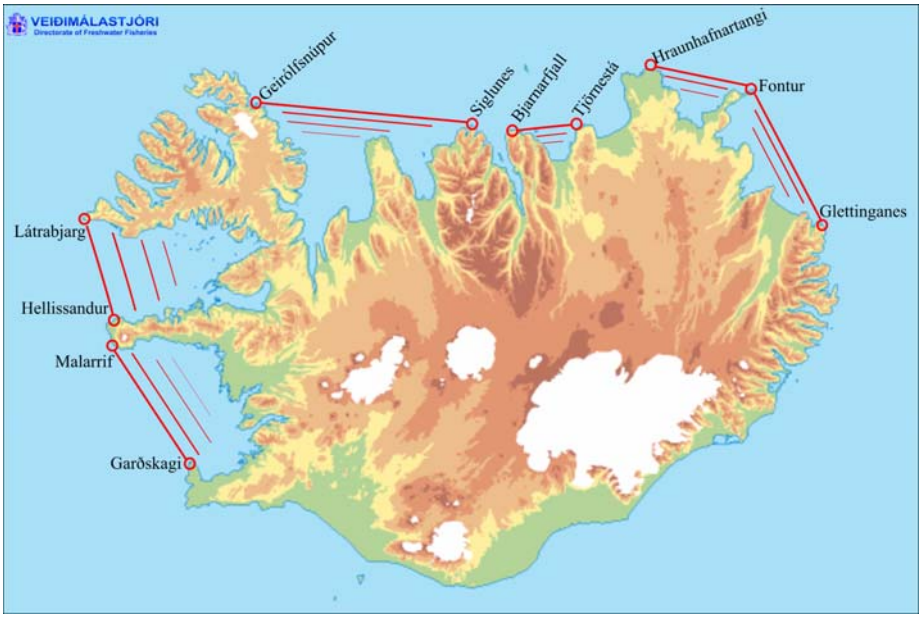
A new regulation
for the protection of wild Atlantic salmon

In May of 2004 the Ministry of Agriculture in Reykjavík issued a regulatory measure (nr. 460/2004) prohibiting the rearing of salmonids of reared origin in sea-cages in fjords and bays close to major salmon rivers. This ban, which is set in the light of the Precautionary Approach, replaces a regulation set in 2001 (nr. 226/2001), which prohibited rearing of fertile salmon in these same areas.

The map below designates the protection areas and an English translation of the regulations is attached in Annex 1.

With this regulation in force no farming of salmonids (fam. Salmonidae),i.e. salmon, brown trout, char or rainbow trout or related species can be carried out in sea-cages in the designated areas.

The setting of this regulation limits farming of salmonids in sea-cages in Iceland to limited north coast areas in addition to the Western and Eastern fjords.



Coastal protection areas where farming of salmonids (fam. Salmonidae) in sea-cages is prohibited.

Annex 1

Nr. 460 27th of May 2004

Notification
on protection areas, where rearing of salmonids
(fam. salmonidae) in sea-cages is prohibited

Article 1

In order to protect wild salmon stocks it is prohibited to rear salmonid species of reared origin in sea-cages in the following areas along the Icelandic coast:

1) In Faxaflói inside a line drawn from Garðskagi to Malarrif on Snæfellsnes.
2) In Breiðafjörður inside a line drawn from Hellissandur to Látrabjarg.
3) In Húnaflói and Skagafjörður inside a line drawn from Geirólfsgnúpur to Siglunes.
4) In Skjálfandaflói inside a line drawn from Bjarnarfjall to Tjörnestá.
5) In north-eastern Iceland inside a line drawn from Hraunhafnartangi to Fontur on Langanes and from Fontur to Glettinganes.

Article 2

This notification, which enters immediately into force, is set according to an authorization in article 77 in the Salmonid Fisheries Act nr. 76/1970 with subsequent amendments. It replaces notification nr. 226/2001 on protection areas where the rearing of fertile salmon (*Salmo salar*) in sea-cages is prohibited.

Ministry of Agriculture 27th of May 2004

Guðni Ágústsson
(Minister of Agriculture)

Guðmundur B. Helgason

Action Plan for Containment of Farm Salmon

Gigante-Pechenga salmon rearing facility, Russian Federation

A. Actions in connection with preventing escape of fish from cages

1. Installation and strengthening of cages should be done by employees in accordance with technical documentation and relief of the area.
2. Only nets with a mesh size according to the fish size should be used. Nets should be regularly inspected and replaced when necessary by nets with adequate mesh size. To prevent sea algae growth nets should be cleaned regularly using special equipment.
3. A diver should be available to proceed with inspection of the technical condition of the farming complex, twice a month in the summer season and as required in winter. Results from inspections are to be recorded in a logbook.
4. A net to prevent birds from entering should be stretched over the cages.
5. There should be a 100-metre zone around the cages where fishing and boat traffic should be illegal.
6. All information relating to operation of the farm should be recorded and sent to relevant government authorities responsible for aquaculture management when requested.
7. Plan of Action should be available at the farming facility.

B. Actions in case of escape of fish from cages

1. In case of fish escaping immediate measures should be implemented within two hours after the escape is discovered. A gill net with the correct net mesh size should be set in an effort to recapture escaped fish. Representatives from the District Inspection office should be invited and be at place. Gill nets should be kept at the farming facility of Gigante-Pechenga.
2. In case of fish escapes details of all operations and actions taken from escape discovery till when the contingency situation is over should be recorded in a logbook.
3. All actions taken by fish farmers should be in accordance with the Instructions for fish farmers. The Plan of Action and the Instructions should be available at the fish farm.
4. Production manager is responsible for the implementation of the Plan of Action.
5. In case of fish escaping, the following should be informed immediately
    - within two hours of the discovery:
    - Murmanrybvod (Directorate for Fisheries Control and Enforcement and Fish Protection)
    - the district inspection office of Murmanrybvod;
    - the regional and district veterinary services;
    - "Gigante Pechenga" office.

The information that is sent to these organizations should included the following:

- The time of the escape
- The estimated number of escaped fish
- The average weight
- The age

SLG(05)16

Report by Canada on Implementation of Action plan with respect to NASCO Guidelines on Containment for Salmon Farms

Canadian context

- Aquaculture in Canada is a shared responsibility between the federal government and the provincial or territorial governments.

- Canada has established a Council of Fisheries and Aquaculture Ministers to deal at a political level with fisheries and aquaculture issues. Ministers support a full integrated aquaculture action plan that includes national Codes of Practice for Aquaculture that is not limited to containment.

- Canada's National Code on Introductions and Transfers of Aquatic Organisms sets in place a mechanism to evaluate proposals to move aquatic organisms from one water body to another. It provides a consistent risk based process for assessing the potential impacts of intentional introductions and transfers of aquatic organisms thereby minimizing the potential impacts from escapes.

- All aquaculture operations are subject to rigorous environmental review under a number of federal and provincial acts and regulations, ensuring that all aquaculture operations meet high standards of environmental sustainability with minimal impact from their activities.

- Codes of Conduct, Codes of Practice and Best Management Practices are, for all intensive purposes, a condition of licence for Atlantic Canadian salmon farms. They are also comprehensive covering all aspects of aquaculture operations including escape prevention / containment.

- By the fall of 20005 access to the United States market will be contingent on salmon farms complying with an independent third party audit driven certification program spearheaded by the US based Food Marketing Institute (FMI). The certification program is called Safe Quality Salmon (SQF).

- The Canadian aquaculture industry is adapting the Canadian Aquaculture Industry Alliance's (CAIA) National Code System for Responsible Aquaculture. CAIA's Code System has similar elements to FMI's SQF program and because of this, the transition of Canadian salmon farmers to the new certification program will be prompt and uncomplicated.

- Containment is a component of the Canadian Code system.

Action Plan – current status

- The Canadian industry has a number of Codes of Practice reflecting the species or geographic distribution of aquaculture. Codes of Practice, including on containment measures, are in operation or are pending and apply throughout the NASCO area.

- Indications from various sources, including specific river system monitoring stations, continue to indicate a significant reduction of escaped salmon.

- Ongoing consolidation of the salmon farming industry in New Brunswick has meant that the major producers in the sector are standardizing their operations to be consistent with and in compliance with provincial and state regulatory authorities in New Brunswick and Maine.

- Insurance policies require that the salmon farming industry have in place significant standards for containment.

- Although formalized reporting mechanisms do not exist regarding containment issues industry shares information regularly with the provinces on issues while respecting proprietary information.

- As industry moves to adopt the SQF program, containment will become an audited standard.

- Industry is continually assessing containment technology with a desire to achieve a level of escapes that is close to zero as possible. Industry is also taking steps to facilitate managing escapes including the establishment of company genetic profiles of their cultured salmon.

Maine's Containment Management System (CMS)

Maine's Containment Management System (CMS) is a third party verified management and verification system based on Hazard Analysis and Critical Control Point (HACCP) risk management. The CMS was developed and tested by the Maine Aquaculture Association through a cooperative program with industry, regulatory and Environmental NGO participation. Following development, participation in the program was mandated as a condition on required State permits. The system has been in place on 100% of Maine salmon facilities, with fish in the water, since March of 2002.

The CMS has 3 major components. The first component is the development of a site-specific containment plan (site plan). The site plan should follow the appropriate (fresh or salt water) generic model developed in the plan. Each site plan consists of a written risk analysis of where or when potential escape events might occur, a current site diagram, identification of critical control points, HACCP plans for each critical control point, methods section, and blank copies of the appropriate records. Any critical control points identified by the risk analysis must have an accompanying HACCP plan. The HACCP plan outlines when, who, how, where and what should be monitored. It specifies what the critical limit is when monitoring and what actions should be taken should the critical limit be exceeded. Finally it also sets forth who, how and when verification of monitoring will occur. The methods section outlines how a site will conduct certain standard operations or respond to common situations that could affect containment. Items covered in this section include inventory methods, predation prevention plans, severe weather plans, training, response to escape events and unusual occurrences. In addition to a sites risk analysis, HACCP plans and methods, they must also abide by all of the best practices contained within the Maine Aquaculture Association's Code of Containment (COC). The Code of Containment does provide for quantifiable standards for nets, mooring systems and mooring components.

The second component of the CMS is the implementation and verification of the CMS. In addition to the regular monitoring and verifications outlined within the HACCP plans operators are required to review all site-specific plans on an annual basis and to keep them updated with current farm practices used on that particular site. During the annual review of the plans the operator must also review any Corrective Action Reports (CARs) from the previous year in order to look for reoccurring issues that should be addressed.

The final aspect of the CMS is the third party verification. Companies may employ any auditor that is approved by the State for CMS audits they desire. All sites are required to undergo a minimum of one audit per year. There should be 24 hr notice to site operators of a visit solely for the purpose of facilitating access to the site. Auditors are expected to visit marine sites during stocking and harvesting at least once out of every 5 annual audits. It is the operator's responsibility to satisfy to the auditor's satisfaction that they are in compliance with the system. If violations are discovered a predetermined timetable exists for submission of a correction plan that includes: time frame for corrections to be made and verification procedure. These plans must be submitted and approved by the regulating authorities. One important aspect of the approval process is the option for the authorities to require more frequent monitoring if they feel it is merited by the violations. In addition increase audit frequency may be automatically triggered based on the type and number of infractions.

Council

CNL(05)22

Unreported Catches – Returns by the Parties

CNL(05)22

Unreported Catches – Returns by the Parties

Summary

Management control and reporting systems

1. The information on management control and reporting systems provided since 2000 is presented in Table 1.

Estimates of unreported catch

2. The Council has previously agreed that the Parties should be requested to provide, on an annual basis, information in relation to unreported catches, and has welcomed the progress made in transparent presentation of this information. In 2004, between 593-761 tonnes were estimated to be unreported compared to a provisional declared catch of 2,097 tonnes, i.e. the estimate of unreported catch is between 28-36% of the reported catch. The estimated unreported catch by Party (rounded to the nearest tonne) over the six years for which information is available is as follows:

Year	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Canada	133	124	81	84	118	101
Denmark (Faroe Islands and Greenland)	10-15	10	10	11	10	11
European Union	215	240	169	165	125	116
Iceland	2	2	2	2	2	3
Norway	320-540	440-760	500-860	410-690	320-600	252-420
Russian Federation	237-255	249-309	200-252	166-206	99-152	110
USA	0	0	0	0	0	0
Total	**917-1,160**	**1,065-1,445**	**962-1,374**	**838-1,158**	**674-1,007**	**593-761**
Confirmed catch	2,247	2,903	3,066	2,636	2,450	2,097*
% of reported catch	41-52%	37-50%	31-45%	32-44%	27-41%	28-36%

* Note: 2004 catch data are provisional.

How the figure for unreported catch is derived

3. Information on how the figure for unreported catch is estimated by each Party is provided in Table 3.

Catch and release salmon angling

4. More than 144,000 salmon were released following capture in recreational fisheries in 2004. This is an increase of 14% compared to the number released in 2003 (125,600). Catch and release angling is not practised in all countries and in some countries no statistics are available on the extent of its use. The numbers of salmon caught and subsequently released by Party is as follows:

Year	2000	2001	2002	2003	2004
Canada	62,106	58,961	54,425	51,442	57,005
Denmark (Faroe Islands and Greenland)	0	0	0	0	0
European Union	27,346	33,504	32,984	34,968	55,064
Iceland	2,918	3,607	5,576	5,357	7,294
Norway	0	0	0	0	0
Russian Federation	12,624	16,410	25,248	33,862	24,679
USA	0	0	0	0	0
Total	**104,994**	**112,482**	**118,233**	**125,629**	**144,042**

5. The figures for the number of salmon caught and released for the EU are based on statistics for the UK (England and Wales and Scotland) until 2004. For 2004, information has also been included for Denmark. In other EU Member States catch and release is either not commonplace or no statistics are available.

6. It should be noted that unlike the return of official catch statistics, in the case of estimates of unreported catches and the number of salmon caught and released there is no requirement to confirm the provisional figures the year after they have been reported to NASCO, although some Parties have done so in some years.

Measures to minimise unreported catches

7. A number of new measures to minimise the level of unreported catch have been reported, including: extensive prosecutions, with heavy penalties, in each province of Canada so as to deter illegal fishing; an initiative in Greenland, prior to the start of the salmon fishery, to increase awareness of the fishery regulations; a specific enforcement campaign in one significant fishery in England and Wales; follow-up of unreturned carcass tags in Northern Ireland; regulatory measures in Iceland prohibiting the net fishery for char in designated areas at certain times so as to prevent by-catch of salmon and protect char stocks; continuing improvements to systems and routines for reporting catches in Norway; and continuation of educational efforts in the US to ensure that anglers can identify Atlantic salmon and are aware of fishery restrictions.

Additional actions

8. The Council has previously noted the continuing progress being made by the Parties in reducing the level of unreported catches and emphasised the need to take stronger measures to minimise the level of such catches. It appears that this progress in reducing the level of unreported catch is being maintained, and new measures to address this problem continue to be introduced. The Council is asked to consider what, if any, additional actions it wishes to take in relation to unreported catches. The Secretary will continue to request information on unreported catches from the Parties on an annual basis.

9. At the time of preparation of this paper, information had not been received from some EU Member States (Germany, France and Portugal) which have salmon stocks.

Secretary
Edinburgh
11 May, 2005

1. Description of Management Control and Reporting Systems by Country

Party	Year of Return	Description
Canada	2000	Within Quebec, all legally harvested commercial and recreational salmon have to be registered. In the rest of Atlantic Canada, recreational fisheries are estimated by licence stub return systems and surveys. Aboriginal Food Fisheries are either reported by the Native People themselves or estimated by local enforcement staff. This means that all legal fisheries have reporting systems and unreported catches arise mainly from those harvests which are illegal. Unreported catches are generally estimated by local enforcement or scientific staff based on local assessment of illegal activity.
Denmark (in respect of the Faroe Islands and Greenland)		
Faroe Islands	2003	In the Faroe Islands there is currently no reporting system regarding sport fishing for salmon. The Sportfishermen's Association works on estimates of catches for its own purposes. There are plans to introduce a reporting system.
	2005	The recreational rod catch in rivers is limited by a licensing system where fishing licences are sold. The catch is reported to the Faroese Sportsfishermen's Association which then informs the Ministry of Fisheries.
Greenland	2000	All commercial catches of salmon must be reported to the Greenland Fishing Licence Control Authority (GFLK) by the fishermen on a daily basis. Catches from the recreational fishery and the fishery for non-residents/tourists must be reported to the GFLK by the fishermen as soon as possible. Only persons licensed for the commercial salmon fishery can sell their catches. The catches from the commercial salmon fishery can only be sold at local markets and local shops, to hotels, schools, hospitals and other public eating places.
European Union		
Denmark	2002	At sea, control is based on registration (logbooks) and landing control. (Denmark has national technical rules but no quota regulations). In rivers, private landowners, in cooperation with angler associations, are responsible for the control of the recreational fisheries.
	2005	The catch statistics in Danish rivers come from local angling clubs on a voluntary basis.
Finland	2000	Recreational fishing catch statistics are well reported (angler response rate was 75%). The total salmon catch is estimated. Local salmon catches (set nets, drift nets, weirs and rod and reel fishing) are requested after the fishing season ends. Fishermen are asked to complete a catch report or answer personally to interviews (out of a total of 800 fishermen, 50-65% report their catch). Reported salmon catches are underestimated by about 20-30%.
Germany	2004	as been a legal obligation since 1993 for all fishermen to report catches of salmon to the authorities but no management control system has been established.
Ireland	2000	The Department of the Marine and Natural Resources is charged with the enactment and enforcement of fisheries legislation. Authorised officers in seven regional fisheries areas carry out enforcement and fisheries protection. Commercial catch statistics are reported from licensed salmon dealers' registers in all regions except one, where an estimate is made based on sample fishermen's catches. Angling catch returns are not collected systematically and best estimates are made in most regions.
	2002	Until 2000, catch statistics were derived primarily from recorded sales in licensed salmon dealers' registers. An estimate of private sales of legally caught salmon was included in unreported catch estimates. A carcass tagging and logbook system was introduced in 2001. Under this scheme all salmon landed are tagged with the appropriate coloured and coded tag and catch details are recorded in an official logbook. A national database of catch information has been established. Initial analyses indicate a significant increase in the reported catch compared to the previous 5 years due mainly to the inclusion of previously unreported catches and, therefore, a corresponding decrease in the unreported catch.

Party	Year of Return	Description
	2003	The carcass tagging and logbook scheme introduced in 2001 has resulted in an increase in the reported catch in 2002 over the previous five-year period and, therefore, a corresponding decrease in the unreported catch. Up to 2000, the catch statistics were derived from recorded sales by licensed salmon dealers. As a result of the introduction of the carcass tagging and logbook scheme, it is possible to estimate the proportion of the catch not sold through licensed dealers and, therefore, to assess the validity of previous estimates of unreported catch.
	2004	A national database of catch information has been established. The carcass tagging and logbook scheme introduced in 2001 has resulted in an increase in the reported catch for the period 2001-2003 over the previous 5 years and therefore a corresponding decrease in unreported catch. Prior to 2001 catch statistics had been derived primarily from recorded sales in licensed salmon dealers' registers, with estimates of private sales of legally caught salmon included in unreported catches. Preliminary analyses suggest that approximately 30% of salmon caught in 2002 and 2003 were not sold through licensed dealers but were either kept for domestic consumption or sold through retail outlets, hotels, etc. While there is still an element of illegal catch this is thought to be low at present.
Spain	2005	All salmon catches must be reported. Salmon fishing is strongly regulated. For example, in Cantabria and Navarre rod and line fishing only is permitted, all other techniques are prohibited.
Sweden	2000	The level of unreported catches is assumed to be between 5 to 25% of the total catch. The level has been estimated based on the official catch figures collected yearly by the National Board of Fisheries through the mandatory log-books and sales notes regarding the licensed professional fishing, and the county administrations regarding all salmon catches in the coastal area and in the rivers. The county administrations issue fishing licences to fishermen, a condition of which is the submission of a yearly report of all catches. Sport fishing organisations and fisheries management areas managing the salmon fishing through the sale of one-day fishing licences for smaller areas in the rivers are also obliged to report all catches of salmon, including specification of individual length, weight, sex and date of the catch. Even the place of the catch and fishing method used are commonly reported. The information is compiled yearly at the respective county administration's fishing unit and submitted to the Board of Fisheries. The information regarding sport fishing with rod and line and professional fishing with fixed gears is estimated to be quite complete but the catch by the public, because of their right to fish with a limited number of nets, is assumed to be the major part of the Swedish unreported catch.
UK (England and Wales)	2000	All net, fixed engine and rod fishing is subject to licence. All licensees are required to submit a mandatory catch return. The proportion of netsmen submitting returns is usually at, or very close to, 100%, with active follow-up of non-respondents. A lower proportion of rod licensees respond; a postal reminder system operates. Declared catches are adjusted for under-reporting.
	2002	In England and Wales anglers were issued with a second reminder, in respect of catches in the 2001 season, in an effort to reduce the level of unreported catch. No change for net fisheries or in the methodology applied for assessing illegal catches.
UK (Northern Ireland)	2000	Returns from netsmen as a licence condition.
	2002	In Northern Ireland, control of commercial netting and sport angling exploitation in the Foyle, Carlingford and Irish Lights Commission (FCILL) area is in real time based on management targets for salmon. Salmon carcass tagging and logbooks have been introduced for all forms of exploitation. In the Fisheries Conservancy Board (FCB) area a salmon tagging and log book scheme was introduced in 2001 and should provide angling and commercial effort data which has previously been unreported.
UK (Scotland)	2000	Wild resources are policed by the District Salmon Board's bailiff force. Catch return forms are sent to owner/occupiers of the salmon fishery. A reminders system is in place to maximise returns. A return rate of 95% or greater is received annually.
Iceland	2000	Detailed catch statistics for angling. Reliable catch statistic for net fishing in rivers. No legal sea fisheries for salmon.
Norway	2000	The main responsibility for collection and administration of the catch reports lies with the County Governors. The County Governors collect reports at the end of the year from land owners on the rivers. A report from each county is sent to the official bureau "Statistics Norway". Sea-fishermen are registered by the County Governor before the fishing season starts. Catch reports from sea fishing are sent directly from each fisherman to Statistics Norway.

Party	Year of Return	Description
Russian Federation	2000	For all types of fishing a licence is issued by the Fishery Protection authorities. For commercial fishing for salmon, and fishing based on "catch and release", a special seasonal day-book is available in which the daily catch statistics are registered. During "catch and retain" fishing the catch statistics are entered on a licence to further submit to the Fishery Protection authorities. Reporting on commercial fishing is practised on a decade basis and that on licensed recreational fishing - after the termination of the season. When the catch statistics are not reported the fishing licence is cancelled.
USA	2000	There is no legal harvest of Atlantic salmon in the United States with the exception of the fishery on the Merrimack River on reconditioned broodstock. Fishermen on the Merrimack River are required to purchase a separate license and fill out a log book. Commercial fishermen in state and federal waters are required to report catch, including by-catch. This data is entered into a database that can be searched by species, area, gear, etc.

2. Estimate of unreported catch by country, broken down by category and indicating whether the unreported catch is the result of legal or illegal activities

Party	**Estimate (tonnes)**	*Breakdown*
Canada	101	A result of Illegal activities, with about 43% in marine waters, 41% in rivers and 16% unspecified.
Denmark (in respect of the Faroe Islands and Greenland)		
Faroe Islands	1.4	The unreported catch is the result of legal activities – recreational rod catches in rivers.
Greenland	Approx. 10	The reported catches in 2004 are almost 83% higher than in 2003 but the reason for this is not known. The figure for unreported catch is still estimated by the Greenland Institute of Natural Resources to be about 10 tonnes but this is a very rough estimate. In 2004 the Wildlife and Fisheries Officers reported one incident of illegal fishing for salmon. A total of 155 licences were issued to professional fishermen in 2004, but only 22 of these were utilised, according to catch reports.
European Union		
Denmark	-	No information.
Finland	10	Negligible illegal catch.
Ireland	47	Predominantly illegal catch. Approximately 10% of the declared catch.
Spain	-	No estimate of unreported catch is available but it is considered to be very low because of strict controls on fishing.
Sweden	Approx. 1.9	Approximately 10% of catch. Largely the result of legal activities in fisheries with no obligation to report catches but poaching probably contributes to a minor extent. It is believed that new fishery regulations in recent years have reduced the proportion of the catch that is not reported.
UK – England and Wales	33	Estimates are not made for separate categories of unreported catch. The total is calculated using the percentages in Table 3.
UK – Northern Ireland	0.34	
UK – Scotland	24	Legal and illegal components.
Iceland	2.6	
Norway	336 (uncertainty ± 84 tonnes)	Illegal catch in the sea: 91 tonnes By-catch in commercial sea fishing: 14 tonnes Legal catch in sea by bag-net and bend net: 81 tonnes Legal catch in sea by angling: 70 tonnes Illegal catch in rivers: 10 tonnes Legal catch in rivers, mainly by angling: 70 tonnes
Russian Federation	110	Legal coastal fishery: 5 tonnes Illegal coastal fishery: 3 tonnes Legal in-river fishery: 18 tonnes Illegal in-river fishery: 84 tonnes
USA	0	
TOTAL	**593-761**	

3. Explanation of how the figure for unreported catch is arrived at

Party	Year of Return	Explanation
Canada	2000	***Illegal fishing:*** Unreported catch is attributed principally to illegal fishing.
	2001	***Illegal fishing:*** Estimates supplied by enforcement staff.
	2003	***Illegal fishing:*** Unreported catches are estimated by enforcement, management and biological staff.
	2005	***Illegal fishing:*** Almost all unreported catch in Canada arises from illegal fishing: estimates are usually provided by enforcement staff, in some cases based on a proportion of the reported catch (the proportion being determined from previous studies) or are current or previous years' estimates based on knowledge of illegal activities in specific fishing areas.
Denmark (FI&G)		
Faroe Islands	2000	***Absence of a requirement for catch statistics to be collected:*** There is no unreported catch.
	2003	***Local sale or consumption:*** The unreported catch is used for local consumption.
	2005	Unreported catches result from legal activities, recreational rod catches in rivers. They arise from an absence of a requirement for catch statistics to be collected and from local consumption.
Greenland	2000	***Absence of a requirement for catch statistics to be collected:*** All catches are landed to local markets, sold privately or kept for home consumption. Due to the scattered nature of the fishery, recordings of the landings are considered incomplete. ***Suppression of information thought to be unfavourable:*** Not available. ***Local sale or consumption:*** It has been established that salmon have been sold by persons with no licence in the towns of Nuuk, Qaqortoq, Maniitsoq and Narsaq. Catches for home consumption seem to be heavily under-reported. ***Innocent inaccuracy in making returns:*** Not available. ***Illegal fishing:*** Not available.
	2001	***Absence of a requirement for catch statistics to be collected:*** All catches are landed to local markets, sold privately or kept for home consumption. Due to the scattered nature of the fishery, recordings of the landings are considered incomplete. ***Suppression of information thought to be unfavourable:*** Not available. ***Local sale or consumption:*** Catches for home consumption seem to be heavily underreported. The catches from the commercial salmon fishery in 2000 were restricted to subsistence use only, and one private company was given permission to purchase salmon from the fishermen for distribution in Greenland. Almost all the catch reports originated from landings to this company in 2000, and only a few of the catches from the commercial salmon fishery are reported to have been sold at local markets, local shops, to hotels, schools, hospitals or other public eating places in comparison with previous years. The short season is probably the reason for this, and is not necessarily an indicator of unreported catches. ***Innocent inaccuracy in making returns:*** Not available. ***Illegal fishing:*** Official gamekeepers and inspectors from the GFLK have reported incidents of illegal gill net fishing after the closure of the salmon fishery. The inspection of this fishery had high priority after the closure, and due to the very short season (5 days) it is estimated that there were more illegal fishing incidents in 2000 than previous years.
	2003	***Absence of a requirement for catch statistics to be collected:*** All catches must be reported to Greenland Fisheries Licence Control (GFLK). ***Suppression of information thought to be unfavourable:*** Not available. ***Local sale or consumption:*** Catches are landed to local markets, sold privately or kept for home consumption. Due to the scattered nature of the fishery, recordings of landings are considered incomplete. ***Innocent inaccuracy in making returns:*** Not available. ***Illegal fishing:*** The unreported catches are mostly legal.

Party	Year of Return	Explanation
	2005	All catches must be reported to the Greenland Fishing Licence Control. Due to the scattered nature of the fishery, effective control by the authorities is impossible within any reasonable effort. Presently there is no reliable method of estimating the magnitude of the unreported catch.
European Union		
Finland	2000	***Absence of a requirement for catch statistics to be collected:*** The reporting is voluntary and fishermen underestimate their catch. ***Innocent inaccuracy in making returns:*** 50-70% of fishermen report their catch. ***Illegal fishing:*** Some illegal fishing with drift nets late in season. Illegal gill net fishing in small tributaries.
	2003	***Absence of a requirement for catch statistics to be collected:*** Licensed fisheries without requirement to report catch. Extrapolation from reported catch used to estimate total catch. An additional margin has been included in the estimate of unreported catch of 15 tonnes. ***Illegal fishing*** Thought to be small but difficult to evaluate. Only a guess-estimate.
	2004	nd there are licensed fisheries which are not required to report their catch, but the total catch is estimated by extrapolation from the reported catch. There is negligible illegal catch but suppression of information thought to be unfavourable might also lead to unreported catches.
	2005	***Absence of a requirement for catch statistics to be collected:*** 50% of total, a guess-estimate. ***ssion of information thought to be unfavourable:*** 50% of total, a guess-estimate.
Ireland	2000	***Absence of a requirement for catch statistics to be collected:*** No. ***Suppression of information thought to be unfavourable:*** No. ***Local sale or consumption:*** An unknown proportion of the unreported catch. ***Innocent inaccuracy in making returns:*** No. ***Illegal fishing:*** Comprises most of the unreported catch.
	2001	***Absence of a requirement for catch statistics to be collected:*** Not applicable. Returns for all methods are required by law. ***Suppression of information thought to be unfavourable:*** May be some element of this in some areas. ***Local sale or consumption:*** Most of the unreported catch comes from this category. ***Innocent inaccuracy in making returns:*** Not a large part of the estimate. ***Illegal fishing:*** Some of the input derives from this category.
	2002	***Absence of a requirement for catch statistics to be collected:*** All catches must be declared in logbooks. ***Suppression of information thought to be unfavourable:*** Unlikely given the presumption of buy-outs, quotas or set-asides in recent years. ***Local sale or consumption:*** It is obligatory to provide details in logbooks of all disposal of salmon landed in Ireland. ***Innocent inaccuracy in making returns:*** A small element of this may occur given that the carcass tagging/logbook scheme was only introduced in 2001. ***Illegal fishing:*** Thought to represent most of the unreported catch but still difficult to assess accurately.
	2003	***Absence of a requirement for catch statistics to be collected:*** Not applicable – all catches must be declared in logbooks. ***Suppression of information thought to be unfavourable:*** This is unlikely given the presumption of buyouts, quotas or set-aside in recent years. ***Local sale or consumption:*** It is obligatory to provide details of all disposals of salmon landed in Ireland. ***Innocent inaccuracy in making returns:*** This may occur but will reduce as familiarity with the carcass tagging logbook scheme increases. ***Illegal fishing:*** Difficult to assess accurately, based on accounts from local sources (fishery inspectors, fishermen). Thought to represent most of the unreported catch and is believed to be at a low level presently.
	2004	Local sale or consumption was thought to have been a source of unreported catches in the past but since 2001, with the introduction of logbooks, it is obligatory to provide details of all disposals of salmon landed in Ireland.

Party	Year of Return	Explanation
	2005	***Absence of a requirement for catch statistics to be collected:*** Not applicable – all catches must be declared in logbooks by both commercial fishermen and recreational anglers. ***Suppression of information thought to be unfavourable:*** This is unlikely in recent years given the anticipation, on the part of some commercial fishermen at least, of the possible introduction in the future of non-transferable quotas or the prospects for the introduction of buyouts, or set-aside schemes. ***Local sale or consumption:*** This may have been true in the past but it is obligatory since 2001 to furnish details in the logbook of all disposal of salmon landed in Ireland. ***Innocent inaccuracy in making returns:*** This may occur but would not be significant and will reduce as familiarity with the scheme increases. ***Illegal fishing:*** This is thought to represent most of the unreported catch which is believed to be at a low level presently (reports from local inspectors).
Spain	2005	***Illegal fishing:*** In Cantabria illegal fishing is estimated and reported by the foresters.
Sweden	2000	***Absence of a requirement for catch statistics to be collected:*** No. ***Suppression of information thought to be unfavourable:*** To some limited degree because of minor catches which are believed not to be reported for tax reasons. ***Local sale or consumption:*** Less than 30% of the total unreported catches. ***Innocent inaccuracy in making returns:*** Approximately 25% of the unreported caches are caught by non-professional fishermen with no legal obligation to report their catches because they fish within their own waters. ***Illegal fishing:*** Probably to some extent but at an insignificant level compared with the total level of unreported catches.
	2001	***Absence of a requirement for catch statistics to be collected:*** A large part of the unreported catch. ***Suppression of information thought to be unfavourable:*** To some limited degree because of minor catches which are believed not to be reported for tax reasons. ***Local sale or consumption:*** Less than 30% of the total unreported catches. ***Innocent inaccuracy in making returns:*** Underestimation of catch is probably not a common source of unreported catch. ***Illegal fishing:*** This occurs but to a lesser extent than some other categories of unreported catch.
	2003	***Absence of a requirement for catch statistics to be collected:*** A large proportion of the unreported catch. ***Suppression of information thought to be unfavourable:*** To some limited degree because of minor catches which are believed to be unreported for tax reasons. ***Local sale or consumption:*** Less than 30% of the total unreported catch. ***Innocent inaccuracy in making returns:*** Under-estimation of catch is not a common source of unreported catches. Catches are as likely to be over-estimated. ***Illegal fishing:*** Important factor in a few rivers and river mouths where illegal fishing may occur without proper control of the fishery.
	2005	***Absence of a requirement for catch statistics to be collected:*** A major factor behind unreported catch. ***Suppression of information thought to be unfavourable:*** Unlikely to be important. ***Local sale or consumption:*** Less than 30% of total unreported catches. ***Innocent inaccuracy in making returns:*** Underestimation of catch is not a common source of unreported catches. Catches are as likely to be overestimated. ***Illegal fishing:*** Important factor in a few rivers and river mouths where illegal fishing may occur without proper control of the fishing.

Party	Year of Return	Explanation
UK (England and Wales))	2000	***Absence of a requirement for catch statistics to be collected:*** Not applicable. ***Suppression of information thought to be unfavourable:*** No separate estimate. ***Local sale or consumption:*** No separate estimate. ***Innocent inaccuracy in making returns:*** Rod fisheries - 10%: The Environment Agency has estimated that declared salmon rod catches in England and Wales should be increased by 10% to allow for under-reporting of the legal rod catch. This has been based on a study of catch returns made following reminders. Exceptions to this apply for a number of rivers for which the fishery owners' returns are regarded as more accurate. Net fisheries - 8%: For net fisheries in England and Wales, the rate of reporting is generally considered to be high in most Regions and this has been supported by the findings of two studies. On the basis of these and opinions on the level of under-reporting in regional net fisheries, collected from Environment Agency fisheries personnel, a figure of 8% has been used for estimating the level of under-reporting of the national net catch. It has been suggested that over-reporting of catches may be occurring in some fisheries, and the north-east coast fishery in particular, in response to continuing rumours about potential future buy-outs (and the perception that compensation will be based on declared catches). ***Illegal fishing:*** All methods - 12%: Recent estimates of illegal catches, expressed as a percentage of the declared catch, have ranged from 5% to 18% for different Regions. A figure of 12% has been used to estimate the total illegal catch.
	2001	***Absence of a requirement for catch statistics to be collected:*** Not applicable. ***Suppression of information thought to be unfavourable:*** No separate estimate. ***Local sale or consumption:*** No separate estimate. ***Innocent inaccuracy in making returns:*** Rod fisheries – 10% of declared catch based on a study of catch returns made following reminders. Net fisheries – 8% of declared catch (with the exception of the North-East coast fishery for which no correction was applied in 2000). ***Illegal fishing:*** All methods – 12% of total declared catch.
	2003	***Absence of a requirement for catch statistics to be collected:*** Not applicable. ***Suppression of information thought to be unfavourable:*** 6% of declared net catch. ***Local sale or consumption:*** No separate estimate. ***Innocent inaccuracy in making returns:*** Figure of 10% of declared rod catch; may be reviewed in the light of issuing second reminders in 2001 and 2002. ***Illegal fishing:*** 12% of total declared catch.
	2005	***Absence of a requirement for catch statistics to be collected:*** Not applicable. ***Suppression of information thought to be unfavourable:*** No separate estimate – included in the overall total. ***Local sale or consumption:*** No separate estimate – included in the overall total. ***Innocent inaccuracy in making returns:*** Rod fisheries 10% of declared catch (may be reviewed in future in light of results from the issue of a second reminder to anglers in the period 2001 to 2004). Net fisheries 8% of declared catch. ***Illegal fishing:*** All methods – 12% of total declared catch.
UK (Northern Ireland)	2000	***Absence of a requirement for catch statistics to be collected:*** Not applicable. ***Suppression of information thought to be unfavourable:*** No separate estimate. ***Local sale or consumption:*** No separate estimate. ***Innocent inaccuracy in making returns:*** No separate estimate. ***Illegal fishing:*** No separate estimate.

Party	Year of Return	Explanation
	2001	***Absence of a requirement for catch statistics to be collected:*** Unreported catch is estimated from intelligence reports of fishery officers on the ground and catch figures given to scientists by individual netsmen on a confidential basis. ***Suppression of information thought to be unfavourable:*** No separate estimate. ***Local sale or consumption:*** No separate estimate. ***Innocent inaccuracy in making returns:*** No separate estimate. ***Illegal fishing:*** No separate estimate.
	2005	***Innocent inaccuracy in making returns:*** Yes.
UK (Scotland)	2000	***Absence of a requirement for catch statistics to be collected:*** Not applicable. ***Suppression of information thought to be unfavourable:*** A separate estimate is made from intelligence obtained from a number of sources. ***Local sale or consumption:*** A separate estimate is made from intelligence obtained from a number of sources. ***Innocent inaccuracy in making returns:*** No separate estimate. ***Illegal fishing:*** A separate estimate is made from intelligence obtained from a number of sources.
	2005	***Absence of a requirement for catch statistics to be collected:*** Not applicable. ***Suppression of information thought to be unfavourable:*** Guess-estimate. ***Local sale or consumption:*** Guess-estimate. ***Innocent inaccuracy in making returns:*** Guess-estimate. ***Illegal fishing:*** Guess-estimate.
Iceland	2000	***Absence of a requirement for catch statistics to be collected:*** No. ***Suppression of information thought to be unfavourable:*** Yes. ***Local sale or consumption:*** Yes. ***Innocent inaccuracy in making returns:*** No. ***Illegal fishing:*** Yes.
	2001	***Absence of a requirement for catch statistics to be collected:*** Catch statistics are required by law. ***Suppression of information thought to be unfavourable:*** Information on catches in coastal and marine salmon fisheries which are prohibited tends to be suppressed. ***Local sale or consumption:*** Some local consumption and limited sale. ***Innocent inaccuracy in making returns:*** Not a source of unreported catch. ***Illegal fishing:*** Some coastal fishing with illegal mesh-sizes. By-catch in marine fisheries for haddock, etc.
Norway	2000	***Absence of a requirement for catch statistics to be collected:*** See document "Description of methods currently used for estimating unreported catches in Norway" in Annex 1. ***Suppression of information thought to be unfavourable:*** See document "Description of methods currently used for estimating unreported catches in Norway" in Annex 1. ***Local sale or consumption:*** This is not believed to be a source of unreported catch in Norway. ***Innocent inaccuracy in making returns:*** See document "Description of methods currently used for estimating unreported catches in Norway" in Annex 1. ***Illegal fishing:*** See document "Description of methods currently used for estimating unreported catches in Norway" in Annex 1.

Party	Year of Return	Explanation
Russian Federation	2000	***Absence of a requirement for catch statistics to be collected:*** There is a requirement for catch statistics to be collected from all salmon fisheries. ***Suppression of information thought to be unfavourable:*** To cut taxes the catch statistics are reduced by salmon fishermen fishing in the coastal zone. To estimate the size of unreported catch by the methods suggested is impossible. According to the estimate from experts, this figure annually constitutes 25-40 t. ***Local sale or consumption:*** This is not believed to be a source of unreported catch. ***Innocent inaccuracy in making returns:*** This is not believed to be a source of unreported catch. ***Illegal fishing:*** According to expert opinion, illegal fishing annually makes up from 50 to 100% of the commercial catch. Calculations based on the assessment of spawners (parent stock) and fry (offspring) indicate that in 1997 illegal fishing on the Tuloma river constituted about 50% of the fish released for spawning.
USA	2000	***Absence of a requirement for catch statistics to be collected:*** Commercial fishermen are required to report catches, including by-catch. No Atlantic salmon were reported in records submitted in 1999.
	2003	***Absence of a requirement for catch statistics to be collected:*** As a condition of having a federal fishing permit, reporting of bycatch is required. There were no reports of Atlantic salmon in the mandatory logbooks completed and returned by fishermen. In addition, observers are placed on some fishing vessels to provide a third-party estimate of bycatch. No observers documented a bycatch of Atlantic salmon in any fishery in 2002. ***Suppression of information thought to be unfavourable:*** There is no evidence that this is occurring. In the past, there have been reports made of Atlantic salmon bycatch. ***Local sale or consumption:*** There is no evidence that this is occurring. ***Innocent inaccuracy in making returns:*** Fisheries observers are trained in species identification, which should reduce the potential for misidentification. *Illegal fishing:* **On occasion, there are reports of potential recreational poaching in the rivers. When such reports are made, law enforcement personnel increase their presence on the river. There were no documented poaching activities in 2002.**
	2005	***Absence of a requirement for catch statistics to be collected:*** As a condition of having a federal fishing permit, reporting by-catch is mandatory. There were no reports of Atlantic salmon in the mandatory logbooks completed and returned by fishermen; however, one dealer reported Atlantic salmon by-catch of 25lbs. In addition, observers are placed on some fishing vessels to provide a third-party estimate of by-catch. No observers documented the by-catch of Atlantic salmon in any fishery in 2004. ***Suppression of information thought to be unfavourable:*** There is no evidence that this is occurring. In the past, there have been reports made of Atlantic salmon by-catch by fisherman. ***Local sale or consumption:*** The Atlantic salmon bycatch referred to above was valued at $125.00. There is no evidence, however, that Atlantic salmon are being illegally targeted and sold for local consumption. ***Innocent inaccuracy in making returns:*** Fisheries observers are trained in species identification, which should reduce the potential for misidentification. ***Illegal fishing:*** There have been reports of potential poaching in the rivers in Maine; however, it is infrequent and in some cases it could not be confirmed by law enforcement and therefore never prosecuted. When such reports are made law enforcement personnel increase their presence on the river. In 2004, NOAA Fisheries and the USFWS developed a cooperative agreement with the Maine Atlantic Salmon Commission (ASC) to increase enforcement on rivers within the GOM DPS. Under this agreement, the ASC was awarded a $10,000 grant from NOAA Fisheries to implement a more effective and ambitious enforcement program. The new enforcement plan includes: increased patrols by the Maine Warden Service on rivers within the GOM DPS that have listed salmon populations; increased coverage by the Warden Service during critical time periods such as during stocking activities, adult out-migration, and when salmon are pooled up in cool water; and installation of cameras in key areas to document activity when Wardens are not in those areas. A USFWS enforcement agent will also be working closely with the Warden Service to implement the new enforcement program.

4. The extent of catch and release fishing

Party	Estimated Number Released	Comment
Canada	57,005	32,344 small salmon (generally 1SW) and 24,661 large salmon (generally MSW salmon). This information is usually estimated from angler reports.
Denmark (in respect of the Faroe Islands and Greenland)		
Faroe Islands	0	No catch and release fishing.
Greenland	0	
European Union		
Denmark	255	Of 1,070 salmon caught in 2004, 255 were released in the river.
Finland	Negligible.	
Ireland	No statistics available.	Catch and release is only mandatory on a small number of rivers although it may be practised by individual anglers in other areas voluntarily.
Spain	No statistic available.	In general salmon returned are not declared. In Navarre, catch and release fishing in the Bidesoa river is uncommon.
Sweden	No statistics available.	Catch and release fishing is practised in a few rivers in order to improve the protection of females before and during the spawning period. The practice of catch and release fishing is likely to increase.
UK - England and Wales	12,379	Provisional estimate for 2004 is 48% of rod-caught fish released (including voluntary and compulsory catch and release). Agreements (both formal and voluntary) have been reached for some rivers in southern England for the release of all fish caught by anglers.
UK - Northern Ireland	No statistics available.	Unquantifiable, but reports suggest that there has been a considerable increase in catch and release fishing.
UK - Scotland	42,430	50% of all rod-caught salmon. Catch and release figures are required in the statutory annual catch returns made by the owners and operators of salmon fisheries. Confirmed figure for 2003 is 28,987 salmon released.
Iceland	7,294	16% of all rod-caught salmon.
Norway	0	The extent of catch and release fishing is sporadic and accidental.
Russian Federation	24,679	75.6% of the total recreational catch. This information is based on catch reports sent to the relevant authorities.
USA	0	There is no directed catch and release fishing for sea-run Atlantic salmon in the US. However, there is a limited catch and release fishery for reconditioned broodstock in both the Connecticut and Merrimack river systems.
TOTAL	**144,042**	

5. Any measures taken to further minimise the level of unreported catches

Party	*Measures taken*
Canada	No new measures but extensive prosecutions in each province, that could be documented, with those found guilty having to pay stiff fines. This should act as a deterrent to such activities.
Denmark (in respect of the Faroe Islands and Greenland)	
Faroe Islands	No new measures.
Greenland	In August 2004, the Organization of Small Fishermen and Hunters produced a short article about the regulations concerning the upcoming salmon fishery in their member magazine. No other new measures.
European Union	
Denmark	No new measures.
Finland	No new measures.
Ireland	No new measures.
Sweden	No new measures.
UK - England and Wales	No new general measures. Specific enforcement campaign carried out in one significant fishery.
UK - Northern Ireland	No new measures. The introduction of a tagging scheme for angling and commercial fishing in 2002 and the follow-up of unreturned tags.
UK - Scotland	No new measures.
Iceland	Regulatory measures were introduced in 2004 which prohibit net fishing for char in designated areas at certain times so as to protect char stocks and prevent by-catch of salmon.
Norway	In recent years systems and routines for reporting catches have gradually improved in many salmon rivers, including many of the major sport-fishing rivers. The measures taken include introducing deposits in relation to catch reports, employing data technology to support the collection and compilation of catch reports and increasing general awareness of the importance of more accurate catch reporting among fishermen. These improvements have led to a considerable reduction in unreported catches from angling.
Russian Federation	No new measures.
USA*	Educational efforts are continuing to ensure that recreational anglers can identify Atlantic salmon and are aware of the fishing restrictions. Particular emphasis has been placed on distinguishing between trout and juvenile Atlantic salmon to reduce bycatch at the early life stages.

* Unreported catch estimated to be zero.

ANNEX 31

Council

CNL(05)23

Guidelines on Stock Rebuilding Programmes – Returns by the Parties

CNL(05)23

Guidelines on Stock Rebuilding Programmes – Returns by the Parties

Summary

1. A stock rebuilding programme has been defined by the Council as an array of management measures, including habitat improvement, exploitation control and stocking, designed to restore a stock to above its conservation limit. While these management measures are being addressed by the Council in application of the Precautionary Approach the Council had agreed that it would be useful to develop some guidance to the Parties and last year adopted Guidelines on the Use of Stock Rebuilding Programmes in the Context of the Precautionary Management of Salmon Stocks, CNL(04)55. In order that the Parties can gain from each others' experience and to facilitate dissemination of best practice, the Council also agreed that each year the Parties should be requested to provide the following information:

   - a summary or list of current stock rebuilding programmes (or similar documents) indicating how copies may be obtained;
   - suggestions for how the guidelines might be improved.

2. The first returns under the agreed format are attached. Some returns indicate how further information on the stock rebuilding programmes described can be obtained. At the time of preparation of this report, no return has been provided by some EU Member States with salmon interests (France and Portugal). The returns indicate that:

   In **Canada,** catch and release of MSW salmon is mandatory in Quebec for all rivers under their conservation limit. In addition for some rivers there is a five-year stocking programme to accelerate recovery. Details of the quantity and life-stage of salmon stocked in rivers in Quebec have been provided. Thirty-two Inner Bay of Fundy salmon rivers have been listed under Canada's Species at Risk Act and stock rebuilding efforts are underway for three priority rivers where live gene bank and individual fish pedigree techniques are used to maintain the genetic integrity of the stocks.

   In **Denmark (in respect of the Faroe Islands and Greenland),** there are no stock rebuilding programmes.

   European Union:

   In Denmark, a National Management Plan for salmon has been published.

   In Finland, stock rebuilding programmes are not considered to be applicable to the Atlantic salmon stocks.

   In Germany, information has been provided on the number, life-style and origin of salmon stocked into various rivers in Brandenburg. In Baden-Wuertemberg proposals for stock rebuilding programmes are being discussed. For Northrhine-Westfalia, an annual report on the salmon reintroduction project is available and details of the project were presented at the stakeholders consultation meeting in London and are contained in Annex 6 of document CNL(05)13.

In Ireland, TACs and restrictions on recreation fisheries have been imposed to meet conservation limits and rebuild salmon stocks. The Electricity Supply Board has an annual restocking programme on 5 rivers. Restocking is carried out in 16 rivers (9% of rivers) although some is for mitigation purposes rather than for stock rebuilding. Approximately 8 million eggs are produced; the majority are stocked as unfed fry, about 3.6 million in 2004. More than 700,000 hatchery-reared smolts were released in 2003. Habitat improvement has been undertaken on a number of rivers.

In Spain, stock rebuilding programmes started on three rivers in Galicia in 1997.

In Sweden, a strategy has been developed for introduction and transfer of fish.

For the UK, in England and Wales, Salmon Action Plans are used to examine the status of all principal salmon rivers and define priorities for management action. In Northern Ireland, habitat management and restoration stocking programmes and exploitation control measures are in place in tributary rivers of Lough Neagh and in rivers on the north and east coasts where conservation limits are not being achieved. In the Foyle catchment, habitat and exploitation are managed to sustain populations above management targets. In Scotland, hatcheries are operated for stock augmentation projects, proposals for developing stock rebuilding programmes for rivers in the west and north are being developed and a framework for considering the factors that should influence decisions on stocking has been published.

In Iceland, there are extensive stock rebuilding programmes in six rivers and minor stocking programmes in various other rivers. All programmes use local salmon stocks and are carried out by river associations in cooperation with angling clubs. Details of the number and life-stage of salmon stocked in Icelandic rivers have been provided.

In Norway, stock rebuilding programmes using the gene bank are being undertaken in ten rivers and two limed rivers are also subject to stock rebuilding programmes.

In the United States, the status of stock rebuilding programmes for Atlantic salmon populations (including the Connecticut, Maine, Merrimack and Pawcatuck River programmes) continues to be evaluated. Technical Advisory Committees have been established for each programme (with the exception of the Pawcatuck River) to guide the implementation of management measures and to evaluate the factors contributing to depressed population levels. Genetics and pathology are assessed, research and management actions prioritised for restoration and recovery, and strategies developed to protect and restore critical habitats. Stakeholders have been identified and included. In Maine, the river-specific stocking programme is consistent with NASCO Stocking Guidelines. Threat assessments are underway in Maine to identify risks as part of the Endangered Species Act listing and the recovery planning process.

3. There have been no suggestions for improvements to the guidelines although EU (Germany – Brandenburg) has highlighted the need to intensify national and international cooperation with regard to stock rebuilding programmes.

Secretary
Edinburgh
27 May, 2005

CNL(05)23

Guidelines on the Use of Stock Rebuilding Programmes – Returns by the Parties

1. Provide a summary or list of current stock rebuilding programmes (or similar documents) indicating how copies may be obtained.

Canada

In Quebec, a catch and release policy for MSW is mandatory for all the rivers under their conservation limits. It is the first step to rebuild the stock. But for some rivers (list below), we have a five-year plan stocking programme to accelerate the stock recovery.

River	Stocking stage	Quantity
Jacques-Cartier	Egg (artificial incubator close to the river)	400,000
Petit-Saguenay		100,000
St-Jean (Saguenay area)		50,000
Des Escoumins	Fry	16,000
Godbout		50,000
Jacques-Cartier		100,000
Malbaie (Québec area)		50,000
Aux Rochers	Parr	35,000
Malbaie (Québec city area)		50,000
Nouvelle		50,000
Rimouski		65,000

The salmon populations in 32 Inner Bay of Fundy rivers have been listed as "endangered" under Canada's Species at Risk Act. Under a Recovery Strategy, stock rebuilding efforts are currently underway for priority rivers. For these 3 priority rivers, live gene bank and individual fish pedigree techniques are used to maintain the genetic integrity of the stock in each river.

Denmark (in respect of the Faroe Islands and Greenland)

Faroe Islands

Not applicable.

Greenland

No current stock rebuilding programme.

European Union

Denmark

The Ministry of Environmental Protection has published a 'National Management Plan for Salmon'.

Finland

Not applicable.

Germany

In Baden-Wuertemberg: Proposals for programmes are discussed and summarized for example in:

(a) Höfer, R. & Riedmüller, U. 2002. Wiedereinbürgerung des Lachses am Oberrhein: Projektziele bis 2006 (Hrsg.: Landesfischereiverband Baden e.V.). Freiburg.
Hard copies may be obtained from the Landesfischereiverband Baden (http://www.lfvbaden.de).

(b) Schneider, J. (2003): Wiederansiedlung des Atlantischen Lachses (*Salmo salar* L.) in Baden-Württemberg. Teil I: Projektkonzeption für die Wiederansiedlung des Atlantischen Lachses. Gutachten im Auftrag des Landesfischereiverbandes Baden e.V.; 27 S.

(c) Landesfischereiverband Baden-Württemberg e.V. und Landesfischereiverband Baden e.V. (2004): Wiedereinbürgerung des Atlantischen Lachses im baden-württembergischen Oberrheingebiet. Bericht über das in den Jahren 2000 bis 2004 umgesetzte Projekt.
Hard copies may be obtained from the Landesfischereiverband Baden-Württemberg (http://www.lfvbw.de) [Website still in progress!]

In Brandenburg: the following stocking has been undertaken:

year	number	species	status	origin / marks	river - system
1999	50 000 20 000	salmon seatrout	fry fry	Shannon / Burrishoole (Ireland) Stör (Germany; Schleswig-Holstein)	Stepenitz
2000	70 000 30 000	salmon seatrout	fry fry	Lagan (Sweden) Stör	Stepenitz
2001	40 000 7 400 30 000	salmon salmon seatrout	fry Smolt fry	Lagan Ätran (Schweden, finclip–marks) Stör	Stepenitz
	75 000 75 000	seatrout seatrout	fry fry	Germany; Mecklenburg-Vorpommern	Ucker (Köhntop) Ucker (Mühlbach/Beeke)
2002	50 000 7 400 2 600 30 000	salmon salmon salmon seatrout	fry Smolt Smolt fry	Lagan Ätran (finclip–marks) Skjern Å (Denmark, finclip-marks) Stör	Stepenitz
	25 000 25 000	seatrout seatrout	fry fry	Mecklenburg-Vorpommern	Ucker (Köhntop) Ucker (Mühlbach/Beeke)
2003	50 000 12 000 40 000	salmon salmon seatrout	fry Smolt fry	Lagan Ätran / Skjern Å (finclip-marks) Stör	Stepenitz
	40 000 60 000	seatrout seatrout	fry fry	Mecklenburg-Vorpommern	Ucker (Köhntop) Ucker (Mühlbach/Beeke)
2004	50 000 15 000 40 000	salmon salmon seatrout	fry Smolt fry	Lagan Ätran / Skjern Å (finclip-marks) Stör	Stepenitz
	5 000	salmon	Smolt	Lagan	Pulsnitz
	40 000 60 000	seatrout seatrout	fry fry	Mecklenburg-Vorpommern	Ucker (Köhntop) Ucker (Mühlbach/Beeke)

The following suggestions for improving the effectiveness of stock rebuilding programmes were made: intensification of national and international cooperation between the proper authorities (fishery science, water engineering, nature protection) and improvement in control or enforcement of law and order. In rivers or brooks: construction of fish passes; enforcement of fish protection on hydro-electric power stations (rake width in salmon rivers < 10 mm; correct bypasses for diversion of smolts); reduction of fine sediment accumulation (sand traps; shut-down of drainage or amelioration canals); restoration of reproduction habitats (substrate reinstatement with gravel and stones); restoration of the (former) sinuosity or remeandering of straightened rivers; regular fishing for pike (*Esox lucius*); national and international control programme for cormorants.

In Northrhine-Westfalia: An annual report (issue 2003) on the reintroduction project is available annually from LÖBF Northrhine-Westfalia which summarizes all actions taken for migrating fish species, particularly Atlantic salmon. A description of the reintroduction project for Atlantic salmon conducted by the Ministry of Environment was submitted at the stakeholder consultation meeting in London in January (see CNL(05)13, Annex 6).

Ireland

National Stock Rebuilding Programme (i.e. Imposition of TACs and restrictions to recreational fisheries) to meet Conservation Limits and rebuild stocks in individual rivers, districts and regions.
Electricity Supply Board Annual Restocking Programmes (Rivers Shannon, Lee, Erne, Clady, Crolly).
Other smaller-scale programmes including Liffey Anglers Restocking programme.
Waterville Development Group Restocking programme.

Restocking is carried out in 16 rivers in Ireland (9% of all rivers). In some instances this is not directly for stock rebuilding but is carried out for mitigation purposes, e.g. to replace stocks lost through impoundment, etc. Approximately 4,200 adult fish are removed from the wild. This may be a mixture of first-generation wild fish but the majority are adults from hatchery releases recovered in line breeding programmes. Approximately 8 million eggs are produced. The majority are put out as unfed fry and approximately 3.6 million were released in 2004. Hatchery smolt production increased from 598,000 in 2002 to 770,000 released in 2003.

Habitat improvements with the intention of increasing juvenile productivity have also been applied in several rivers in Ireland (Moy, Burrishoole, Corrib, Waterville, etc.)

Spain

In Galicia, the stock rebuilding programme for the Ulla, Lérez and Miño rivers started in 1997. Documents are written in Spanish and can be obtained by requesting them from the Xunta of Galicia.

Sweden

The Swedish National Board of Fisheries decided upon a strategy for introduction and transfer of fish in 2001. The document (in Swedish with English summary) can be obtained from the website www.fiskeriverket.se.

United Kingdom

In England and Wales: Salmon Action Plans are used to examine the status of all principal salmon rivers in England and Wales and define priorities for management action. Copies of these, and of the 2004 salmon stock conservation review, may be obtained from the Environment Agency's National Customer Contact Centre (tel: +44 (0)8708 506506).

In Northern Ireland: Habitat management and restoration, stocking programmes, and exploitation control measures are in place in tributary rivers of the Lough Neagh system and on the North and East coasts of Northern Ireland where stock status indicators suggest conservation limits are not being achieved. Habitat and exploitation are managed in the Foyle catchment to sustain populations above management targets. Documentation is disparate amongst agencies involved.

In Scotland: A number of District Salmon Fishery Boards throughout Scotland operate hatcheries for stock augmentation projects. Sub-group 3 (Restoration) reporting to the Tripartite Working Group, comprising representatives of wild salmon interests, the salmon farming industry and the Scottish Executive, is developing proposals for stock rebuilding programmes, where these are identified as necessary, particularly in rivers in the west and the north of Scotland. In 2003, Fisheries Research Services issued the publication *'Salmon and Sea Trout – To Stock or Not?'* providing a framework for considering the factors that should influence decisions on stocking.

Iceland

The most extensive rebuilding programmes are in the Rangá rivers on the south coast and the Breiðdalsá river on the east coast; also in Laxá í Þing and Hrútafjarðará on the north coast as well as Elliðaár and Langá on the west coast. Minor stocking programmes are carried out in various other rivers. All of these programmes are using the local stock and are carried out by the river associations, often in cooperation with the angling clubs leasing the rivers. The total releases in Iceland are, according to information from the Institute of Freshwater Fisheries, as follows:

Sac-fry	213,000
Start-fed fry	147,001
One-summer-old parr	370,050
Smolts	944,892
Oversized smolts	20,000
Pre-smolt in the fall	2,000
	1,696,943

Norway

Stock rebuilding from the Gene Bank in the following rivers:

- Figga
- Ogna
- Steinkjer
- Flekke
- Jølstra
- Årøy

- Vosso
- Etne
- Eidfjord
- Ekso

Stock rebuilding in limed rivers:
- Mandal river
- Tovedal river

Russian Federation

No information provided.

USA

The status of stock rebuilding programmes for Atlantic salmon populations in the US (which include the Connecticut, Maine, Merrimack, and Pawcatuck River Programs) continue to be evaluated in relation to conservation limits, exploitation, stock history and diversity indices, uncertainty in data and estimation procedures, and the reasons for declines and population losses. With the exception of the Pawcatuck River, each Program has established a Technical Advisory Committee to guide the implementation of management measures designed to restore or recover salmon stocks above conservation limits. Factors that contribute to depressed population levels (e.g. environmental changes, habitat losses, subsistence harvest, etc.) are also being evaluated. In addition, genetics and pathology are assessed, research and management actions prioritized for restoration and recovery, and strategies developed to protect and restore critical habitats. Stakeholders have been identified and included in these processes. In Maine, the river-specific stocking program is consistent with NASCO Stocking Guidelines. Threat assessments are also underway in Maine to identify risks as part of the Endangered Species Act listing and the recovery planning process. The Strategic Plans for the Merrimack and Connecticut Rivers can be viewed at the following links:
http://www.fws.gov/r5cneafp/plan.htm ; http://www.fws.gov/r5crc/Stuff/stplan.html

2. Provide any suggestions for how the guidelines might be improved.

No suggestions have been provided as to how the guidelines might be improved. However, in the return for EU (Germany – Brandenburg) it is suggested that there is a need to intensify national and international cooperation with regard to stock rebuilding and a number of suggestions are made for improving the effectiveness of stock rebuilding programmes in that region. These are detailed in section 1.

ANNEX 32

Council

CNL(05)24

Progress with Application of the Guidelines for Incorporation of Social and Economic Factors into Management Decisions under a Precautionary Approach – Returns by the Parties

CNL(05)24

Progress with Application of the Guidelines for Incorporation of Social and Economic Factors into Management Decisions under a Precautionary Approach – Returns by the Parties

Summary

1. At its Twenty-First Annual Meeting the Council adopted Guidelines for Incorporating Social and Economic Factors in Decisions under the Precautionary Approach. These guidelines provide a logical framework to support and inform decision-making and are intended for use by those with responsibility for managing the wild Atlantic salmon and its environments and for communicating concerns to other sectors whose proposals could impact on the wild salmon and its environments. The President asked that the Parties select one area of the application of the Precautionary Approach (management of fisheries; habitat protection and restoration; aquaculture, introductions and transfers and transgenics; by-catch and stock rebuilding programmes) and report to the Council at its Twenty-Second Annual Meeting on an example of the use of the guidelines in relation to the area chosen. Accordingly, the Parties were asked to report on the use of the guidelines in relation to the chosen area of the application of the Precautionary Approach and to provide any suggestions for improvement to the guidelines. The returns are attached. Some EU Member States with salmon interests (France and Portugal) had not made a return at the time of preparation of this report.

2. **In Canada,** the guidelines have not been applied.

Denmark (in respect of the Faroe Islands and Greenland)

In Greenland**,** the guidelines have not been applied and the Faroe Islands responded 'Not applicable' in relation to use of the guidelines..

European Union

In the UK in England and Wales the guidelines are being incorporated into the processes adopted by the Environment Agency to determine the most appropriate controls required for stock conservation. The requirement to consider costs and benefits and the needs of communities (in particular those in rural locations) is set out in environmental legislation (including in relation to fisheries) applying to England and Wales. In Scotland, a Scottish Freshwater Fisheries Forum, which involves a wide range of agencies and stakeholders, has been established to develop proposals for the long-term and holistic management of salmon and freshwater fisheries. The work of the Forum complies with the guidelines. The remit is to develop policy that takes account of biological, fisheries and wider socio-economic factors to ensure long-term and sustainable fisheries for salmon and freshwater fish in Scotland. There have been no major new programmes in Northern Ireland. In Germany (Brandenburg), there is close cooperation with angler organisations and a public relations programme for the rebuilding programme is being undertaken. Denmark, Finland, Germany (Baden-Wuertemberg and Northrhine-Westfalia), Ireland, Spain

and Sweden either provided no information or responded 'Not applicable' in relation to the use of the guidelines.

In Iceland, a report estimates that the total economic value of salmon angling to the Icelandic economy is approximately £60 million (Euro 85 million).

In Norway, while social and economic factors are incorporated into management decisions largely in accordance with the guidelines, there have been no major new initiatives to apply the guidelines in a more formal way.

In Russia, socio-economic considerations are taken into account when decisions are taken concerning the traditional coastal fishery. This fishery is strictly regulated by quotas and it is gradually being phased out.

In the US, one Environmental Assessment (EA) has been completed since adoption of the guidelines in relation to a grant to the State of Maine to conduct Atlantic salmon monitoring and assessment activities in addition to those already undertaken under Federal programmes. The risk to Atlantic salmon populations was evaluated and the impacts on a variety of stakeholders analysed. The socio-economic impact of the proposed study was considered to be minimal although, as noted in the guidelines, it is difficult to assign an economic value to all the costs and benefits associated with the proposed studies. The preferred alternative (to issue the grant and conduct the studies), and why it was chosen, were clearly indicated in the EA. The total impact on Atlantic salmon was considered to be relatively insignificant compared to other threats and the minor ecological impacts would be mitigated by the positive effects on salmon recovery which the studies are designed to support.

3. No suggestions have been made for improvements to the guidelines. The US has suggested that it is first necessary to consider the returns by the Parties. Norway has noted that there is often a lack of adequate data as a basis for including socio-economic aspects in decision-making processes. EU (Germany (Brandenburg)) has identified a variety of factors that should enhance its efforts to rebuild salmon stocks.

Secretary
Edinburgh
27 May, 2005

1.	Provide a report on the use of the guidelines in relation to one chosen area of the application of the Precautionary Approach

Canada

The guidelines were not applied.

Denmark (in respect of the Faroe Islands and Greenland)

Faroe Islands

Not applicable.

Greenland

The guidelines were not applied.

European Union

Denmark

No information provided.

Finland

No information provided.

Germany

Baden-Wuertemberg

No information provided.

Brandenburg

Close cooperation with angler organizations; inclusion of proper authorities (fishery, water engineering, nature protection); intensive promotion of the restocking programme (TV; journals; newspapers; conferences on fishery, aquatic or ecology science) – for a high public acceptance of a project.

Northrhine-Westfalia

Not applicable.

Ireland

No information provided.

Spain

No information provided.

Sweden

Not applicable.

United Kingdom

In England and Wales, the guidelines are being incorporated into the processes adopted by the Environment Agency to determine the most appropriate controls required for stock conservation. The principles set out in the guidelines were applied in the development of the measures implemented in 1999 to protect spring salmon. A requirement to consider costs and benefits and the needs of communities (in particular, those in rural locations) is set out in environmental legislation (including in relation to fisheries) applying to England and Wales.

In Northern Ireland, no new major programmes were undertaken in 2004.

In Scotland, during 2004, the Scottish Freshwater Fisheries Forum was established, chaired by the Scottish Executive, to develop proposals for the long-term and holistic management of salmon and freshwater fisheries in Scotland, and to develop the policy underpinning a proposed Fisheries Bill scheduled for 2006-2007. The Forum comprises representatives from agencies such as Fisheries Research Services, Scottish Natural Heritage and the Scottish Environment Protection Agency, as well as a wide range of stakeholder groups including not only fishing interests but also those with an interest in the environment, and industries which rely on or may have an impact on the water environment. The work of the Forum and Steering Group complies with the Guidelines. The remit is to develop policy that takes account of biological, fisheries and wider socio-economic factors to ensure long-term and sustainable fisheries for salmon and freshwater fisheries in Scotland. The Forum has met twice, in July 2004 and in February 2005. The Steering Group has met six times to examine proposals in relation to the management and operation of salmon and freshwater fisheries. The immediate goal of the Forum and Steering Group is to develop proposals for the forthcoming Bill. However, it is envisaged that the Forum will continue after that task has been completed in order to provide a vehicle for monitoring the impacts of any new management regime.

Iceland

A report has been published in Icelandic by the University of Iceland estimating the value of the Icelandic angling fisheries. An English abstract could be provided to the socio-economic working group meeting. The report estimates that the direct value of the angling fisheries to the Icelandic economy is close to 16 million pounds Sterling. The total economic value of angling including both direct and indirect values is, however, considered to be close to 60 million pounds Sterling or 100 million Euros.

Norway

Although social and economic factors are incorporated into management decisions in general, largely in accordance with the NASCO guidelines, no major new management initiatives have been taken, e.g. changes in fisheries regulations or major new measures for habitat protection and restoration, to apply the guidelines in a more formal way.

Russian Federation

Socio-economic considerations are taken into account when decisions are taken concerning the traditional coastal fishery, which is maintained to meet the needs of communities of indigenous people on the White Sea coast. This fishery is strictly regulated by quotas. It is being gradually phased out.

USA

Socio-economic impact assessments are usually conducted per requirements of the Federal National Environmental Policy Act (NEPA). For Federal actions that will have a significant impact on the human environment, an Environmental Impacts Statement (EIS) is required – for actions for which it is determined that a significant impact to the human environment will not occur, a more informal Environmental Assessment (EA) is usually required. Both EAs and EISs require the consideration and analysis of socio-economic impacts, and have provisions for public input. NEPA ensures that federal activities in the U.S. that may affect Atlantic salmon are analysed comprehensively, that alternatives are considered, and that public input is solicited, consistent with the socio-economic guidelines adopted by NASCO.

One EA that has been completed since the adoption of the socio-economic guidelines was for a grant to the State of Maine to conduct Atlantic salmon monitoring and assessment activities supplemental to NMFS (Federal) monitoring and assessment. The grant is provided for the state to conduct multiple studies involving Atlantic salmon including: adult Atlantic salmon studies (e.g., weir operation, broodstock collection, redd counts), juvenile salmon studies (e.g., juvenile abundance surveys using electrofishing), and habitat protection and assessment (e.g., permit reviews, mapping salmon habitat). Several options were evaluated in the EA, although for many areas the only other alternative was to not conduct the studies. The studies will result in some mortality of Atlantic salmon. The risk to Atlantic salmon populations was evaluated in the EA, and, because the populations in question are protected under the U.S. Endangered Species Act (ESA), an ESA permit is required. In issuing the ESA permit for these activities, a determination was made that the studies would not jeopardise the continued existence of the endangered salmon populations. The impacts on a variety of stakeholders as a result of the proposed studies was analysed in the EA – stakeholders included recreational boaters, fishermen, land owners, etc. The socio-economic impact of the proposed studies was determined to be minimal. However, as noted in the socio-economic guidelines, it is difficult to assign an economic value to all the costs and benefits associated with the proposed studies. The preferred alternative (to issue the grant and conduct the studies), and why it was chosen, was clearly indicated in the EA. The total impact on Atlantic salmon was determined to be relatively insignificant compared to other threats, and the minor ecological impacts would be mitigated by the positive effects of the overall salmon recovery program which the studies are designed to support.

2.	Provide any suggestions for how the guidelines might be improved.

No suggestions for improvements to the guidelines were suggested by any Party. However:

European Union (*Germany – Brandenburg)* has identified the need for improvement of financial support for inland (river) fisheries (stimulation of new restocking projects); to intensify the construction of fish passes or fish protection systems (on hydro-electric power stations); to intensify the restoration of straightened rivers and lost reproduction habitats; for a national and international control programme for cormorants.

Norway has indicated that the guidelines are very useful and contribute, simply by being there, to a stronger awareness on these issues and to decision-making processes. The major difficulty, however, often lies in the lack of adequate data as a basis for those considerations. We think establishing a socio-economic Working Group by NASCO, as suggested by Norway at the 'Next Steps for NASCO' Working Group, would be an important step and an incentive to improve this data basis.

The US has indicated that it is premature at this point to suggest changes to the guidelines and that it is necessary to first see returns from 2004 and how each Party applied the guidelines in a specific example.

ANNEX 33

Council

CNL(05)28

St Pierre and Miquelon

CNL(05)28

St Pierre and Miquelon

1. The Council has previously recognised the need for additional scientific information concerning the mixed stock of salmon exploited at St Pierre and Miquelon. Last year, Mr Yann Becouarn, an observer at the Twenty-First Annual Meeting for the French Ministère de l'Agriculture, de l'Alimentation, de la Pêche et des Affaires rurales made a presentation to the Council on a sampling programme for salmon at St Pierre and Miquelon undertaken by IFREMER scientists in 2003. Details of the sampling programme were contained in document CNL(04)26. He had indicated that in 2004 France (in respect of St Pierre and Miquelon) intended to continue the biometric sampling and to implement the genetic sampling programme in cooperation with Canada. He had also indicated that France (in respect of St Pierre and Miquelon) wishes to increase its cooperation with NASCO and to initiate an exchange of information with the Parties which manage traditional fisheries. The Council had welcomed this cooperation from France (in respect of St Pierre and Miquelon).

2. I have recently received from the Head of Maritime Fisheries and Aquaculture in the French Ministère de l'Agriculture, de l'Alimentation, de la Pêche et de la Ruralité the attached report describing the regulatory framework for managing the fishery at St Pierre and Miquelon. It provides details of salmon catches and the number of licences issued and then outlines the nature of the sampling programme conducted in 2004 by IFREMER scientists. The report indicates that the biometric sampling programme was continued in 2004 with 355 salmon being measured and weighed. In addition, with cooperation from Canadian scientists, tissue (25) and scale (166) samples have been collected and are being analysed. The results will be forwarded to NASCO once the analysis is complete. The pathological study has not yet commenced but it is anticipated that this will be undertaken this year. In short, the French authorities seek to contribute to sustainable management of the fishery which it considers a traditional activity with a strong cultural dimension and not a 'money-yielding economic activity'. They have indicated a willingness to continue gathering scientific evidence on the salmon stock present in the waters under its jurisdiction.

3. This progress with the sampling programme is very welcome and the results of the genetic programme will be made available to the Council as soon as we receive them from the French authorities. We have, as requested by the Council, invited representation from France (in respect of St Pierre and Miquelon) at the Twenty-Second Annual Meeting.

4. In the light of the information provided and the results of the sampling programme, the Council may wish to consider what, if any, further steps it wishes to take in relation to cooperation with France (in respect of St Pierre and Miquelon).

Secretary
Edinburgh
11 May, 2005

TRANSLATION

MINISTRY OF AGRICULTURE,
FOOD, FISHING AND RURAL AFFAIRS

Maritime Fisheries and
Aquaculture Directorate

Resource, Regulation
and International Affairs bureau

Maritime Fisheries
Division
3, Fontenoy place
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To: NASCO
For the attention of: The Secretary

Copies: St Pierre et Miquelon Maritime affairs Dept.
IFREMER
MOM-DAPAF, Mrs. ROZIE
MEDD- Water Service – Mr. GUERY

Ref.: 580
Subject: /

Paris, 4th April 2005

Enc.: 1

Dear Secretary,

Please find enclosed the report from France with respect to salmon fishing activities at Saint-Pierre et Miquelon, as preparatory material for NASCO's next Annual meeting.

This report contains a brief description of the regulatory framework put in place to manage the North Atlantic salmon and of the number of catches made.

The second part of the document deals more specifically with the findings of the scientific programme relating to this species, which was put into action in 2004. In this regard, I would like to draw your attention to the fact that this study, led by IFREMER in collaboration with the Canadian Fisheries Research Services, has not yet been completed.

France, therefore, reserves the right to possibly amend the present report, up to the date of the next annual meeting.

In the meantime, my team is at your disposal should you require any other information.

Yours faithfully,
pp. The Head of Maritime Fisheries and Aquaculture

Signed by the Assistant Director of Maritime Fisheries
François Gauthiez

Facts addressed to NASCO's Parties, for their information, relating to the salmon fishing activity at Saint-Pierre et Miquelon (Annual Meeting – 6th-10th June 2005)

The following facts concern the salmon fishing activity taking place in the French territorial community of Saint-Pierre et Miquelon.

The present report aims, in the first instance, to describe this traditional fishing activity from the point of view of the regulation and, secondly, to examine it from a statistical point of view, in order to provide information on the French Authorities' perspectives for the management of this species.

Firstly, one ought to acknowledge, however, that salmon fishing is a traditional activity at Saint-Pierre et Miquelon. It is part of the community's cultural heritage and the numbers taken, which are low, have remained stable for several years. Furthermore, this activity does not lead to any export of the product.

Besides, one ought to bear in mind the high dependence of this region on maritime fishing and the hard-felt impact of the problems brought about by the decrease in cod fishing.

The continuation of this traditional fishing is therefore of a symbolic nature. The activity is nonetheless carried out within a very strict regulatory framework.

I – Description of the measures in place

1-1/ The regulatory framework for salmon fishing at Saint-Pierre et Miquelon

Salmon fishing in the Saint-Pierre et Miquelon archipelago is carried out in accordance with the management and conservation measures set by the 20th March 1987 Ministerial decree.

Atlantic salmon (*Salmo salar*) fishing is subject to a fishing permit being granted by the authorities in charge of fisheries management.

This decree establishes that, in the archipelago of Saint-Pierre et Miquelon's waters, this type of fishing is forbidden every year between 1st January and 30th April and from 1st August to 31st December.

This same document predetermines the technical requirements for salmon fishing, particularly the characteristics of nets and the way these are laid. In this respect, it has been set that the laying of nets cannot take place less than a minimum distance from the entry of water courses in which salmon could spawn.

Finally, salmon fishermen are required to keep a fishing log showing the catches made, immediately and as soon as they have been landed onto the ship. This fishing data is then transmitted to the State Department responsible for the management of these fisheries for management and control purposes.

1-2/ Statistical elements concerning salmon fishing at Saint-Pierre et Miquelon

As in previous years, data concerning the catches of salmon at Saint-Pierre et Miquelon are sent to NASCO in the context of the cooperation existing between this species' conservation and management organisation and the local community.

The catch statistics and the number of permits granted until the end of last year are as follows:

CATCHES (in kilograms live weight)			
Years	**Professional fishing**	**Leisure fishing**	**Total**
1998	1,039	1,268	2,307
1999	1,182	1,140	2,322
2000	1,134	1,133	2,267
2001	1,544	611	2,155
2002	1,223	729	1,952
2003	1,620	1,272	2,892
2004	1,499	1,285	2,784

DELIVERED PERMITS			
Years	**Professional fishing**	**Leisure fishing**	**Total**
1998	9	42	51
1999	7	40	47
2000	8	35	43
2001	10	42	52
2002	12	42	54
2003	12	42	54
2004	13	42	55

It is important to remember at this stage that the expression "leisure fishing" corresponds to sport and recreational fishing activities. In this context, the phrase "professional fishing" is an incorrect expression as it refers, in fact, to the traditional subsistence fishing for the local community highly dependent on fishing.

The data demonstrate a marginal catch. Furthermore, a downward trend since 2003 can be noted.

The aim remains, in the long term, to stabilise the catches of the resource.

II – Prospects concerning the salmon and the strengthening of cooperation with NASCO

As was confirmed by its demonstration of support as Observer, France (in respect of Saint-Pierre et Miquelon) wishes to increase its cooperation with NASCO to better participate in the process of understanding, conservation and management of the salmon in the North Atlantic.

This step is part of an initiative of cooperation already taken as a matter of course with the different regional fishing organisations which have jurisdiction in this zone, i.e. NAFO (Northwest Atlantic Fisheries Organisation), ICCAT (International Commission for the Conservation of the Atlantic Tuna).

This cooperation aims also to reinforce the natural links which exist between Saint-Pierre et Miquelon and some of NASCO's Parties, namely Canada.

This accession to Observer status in NASCO has prompted the French authorities to implement a programme of scientific monitoring under the leadership of IFREMER.

This programme, inspired by a project devised by NASCO, is based on the following constituents: a biometric study, a genetic study, a pathological study.

2-1/ The biometric study

The aims of this biometric study, started in 2003, is to better define the characteristics of the salmon population. It was continued in 2004 according to the commitments made.

Hence, 11 samplings took place in 2004 during which 355 gutted salmon were measured to caudal fork and weighed.

From this study, it transpires the smallest size is 49 cm for a gutted weight of 1,120 grams and the largest size is 92 cm. for a gutted weight of 8,220 grams.

IFREMER's report providing the results of these samplings is attached to the present document.

This biometric study should be repeated for the 2004-2005 season and the results also forwarded to NASCO.

2-2/ The genetic study

This element of the study was initiated in 2004. It led to the sampling of tissues from 25 salmon and collection of 166 scale samples. The analysis of these samplings was undertaken thanks to the cooperation of the Fisheries and Oceans research services in Canada. The complete results of these analyses are not yet available. They will, however, be communicated to NASCO's Parties as soon as possible.

In this regard, France is delighted by the assistance provided by the Canadian authorities. This support forms part of a bilateral and far-reaching cooperation in the area of common fisheries management.

2-3/ Pathological study

Up until now, this part of the study has not yet been started. It is expected, however, that it will be undertaken at some point in the year to come.

In summary, these scientific facts illustrate the commitment to reaching a deeper understanding of the Atlantic salmon stocks and therefore to participating in this fishery management and conservation effort. As pointed out earlier, this management must be seen

in the context of the Saint-Pierre et Miquelon territory, which, because of its geographical situation and the nature of its economic activities, is characterised by a strong dependency on fishing activities. Salmon fishing is therefore considered as a traditional activity with a strong cultural dimension and not as a money-yielding economic activity.

Given this context, France intends to contribute to sustainable management of this fishery and wishes to continue gathering scientific evidence on the stocks inhabiting the waters under its jurisdiction.

Report on the biological observations made on the Atlantic salmon (*Salmo salar*) catches during the 2004 campaign in Saint-Pierre et Miquelon

Daniel Briand, IFREMER
October 2004

I- Fishing sites

Cap Noir, Ile aux Chasseurs, Les Flacous, Cap à Gordon, Cap à Gordon, Les Canailles, Cap Bleu, Ile Pelée, Anse à la Vierge, Anse de l'Ouest, Rochers de l'Est, Caillou aux Chats, Basse Gélin, Basse des Grappains, Ile aux Vainqueurs, Pointe Blanche, Enfant Perdu, Cap Percé, Pointe Anse à Pierre, Cap aux Morts, Ilot Noir, Mirande, Trou aux Renards, Cap à Dinan, Basse Tournioure. Map 1 indicates the sectors where salmon fishing took place.

II – Fishing gear

The fishing gear generally used is a fleet of nets made up of 3 or 4 nets linked end to end. Made in Canada, these nets are laced up with 60/100 mm diameter polyamide monofilament thread. According to the size of the mesh, the thread is dark green for the nets with a mesh of 5 inches (125 mm) wide or olive green for those with a mesh of 6 inches (150 mm), dimensions taken with the mesh stretched out. It is worth noting that the nets used cannot all be exactly identical.

III – Sampling of the 2004 landings

In all, 11 samplings were carried out during which 355 gutted salmon were measured to caudal fork and weighed. The smallest size registered was 49 cm for a gutted weight of 1,120 grams and the largest 92 cms for a gutted weight of 8,220 grams.

	2003	2004
Number of samplings	12	11
Date of the 1st sampling	4 June	5 June
Date of the last sampling	6 July	29 June
Total weight sampled (in kg)	872	837
Number sampled	340	355
Number weighed	340	355
Number of scale samples	0	166
Number of tissue samples	0	25

Summary of the sampling exercise carried out on the salmon in 2004 at Saint-Pierre et Miquelon

IV – Water temperature

Ten water temperature checks, at 5 metres deep, were made near the fishing zone during the period from the end of May through to July. The lowest temperature recorded was on the 24th May (3.8°C) and the highest on the 2nd August (11.6°C)

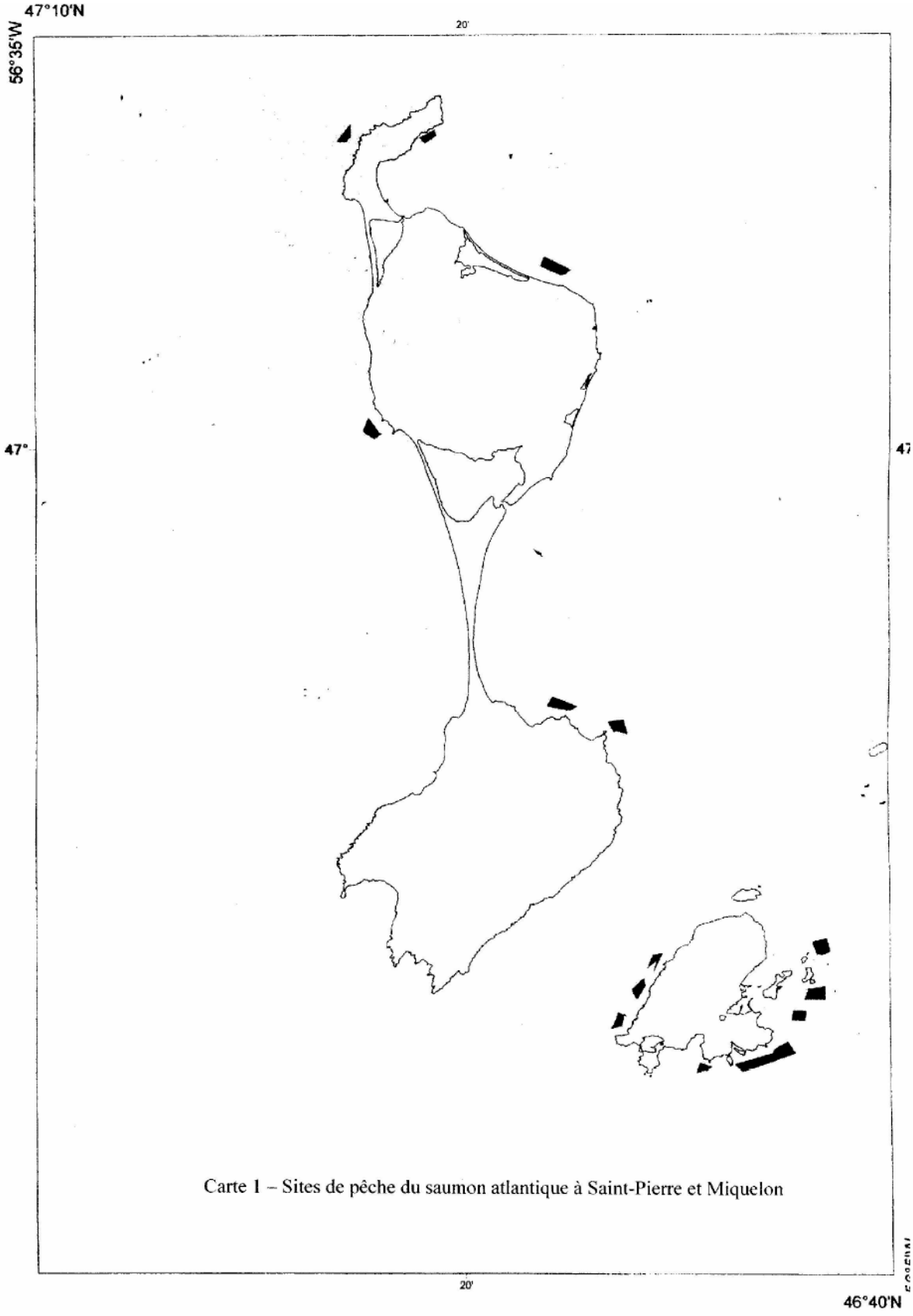
Day	Month	Depth in metres	Temp. °C in 2003	Temp. °C in 2004
20	5	5	1.8	
24	5	5		3.8
1	6	5		4.3
4	6	5	3.12	
9	6	5		4.5
10	6	5	3.9	
14	6	5		4.6
21	6	5		5.4
23	6	5	6.1	
28	6	5		7.5
30	6	5	7.9	
5	7	5		7.6
10	7	5	8.7	
12	7	5		10.5
21	7	5		10.0
23	7	5	9.2	
2	8	5		11.6

Water temperatures recorded in 2003 and 2004 at Saint Pierre et Miquelon

IV – Genetic study

This element of the study was initiated in 2004 with samplings of tissues taken from 25 salmon. In 2004, 166 scales were also sampled. These have been sent to the Fisheries and Oceans station in Saint Jean de Terre-Neuve to be examined under the responsibility of Dave Reddin. The tissue samples were sent to Patrick O'Reilly at the Fisheries and Oceans research station in Dartmouth, Nova Scotia. Examination of the samples is currently taking place.

List of figures



Carte 1 – Sites de pêche du saumon atlantique à Saint-Pierre et Miquelon

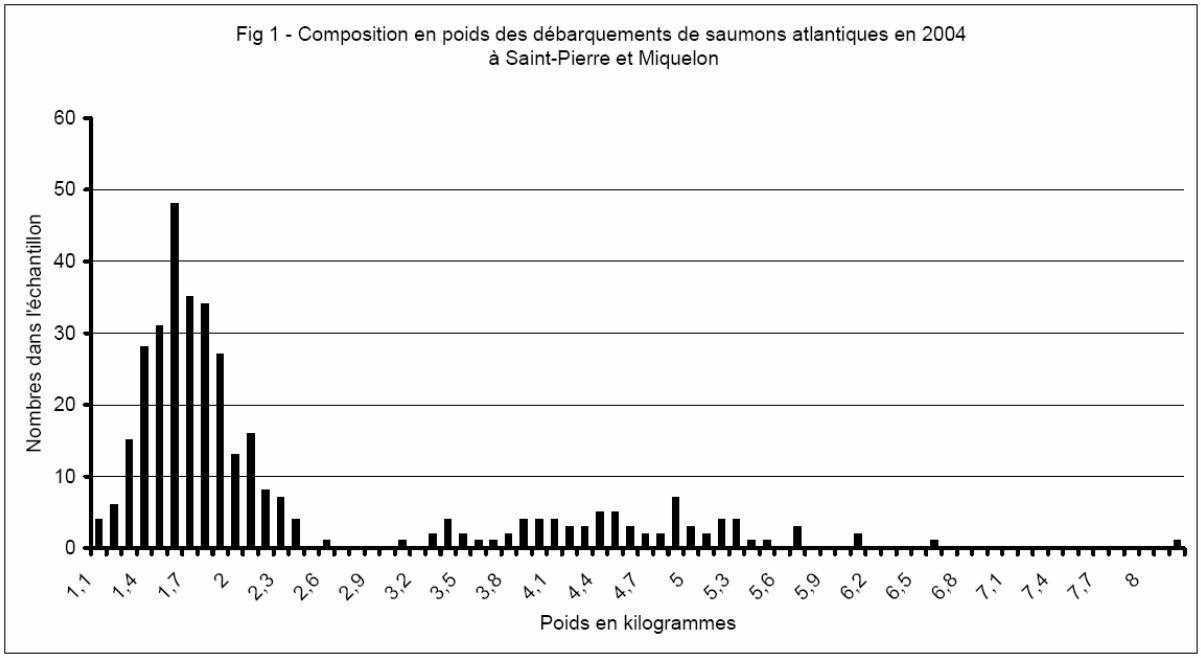


Fig 1 - Composition en poids des débarquements de saumons atlantiques en 2004
à Saint-Pierre et Miquelon
Nombres dans l'échantillon
60
50
40
30
20
10
0
1,1
1,4
1,7
2
2,3
2,6
2,9
3,2
3,5
3,8
4,1
4,4
4,7
5
5,3
5,6
5,9
6,2
6,5
6,8
7,1
7,4
7,7
8
Poids en kilogrammes

Fig 2 - Composition en poids des débarquements de saumons en 2003 et 2004 à Saint-Pierre et Miquelon

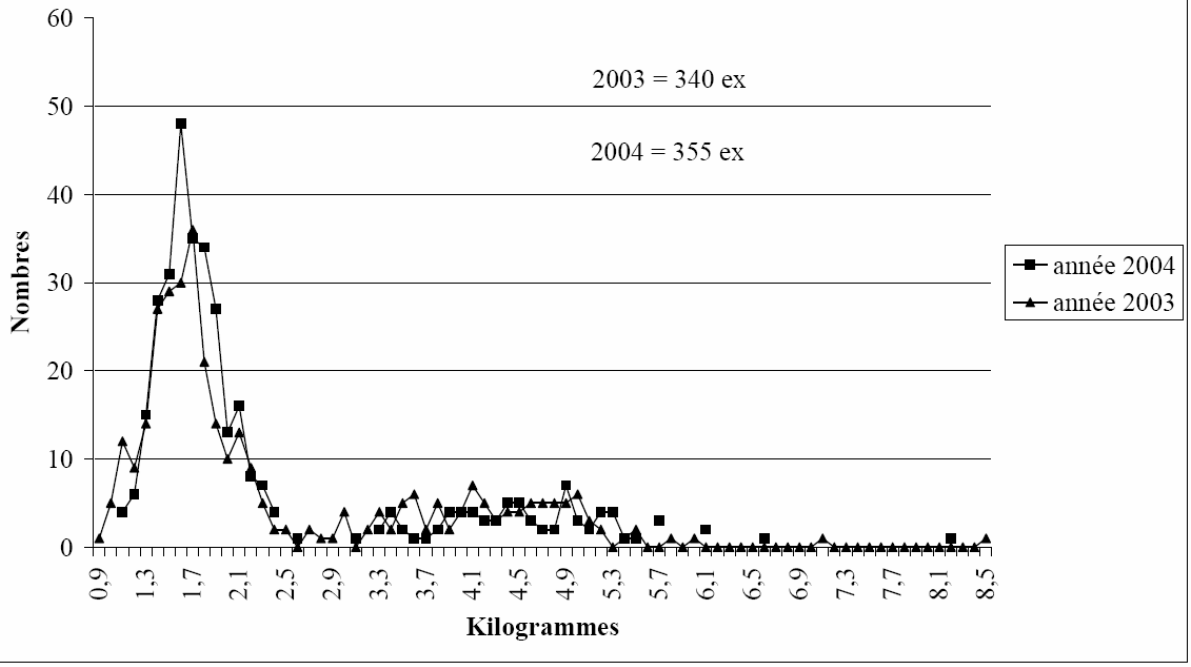


Fig 3 - Composition en tailles des débarquements de saumons en 2004
à Saint-Pierre et Miquelon

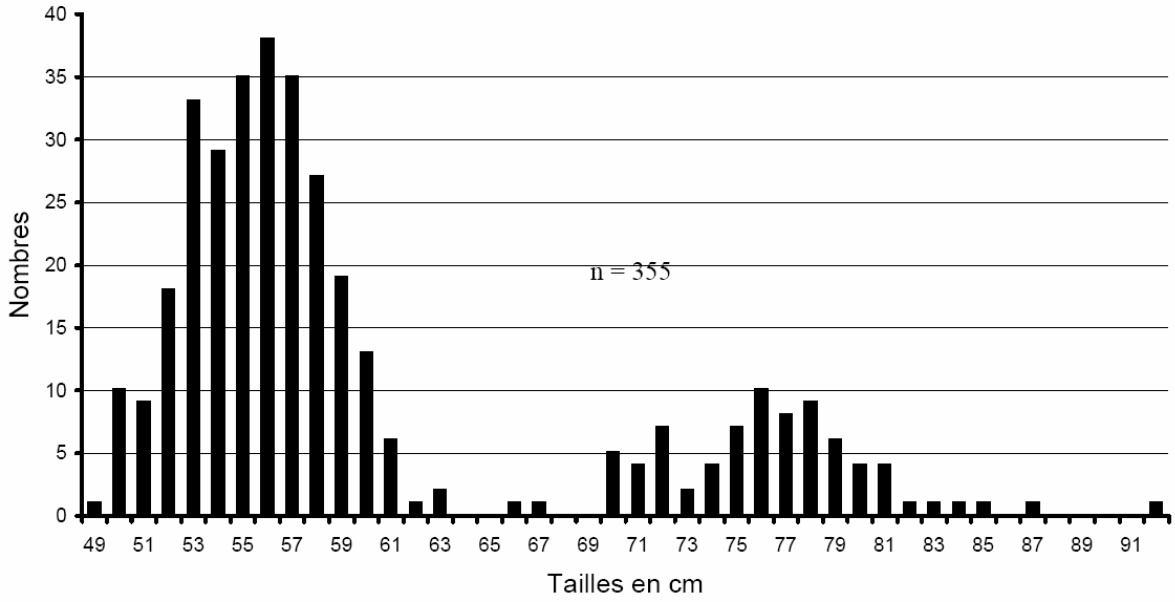


Fig 4 - Composition en tailles des débarquements de saumons en 2003 et 2004 à Saint-Pierre et Miquelon

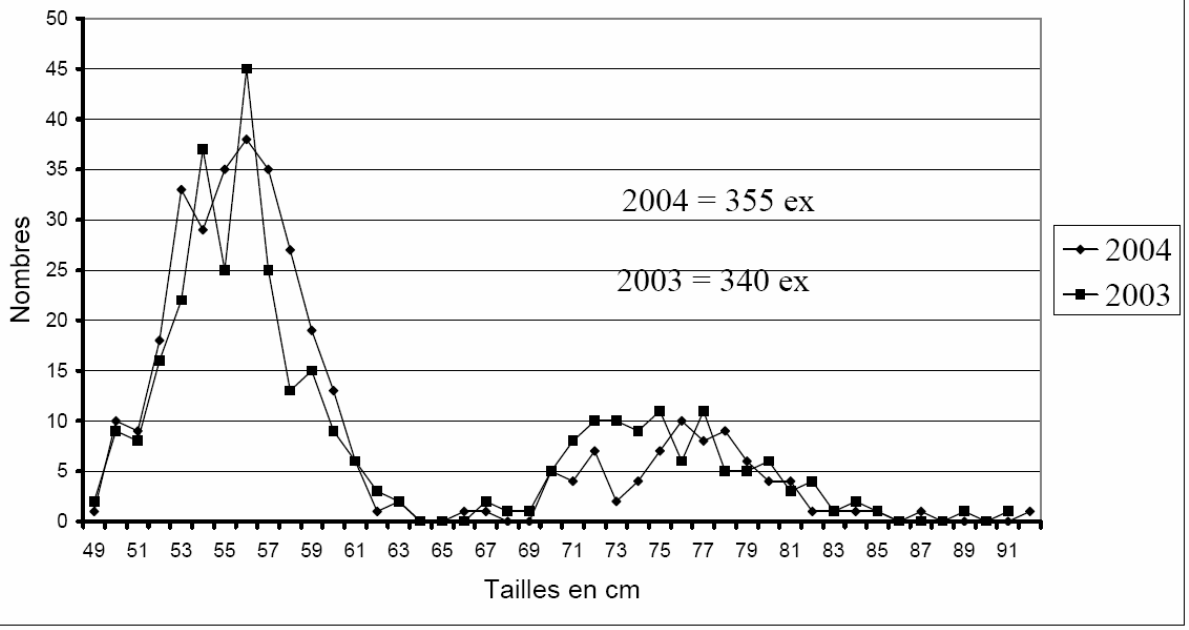


Fig 5 - Relation taille/poids établie pour le saumon atlantique débarqué en 2004 à Saint-Pierre et Miquelon

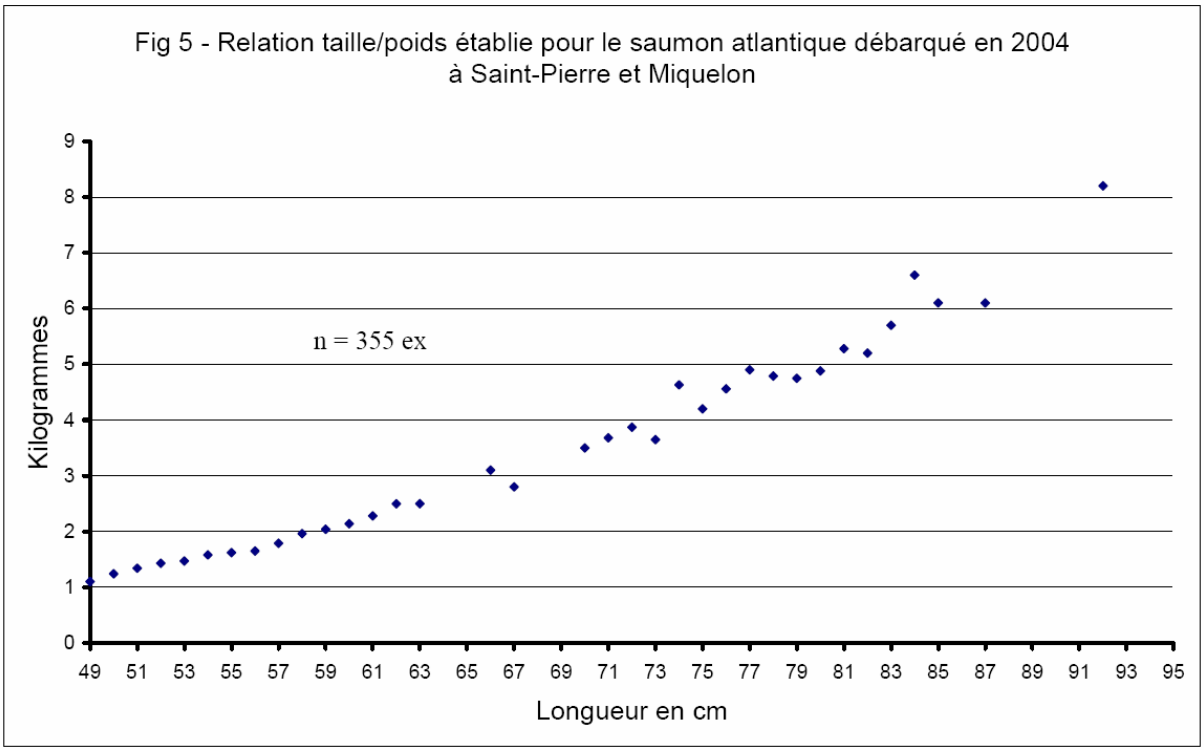


Fig 6 - Evolution des tailles moyennes lors des échantillonnages des débarquements de saumons atlantiques en 2004 à Saint-Pierre et Miquelon

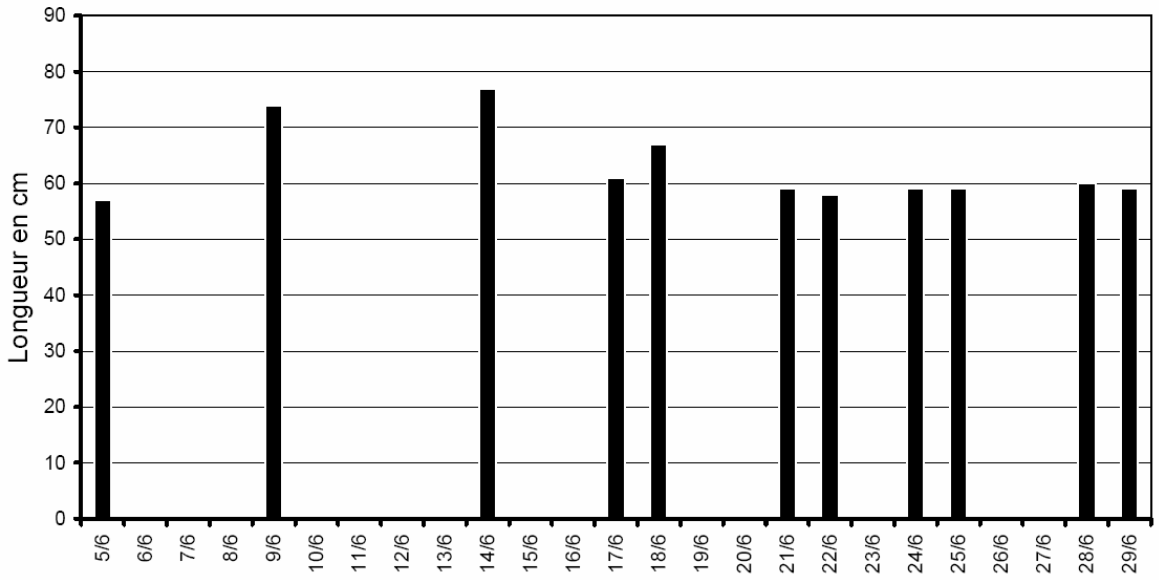


Fig 7 - Evolution des poids moyens lors des échantillonnages des débarquements de saumons atlantiques en 2004 à Saint-Pierre et Miquelon

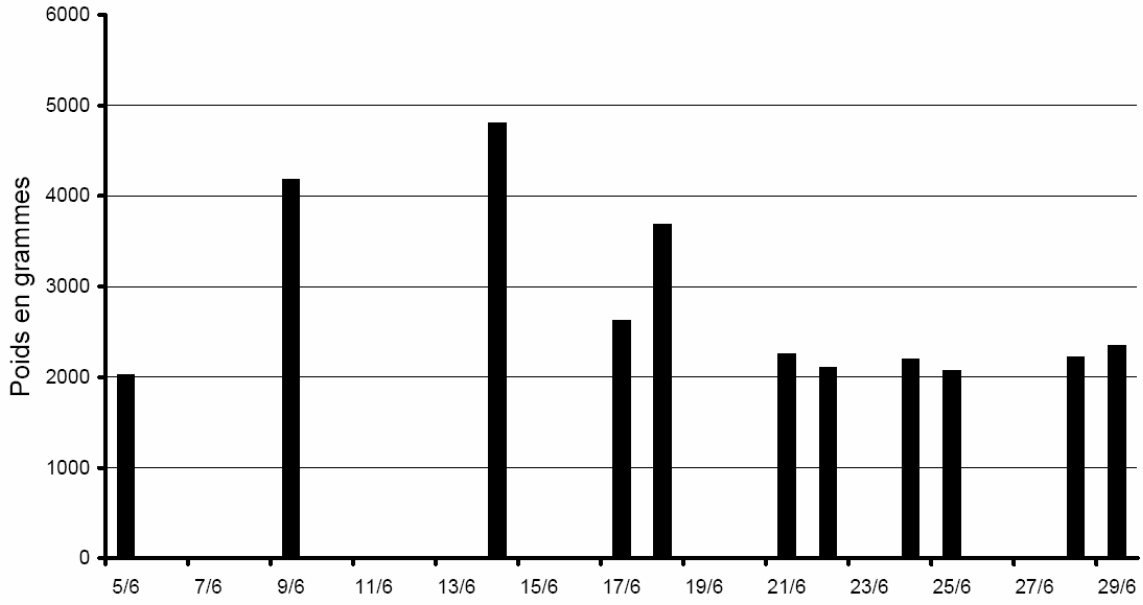


Fig 8 - Evolution du nombre de licences de saumons atlantiques accordées de 1995 à 2004
à Saint-Pierre et Miquelon
source : Affaires Maritimes, Saint-Pierre

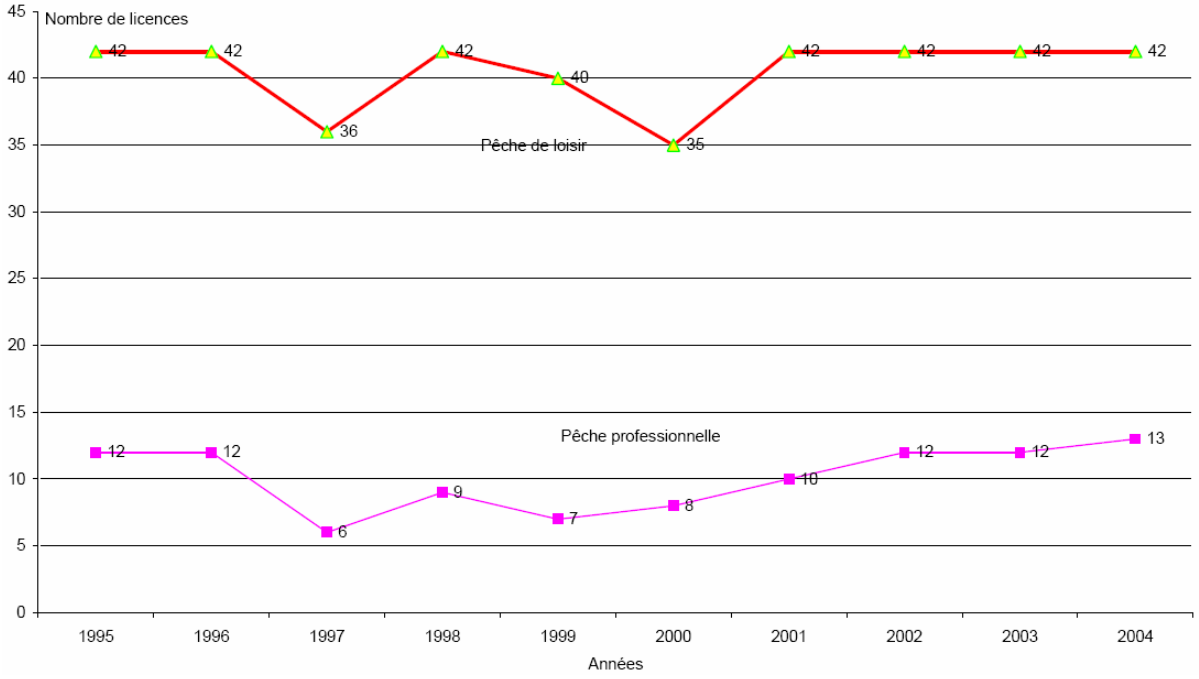
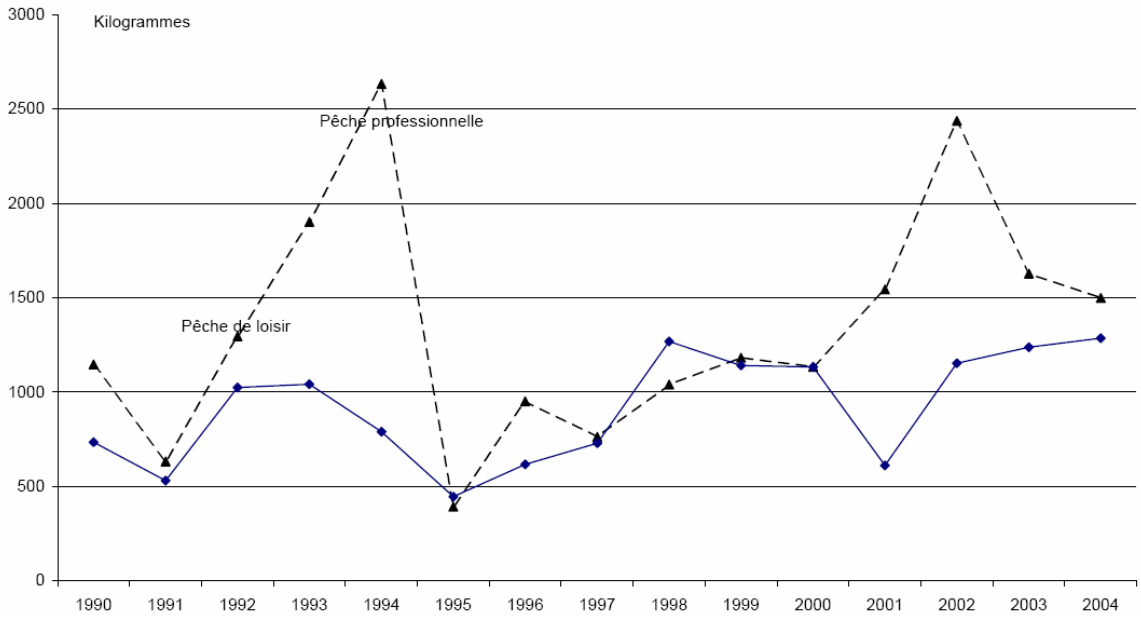


Fig 9- Evolution des débarquements de saumons atlantique s de 1990 à 2004 à Saint-Pierre et Miquelon
source : Affaires Maritimes, Saint-Pierre



	River Age	Freq	Percent	VSA	Freq	Percent	Spawning	Freq	Percent
	1	1	0,71%	1	117	81,82%	1	1	0,70%
	2	42	29,79%	2	26	18,18%			
	3	70	49,65%						
	4	25	17,73%						
	5	3	2,13%						
		141			143				
	Correlation FL / WW		0,98226378		Number of large fish >62 cm=			27	18,88%
			Tableau 1						

Tableau 1 – Composition en ages

10 prises de température de l'eau à 5 mètres de profondeur ont été effectuées sur la période fin mai,

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RÉPUBLIQUE FRANÇAISE

MINISTERE DE L'AGRICULTURE,
DE L'ALIMENTATION, DE LA PECHE ET DE LA RURALITE

Direction des pêches maritimes et de l'aquaculture

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Monsieur le secrétaire général de l'OCSAN

Copies :
Services des affaire maritimes-Saint Pierre et Miquelon,
IFREMER-Saint Pierre et Miquelon,
MOM-DAPAF-Mme ROZIE
MEDD-direction de l'eau-M.GUERY

N/Ref :

Paris, le

Objet:/

Pièce jointe: 1

Monsieur le secrétaire général,

Dans le cadre de la préparation de la prochaine assemblée générale de l'OCSAN, je vous prie de bien vouloir trouver ci-après, le rapport de la France concernant les activités de pêche au saumon au titre de Saint-Pierre et Miquelon.

Ce document comporte un descriptif synthétique de l'encadrement réglementaire mis en place concernant la gestion de cette espèce ainsi que du niveau des prélèvements effectués.

La seconde partie de ce document a trait plus spécifiquement au compte-rendu du programme scientifique mis en œuvre en 2004 concernant cette espèce. A cet égard, j'appelle votre attention sur le fait que cette étude, menée sous la direction de l'IFREMER et en collaboration avec les services canadiens de recherche halieutique, n'est pas achevée à ce jour.

la France se réserve donc la possibilité d'amender le présent rapport d'ici à la date de la prochaine assemblée générale.

Dans l'attente, mes services se tiennent à vote disposition pour d'éventuels renseignements complémentaires.

Veuillez agréer, Monsieur le secrétaire général, l'assurance de ma considération distinguée.

Eléments relatifs à l'activité de pêche au saumon à Saint-Pierre et Miquelon

et destinés à l'information des Parties de l'OCSAN (réunion annuelle, du 6 au 10 juin 2005)

Les éléments suivants se rapportent à l'activité de pêche au saumon dans la collectivité territoriale française de Saint-Pierre et Miquelon.

Le présent rapport s'attache à réaliser, tout d'abord, un descriptif de cette activité de pêche traditionnelle, d'un point de vue réglementaire mais aussi, sur un plan statistique, pour ensuite fournir des éléments concernant les perspectives envisagées par les autorités françaises pour la gestion de cette espèce.

En premier lieu, il convient de rappeler que l'activité de pêche au saumon est traditionnelle à Saint-Pierre et Miquelon, qu'elle fait partie du patrimoine culturel de la collectivité et que les quantités prélevés, peu élevées, demeurent stables depuis plusieurs années. Cette activité ne donne bien sûr lieu à aucune exportation.

En outre, il convient d'avoir présent à l'esprit la forte dépendance de ce territoire vis-à-vis des activités de pêches maritimes et de l'impact, durement ressenti, des problèmes liés au déclin de la pêche morutière.

La perpétuation de cette pêche traditionnelle revêt donc plutôt un aspect symbolique. Elle s'effectue toutefois dans le cadre d'un contexte réglementaire très strict.

I – Descriptif des dispositions en place

1-1/ Le cadre réglementaire de la pêche du saumon à Saint-Pierre et Miquelon

La pêche du saumon dans l'archipel de Saint-Pierre et Miquelon s'effectue conformément aux mesures de gestion et de conservation fixées dans l'arrêté ministériel du 20 mars 1987.

La pêche du saumon atlantique *Salmo salar* est soumise à l'attribution d'une licence de pêche délivrée par les autorités en charge de la gestion des pêcheries.

Cet arrêté dispose que cette pêche est interdite chaque année dans les eaux de l'archipel de Saint-Pierre et Miquelon du 1er janvier au 30 avril et du 1er août au 31 décembre.

Ce même texte prévoit les conditions techniques de la pêche au saumon en particulier en ce qui concerne les caractéristiques des filets et les conditions de pose de ces filets. A cet égard, il est notamment prévu que la pose ne puisse être effectuée en deçà d'une distance minimum de l'entrée des cours d'eau dans lesquels le saumon peut aller frayer.

Enfin, les pêcheurs de saumon sont tenus d'enregistrer sur un journal de pêche les captures réalisées, immédiatement après leur embarquement à bord du navire. Ces données de pêche sont ensuite transmises au service de l'Etat en charge de la gestion de ces pêcheries à des fins de gestion et de contrôle.

1-2/ Les éléments statistiques relatifs à la pêche du saumon à Saint-Pierre et Miquelon

Comme chaque année, les données de captures de saumons à Saint-Pierre et Miquelon sont adressées à la NASCO dans le cadre de la coopération existante entre l'organisation de conservation et de gestion de cette espèce et la collectivité territoriale.

Les données de captures et le nombre de licences délivrées jusqu'à l'année échue s'établissent comme suit :

CAPTURES (en kilogramme de poids vif)			
Années	**Pêche professionnelle**	**Pêche de loisir**	**Total**
1998	1 039	1 268	2 307
1999	1 182	1 140	2 322
2000	1 134	1 133	2 267
2001	1 544	611	2 155
2002	1 223	729	1 952
2003	1 620	1 272	2 892
2004	1 499	1 285	2 784

Licences délivrées			
Années	**Pêche professionnelle**	**Pêche de loisir**	**Total**
1998	9	42	51
1999	7	40	47
2000	8	35	43
2001	10	42	52
2002	12	42	54
2003	12	42	54
2004	13	42	55

Il convient de rappeler ici que la dénomination de "pêche de loisir" correspond à la pêche sportive et récréative. Dans ce cadre, le terme de "pêche professionnelle" est une dénomination impropre et représente en fait la pêche de subsistance traditionnelle pour les populations locales fortement dépendantes de la pêche.

Les données témoignent d'un prélèvement marginal. En outre, le prélèvement connaît une évolution à la baisse depuis 2003.

L'objectif reste, à terme, de stabiliser le prélèvement sur la ressource.

II - Perspectives concernant le saumon et renforcement de la coopération avec l'OCSAN

Ainsi que cela a été rappelé lors de sa démarche d'adhésion en tant qu'observateur, la France, au titre de Saint-Pierre et Miquelon, souhaite engager une coopération accrue avec l'OCSAN pour mieux participer au processus de connaissance, de conservation et de gestion du saumon dans la zone nord Atlantique.

Cette démarche s'inscrit dans une démarche naturelle de coopération déjà initiée avec les différentes organisations régionales de pêche ayant compétence dans cette zone : Organisation des Pêches de l'Atlantique Nord-Ouest (OPANO), Commission Internationale de Conservation des Thonidés de l'Atlantique (CICTA).

Cette coopération vise également à renforcer les liens naturels qui existent entre Saint-Pierre et Miquelon et certaines parties à l'OCSAN, en particulier le Canada.

Cette accession au statut d'observateur de l'OCSAN a incité les autorités françaises a mettre en œuvre un programme de suivi scientifique sous la direction de l'Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER).

Ce programme, issu d'un projet de l'OCSAN comporte les volets suivants :

- Une étude biométrique,
- Une étude génétique,
- Une étude pathologique.

2-1/ L'étude biométrique

Ce projet est destiné à mieux déterminer les caractéristiques de la population de saumons.

Cette étude biométrique initiée en 2003 s'est poursuivie en 2004 conformément aux engagements pris.

A ce titre, 11 échantillonnages ont été réalisés en 2004 au cours desquels 355 saumons éviscérés ont été mesurés à la fourche caudale et pesés.

De cette étude, il ressort que la taille la plus petite est de 49 centimètres pour un poids éviscéré de 1120 grammes, lors même que la taille la plus élevée est de 92 centimètres pour un poids éviscéré de 8220 grammes.

Le rapport de l'IFREMER exposant les résultats de cet échantillonnage est annexé à la présente note.

Cette étude biométrique devrait être reconduite pour la campagne 2004-2005. Les résultats seront également adressés à l'OCSAN.

2-2/ L'étude génétique

Ce volet de l'étude a été engagé en 2004. Il a donné lieu aux prélèvements de tissus effectués sur 25 saumons ainsi qu'au prélèvement de 166 écailles. L'analyse de ces prélèvements est effectuée grâce au concours des services de recherche de Pêche et Océans au Canada. Les résultats complets de ces analyses ne sont pas disponibles dans l'immédiat. Ils seront bien évidemment communiqués aux membres de l'OCSAN dès que possible.

A cet égard, la France se félicite du concours apporté par les autorités canadiennes dans le cadre de cette étude et qui s'inscrit dans le cadre d'une coopération bilatérale poussée en matière de gestion de pêcheries communes.

2-3/ L'étude pathologique

A ce jour, ce volet de l'étude n'a pas encore été engagé. Il reste envisagé de le réaliser au cours de l'année à venir.

Au final, ces éléments scientifiques participent de la volonté d'obtenir une connaissance plus approfondie du stock de saumon atlantique et donc de participer à cet effort de gestion et de conservation de cette pêcherie. Ainsi que cela est rappelé plus avant cette gestion doit être replacée dans la perspective du territoire de Saint Pierre et Miquelon qui de par sa situation géographique et la nature de ses activités économiques se caractérise par une forte dépendance vis-à-vis des activités de pêche. En ce sens, la pêcherie du saumon est conçue comme une activité traditionnelle à forte dimension culturelle et non comme une activité économique à but lucratif.

Dans ce contexte, la France entend apporter sa contribution à une gestion durable de cette pêcherie et souhaite poursuivre, à cet égard, l'effort de connaissance scientifique du stock évoluant dans les eaux relevant de sa juridiction.

Compte-rendu des observations biologiques effectuées sur les captures de saumon atlantique *(Salmo salar)* pendant la campagne 2004 à Saint-Pierre et Miquelon

Daniel Briand, IFREMER
Octobre 2004

I– Les sites de pêche

Cap Noir, Ile aux Chasseurs, Les Flacous, Cap à Gordon, Cap à Gordon, Les Canailles, Cap Bleu, Ile Pelée, Anse à la Vierge, Anse de l'Ouest, Rochers de l'Est, Caillou aux Chats, Basse Gélin, Basse des Grappains, Ile aux Vainqueurs, Pointe Blanche, Enfant Perdu, Cap Percé, Pointe Anse à Pierre, Cap aux Morts, Ilot Noir, Mirande, Trou aux Renards, Cap à Dinan, Basse Tournioure. La carte 1 indique les secteurs donnant lieu à une pêche du saumon.

II – L'engin de pêche

L'engin de pêche utilisé généralement est constitué d'une tésure de 3 ou 4 filets aboutés les uns aux autres. De fabrication canadienne, ceux-ci sont lacés en fil de polyamide monofilament de 60/100mm de diamètre. Selon le maillage rencontré, le fil est de couleur vert-bouteille pour les filets à maille de 5 pouces (125 mm) ou vert-olive pour ceux à mailles de 6 pouces (150 mm), dimensions mailles étirées. Il est à noter que tous les filets utilisés ne peuvent pas être rigoureusement identiques.

III– Echantillonnage des débarquements en 2004

En tout, 11 échantillonnages ont été effectués au cours desquels 355 saumons éviscérés ont été mesurés à la fourche caudale et pesés. La taille la plus petite a été de 49 centimètres pour un poids éviscéré de 1 120 grammes et la plus élevée de 92 centimètres pour un poids éviscéré de 8 220 grammes.

	2003	2004
Nbre d'échantillonnages	12	11
Date 1er échantillonnage	4 juin	5 juin
Date dernier échantillonnage	6 juillet	29 juin
Poids total échantillonné en kg	872	837
Nbre échantillonné	340	355
Nbre de pesées	340	355
Nbre de prélèvements écailles	0	166
Nbre de prélèvements tissus	0	25

Bilan des opérations d'échantillonnages effectuées sur le saumon en 2004 à saint-Pierre et Miquelon

IV – La température de l'eau

10 prises de température de l'eau à 5 mètres de profondeur ont été effectuées sur la période fin mai, juin et juillet à proximité de la zone de pêche. La température la plus faible a été notée le 24 mai avec 3,8 °C et la plus élevée le 2 août avec 11,6°C.

Jour	Mois	Profondeur en mètres	Température °C en 2003	Température °C en 2004
20	5	5	1,8	
24	5	5		3,8
1	6	5		4,3
4	6	5	3,12	
9	6	5		4,5
10	6	5	3,9	
14	6	5		4,6
21	6	5		5,4
23	6	5	6,1	
28	6	5		7,5
30	6	5	7,9	
5	7	5		7,6
10	7	5	8,7	
12	7	5		10,5
21	7	5		10,0
23	7	5	9,2	
2	8	5		11,6

Températures de l'eau observées en 2003 et 2004 à Saint-Pierre et Miquelon

IV – Etude génétique

Ce volet de l'étude a démarré en 2004 par des prélèvements de tissus effectués sur 25 saumons. En 2004 également a été effectué le prélèvement de 166 écailles. Ces dernières ont été envoyées à la station de Pêches et Océans de Saint-Jean de Terre-Neuve pour exploitation sous la responsabilité de Dave Redding. Les prélèvements de tissus quant à eux ont été envoyés à la station de recherche de Pêches et Océans de Darmouth, en Nouvelle Ecosse, et confiés à Patrick O'Reilly. Les examens des prélèvements sont actuellement en cours.

Liste des figures

10 prises de température de l'eau à 5 mètres de profondeur ont été effectuées sur la période fin mai,

ANNEX 34

Council

CNL(05)47

Impacts of Acid Rain
2005 Report

(Tabled by Canada)

CNL(05)47

Impacts of Acid Rain
2005 Report

(Tabled by Canada)

Environment Canada, the Canadian agency responsible for water and air quality, has recently issued a report on acid rain. The title is "The 2004 Canadian Acid Deposition Science Assessment" (available on the Internet at:
http://www.msc-smc.ec.gc.ca/saib/acid/acid_e.html)

Key results of the 2004 Canadian Acid Deposition Science Assessment report are:

- Acid rain affects a large area of south-eastern Canada (equal to the size of France).
- Acid rain deposition declined by 53% in Eastern Canada between 1980 and 2001.
- The main sources of acid rain in Canada are ore smelting, and fossil fuel burning electric generation facilities, primarily based in central Canada. More than half of the acid rain in Canada comes from the mid-western United States.
- A combined reduction of emissions from both countries of 75% is needed to overcome the impacts of acid rain.
- South-east Nova Scotia is an area where Atlantic salmon are significantly impacted by acid rain. A key problem in this area is the very limited buffering capacity of the soil to neutralize acidity.
- Important initiatives in Canada that will contribute to a reduction are: the elimination of coal-burning electric generating facilities in central Canada (Ontario) by 2007, and a 34% reduction of acid rain causing emissions from the mining industry by 2007.
- With these agreed reductions, acid rain is expected to decline by 21% over the next 20 years.

On a last note, Canada would like to highlight the involvement of the Atlantic Salmon Federation and their affiliate, the Nova Scotia Salmon Association (NSSA), to mitigate some impacts of acid rain, at a local scale, in Eastern Nova Scotia. A consortium of interested parties, led by the NSSA, is supporting the installation of a lime doser on West River Sheet Harbour, to improve the habitat and survival of salmon in a river that has been strongly impacted by acid rain.

ANNEX 35

Council

CNL(05)34

Liming as a Mitigation Measure in Acidified Salmon Rivers in Southern Norway has been a success
(Tabled by Norway)

CNL(05)34

Liming as a Mitigation Measure in Acidified Salmon Rivers in Southern Norway has been a success (Tabled by Norway)

Abstract. Due to acidification, 52 Norwegian stocks of Atlantic salmon are affected. In the two southernmost counties, salmon is eradicated. Due to the high acid sensitivity, production of salmon was greatly reduced as early as 1920, several decades before acid rain was recognized as an environmental problem. International agreements on reduced atmospheric emissions will reduce acidification effects in Norway substantially during the coming 20 years. However, the extreme acid sensitivity of salmon makes the destiny of this species in Southern Norway uncertain. Liming in combination with reduced emissions will be an important contribution to protection of the Atlantic salmon species.

Liming is an effective measure to protect and restore fish populations in acidified waters. Liming of acidified salmon rivers has become important in Norway the last 10 years, and in 2005, 22 rivers were limed in Norway at a cost of NOK45 million (approximately £4 million). Mean densities of salmon fry have increased from 10 to 60 fish per 100 m^2 from 1991 to 2002. The catches of salmon in the limed rivers now constitute close to 10% of the total catch of wild salmon in Norwegian salmon rivers. The catch has increased from 5 tonnes prior to liming in the early 1980s and up to 40 tonnes the recent years. Estimates of future river catches by rod indicate an increase of 75 to 100 tons a year in around 2015 as a result of liming.

1. Introduction

The causes of acidification of surface water in Scandinavia were clarified during the 1960s and 1970s, almost one century after the first negative effect on fish populations. The first indications of acidification affecting fish are from episodic killings of Atlantic salmon (*Salmo salar*) in some southern rivers in Norway around 1910. Official Norwegian salmon catch statistics shows a large decline in catches around 1900. In the two southern counties, Aust-Agder and Vest-Agder, catches declined about 80% from 1885 to 1920. Sporadic catches of salmon were reported up to the late 1960´s, but the natural salmon stocks in this region were virtually extinct around 1960 (Fig. 1). There have been occasional catches of salmon also during the last twenty years, but we have no indications of reproduction of salmon. In southern Norway, 52 Atlantic salmon stocks are affected by acidification. In 1995, 18 Norwegian salmon stocks were extinct due to acidification, 11 in Agder counties and 7 in the western counties Rogaland and Hordaland. The physiology, life-cycle and attractiveness of Atlantic salmon as a sports fish make this species vulnerable to several other threats: overexploitation, river regulations and escaped farmed salmon. Due to a low degree of urbanisation, Norway has many intact salmon stocks in the middle and northern part.

In 1983 the Norwegian government initiated a liming programme. The funding increased year by year, until 1996, and since then yearly budgets have been around 100 million NOK. Several salmon rivers have been limed since the middle of the 1990s. In 2005, 22 Atlantic salmon rivers are being limed in Norway at a cost of NOK45 million (approximately £4 million) (fig.2).

The purpose of this paper is to give an overview of the status of Atlantic salmon in Norway with an emphasis on acidification, and from a management point of view. It also presents the future expectations of liming of acidified salmon rivers and the planned reductions of emissions in Europe.

2. Effects of acidification on Atlantic salmon

During the 1800s salmon was an important resource in southern Norway, as food and for export, and wealthy people from Europe arrived during summer for salmon fishing, bringing resources to many local communities. According to official salmon catch statistics, more than 70 tons were caught in 1885 in the 7 southernmost rivers. In Mandal River, official catches were 36 tons in 1885, among the 5 best in Norway.

There are no measurements of water chemistry from that period, and the exact relationship between water quality and the development of salmon populations cannot be ascertained. Mylona (1993) has estimated of sulphur dioxide in Europe from 1880 (fig. 1).

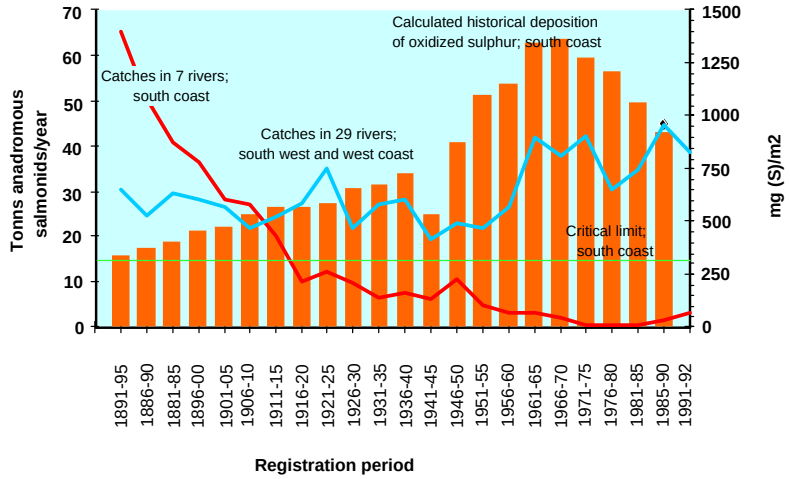

Figure 1. Deposition of sulphur and catches of salmon. Bars: Estimated historical deposition of oxidised sulphur in southern Norway. Red line: Catches of salmon in 7 rivers along the south coast. Blue line: Catches of salmon in 29 rivers on western coast. (From: Mylona 1993 and Kroglund et al. 1994.)

Sulphur deposition in southern Norway in 1890 was 400 mg S/m^2. Critical load for this area is calculated to be around 300 mg S/m^2 (Henriksen *et al.*, 1992), which indicates an exceeded critical load for acidification as early as around 1890. This may explain the declining salmon catches around 1900 and indicates that even exceeding the critical load of sulphur by a small amount may be harmful for salmon. A further increase above the critical load from 1900 and onwards was followed by a rapid decline in salmon catches up to 1920 (fig. 1) and a further decline and extinction of several salmon stocks in the next 40 years. The total annual loss of salmon production of Norwegian stocks due to acidification is estimated to range between 345 and 1,150 tons (Hesthagen & Hansen, 1991). Acidification is therefore the single factor that caused the most substantial negative effects on salmon stocks in Norway.

3. The Norwegian liming program

The national liming program is an intermittent mitigating measure against the extensive damages of freshwater ecosystems by acid rain. Operational liming followed the research program on liming run in Norway from 1979 to 1983 (Baalsrud *et al.,* 1985; Henrikson *et al.*, 1995). The two first limed salmon rivers were River Audna (1985) and Vikedal River

(1987). The salmon stock became extinct around 1970 in River Audna and was strongly reduced during the 1970´s and early 1980´s in Vikedal River (Hesthagen, 1989).

From 1994 the liming budgets reached a level that made liming of the large salmon rivers possible. A main goal is to develop an economical optimal liming program giving acceptable biological results. The main cost of most liming projects is the purchase of powdered limestone. Size of lime doses is therefore an important issue, directly related to both costs and ecological effects.

The liming strategies are under continuous development. Two main liming strategies are used for liming salmon rivers depending on the characteristics of the river and watershed (fig. 3): lime dosers for continuous liming of running water and liming directly on lake surface (Henrikson *et al*., 1995). In the lime dosers, the amount of lime discharged is usually controlled by pH and water flow to stabilise the water quality downstream (Sandøy and Romundstad, 1995). Most projects have a consumption between 500 and 3,000 tons of lime a year to produce an acceptable water quality. For all 22 salmon rivers about 40,000 tons of limestone per year would be required.

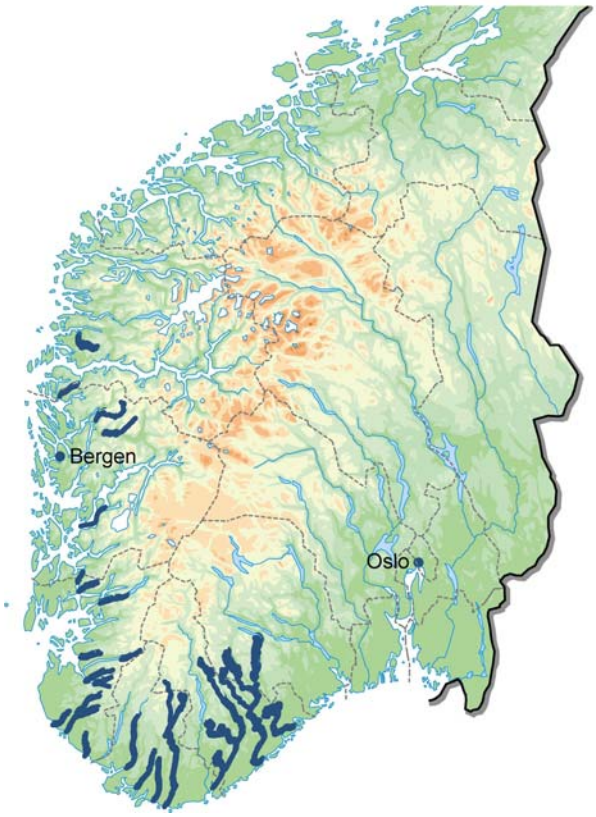

Figure 2. Limed salmon rivers in Southern Norway.

The biological effects of acid water and liming are studied by extensive monitoring and research projects (Anon. 1999). Exposure studies of salmon parr and smolt have showed different water quality requirements for the different freshwater stages (Rosseland and Staurnes, 1994). Studies indicate an increasing sensitivity towards the smolt run, usually occurring in May (Staurnes *et al*., 1993) and even moderate acidification seems to affect physiological adaptation to sea water (Staurnes *et al*., 1995; Kroglund and Staurnes, 1999). Therefore different pH targets are set for liming in different seasons. During the period 1

June to 14 February, salmon rivers should be limed to pH 6.0. A pH target of 6.2 is set for 15 February to 31 March, and pH 6.4 for 1 April to 31 May. The elevated pH levels in late winter and spring will also contribute to an increased protection of the fish against acidic episodes during snowmelt.

The rapid increases in densities of juvenile Atlantic salmon in the limed rivers are very promising. Mean densities of salmon fry have increased from 10 to 60 fish per 100 m^2 from 1991 to 2002 (Larsen and Hesthagen 2004). On the basis of the official rod catch statistics, there has been a pronounced increase in the abundance of adult salmon in the limed rivers (Larsen and Hesthagen 2004). The catch has increased from 5 tonnes prior to liming in the early 1980s and up to 40 tonnes in recent years (fig. 4). The catches of salmon in the limed rivers now constitute close to 10% of the total catch of wild salmon in Norwegian salmon rivers. Estimates of future river catches by rod indicate an increase of 75 to 100 tons a year in around 2015 as a result of liming.

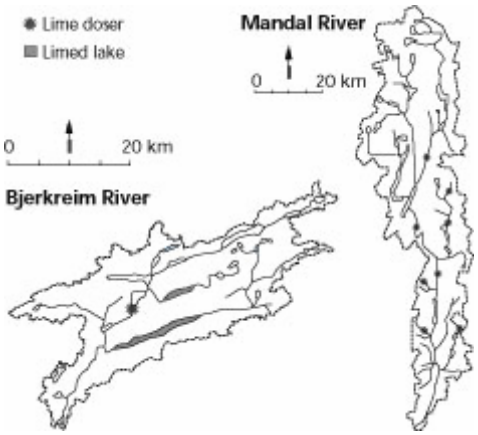

Figure 3. Liming strategies in Bjerkreim River and Mandal River.

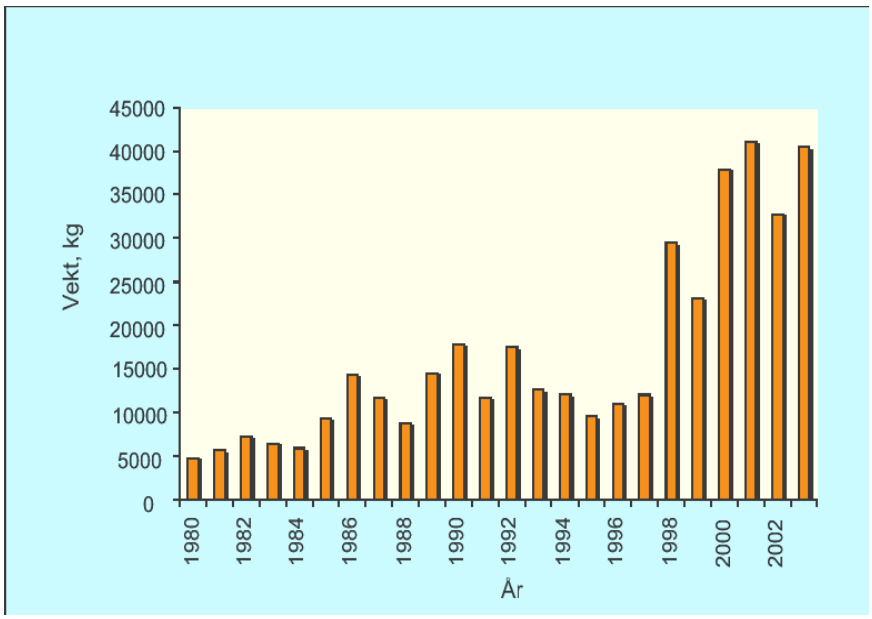

Figure 4. The official rod catch statistics show that the catch in the limed rivers has increased from 5 tonnes prior to liming in the early 1980s and up to 40 tonnes in recent years (Larsen and Hesthagen 2004).

4. Liming and re-establishing extinct salmon stocks

In 10 rivers the main goal is to re-establish a self-reproducing salmon population. The Norwegian Institute for Nature Research (NINA) has estimated that the salmon stocks in limed rivers will be fully re-established after about 15 years of liming. Two strategies of liming have been used: liming with or without a stocking program. So far both strategies seem to be successful, but we do not know the genetic effect or the long-term result of either strategy. Liming without stocking gives a surprisingly rapid re-colonisation of salmon. Sokndal River in Rogaland county was limed in 1989. The first yearlings of salmon were recorded in 1990 and from 1997 – 2003 density of yearlings has been between 40 and 130 per 100 m^2 (Anon., 2004). Catches of adult salmon in Sokndal River have in recent years been between 1.5 and 3 tons per year. The salmon spawning after liming must have been strayers from other rivers or escaped farmed salmon.

A research project started in 1996 with the aim of studying the re-colonisation process of salmon, evaluating the genetic effects of stocking strategies, comparing stocking and natural re-colonisation and studying population dynamics of re-colonising salmon. Mandal River, started in spring 2000, and Tovdal River, started in 2002, are the main study sites. An important challenge was to choose appropriate parent populations for stocking. For both historic populations' life history parameters are known, such as smolt age, age and size of spawners (Huitfeldt-Kaas, 1946). Abiotic parameters of the river, such as water flow and temperature, are believed to affect the phenotypic and genotypic characteristics of a salmon stock. Genetic mapping has shown that salmon stocks in the same region are genetically more related than geographically separated stocks. Geographic and watershed characteristics were important criteria when selecting parent stocks for re-establishing salmon in the Mandal and Tovdal Rivers. River Storelva has the only remaining natural salmon stock in the Agder region, and was chosen as parental stock for Tovdal River (fig 2). Bjerkreim River is the geographically closest remaining stock to Mandal River, and was selected for Mandal River. The life history parameters of salmon in the two rivers were also quite similar (Huitfeldt-Kaas, 1946).

5. Critical load and recovery

During the last two decades the European nations have made agreements to reduce atmospheric emissions of acidifying compounds. The latest and most extensive was signed in Gothenburg in December 1999. Based on the steady state critical load models, the agreed reductions are estimated to reduce the area where critical load is exceeded in Norway by about 80% compared with the 1985 level, some years after the reductions are fulfilled in 2010 (Wright, 2000). That means the water quality will make possible a recovery of, for example, brown trout (*Salmo trutta*) in a large number of lakes during the first half of this century.

The dose-response function, which the calculations of critical load exceedance are based on, is that of brown trout to ANC (Acid Neutralising Capacity) (Henriksen *et al*., 1995). A dose-response relationship between ANC and Atlantic salmon population status is much more difficult to establish, due to the complicated life-cycle dynamics and the several environmental threats affecting salmon. Salmon is much more sensitive to acidic water than brown trout. That means that the critical load of salmon is exceeded more than that of brown trout, and the recovery of salmon will take more time than usually presented as the general effect of the Gothenburg protocol. The present knowledge does not, however, allow us to

conclude more exactly. Therefore, we cannot say when the recovery process may allow us to stop liming of the salmon rivers, or if the agreed reductions ever will give satisfactory conditions in the most acidified rivers. The moderately acidified rivers will most likely achieve non-acidified conditions within the next 10 to 20 years (Hindar *et al*., 1998; Wright, 2000).

6. Conclusion

In southern Norway, 52 Atlantic salmon stocks are affected by acidification. 18 of these stocks are extinct; salmon has been practically absent from the entire southern region of Norway for the last 30 years. The national liming program includes 22 salmon rivers, and the aim is to re-establish self-reproducing salmon populations in 10 of the most acidified rivers. The liming will bring the salmon back to the southern region of Norway after 50 years of absence, and allow yearly river catches of salmon by rod to increase by 75 -100 tons in the limed rivers. Reduced emissions will lead to reduced acidification. The future status of the salmon rivers is, however, uncertain due to the high acid sensitivity of salmon. Some of the populations will certainly recover, but we do not know if natural recovery from acidification will allow stopping the liming of all the salmon rivers the next 20 years.

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ANNEX 36

CNL(05)52

Press Release

Twenty-Second Annual Meeting
Vichy, France
June 6-10, 2005

"Plight of wild salmon is everyone's business" says international body

At its Annual Meeting in France, the North Atlantic Salmon Conservation Organization (NASCO) agreed on innovative new ways of working to improve the involvement of all interest groups. NASCO has reached out in a unique way to stakeholders across the North Atlantic, including non-governmental and other organizations. Agreement on the so-called "***Next Steps"*** process makes the Organization one of the most open and transparent inter-governmental bodies dealing with fisheries.

Ken Whelan, the President of NASCO, said "Salmon stocks in countries across the North Atlantic remain in a serious condition. NASCO believes everyone needs to be concerned about this. Over the past two decades we have made significant improvements to the way that Governments work together on salmon matters and following detailed discussions this week we plan to further develop our focus and to involve, in a more inclusive way, the many interested and committed non-government bodies in our work."

The agreement on change includes:

- Commitment to working harder and smarter to raise international awareness of the plight of salmon and the measures needed to protect the species;
- Clearer procedures to support commitment to agreements and to assess progress;
- Greater involvement of stakeholders in NASCO's work.

Key decisions for the conservation of Atlantic salmon made at this meeting included:

- Continuation of measures to limit fishing at sea at West Greenland and the Faroe Islands to very low levels. These are areas where salmon gather to feed and grow;
- NASCO Parties endorsed an unprecedented, state-of-the-art international research initiative, ***SALSEA*** (Salmon at Sea), a major public/private partnership aimed at unravelling the reasons behind the serious decline of North Atlantic salmon stocks.

NASCO also reviewed a wide range of technical actions by countries around the North Atlantic to halt the decline in wild salmon stocks.

This year's event was held in Vichy, France and the representative of France's Ministers of Ecology and of Agriculture and Fisheries, Monsieur Berard, lent his support to NASCO's

work saying "the restoration of salmon in France and particularly in the River Allier here in Vichy is a challenge to our authorities. I extend a warm welcome to NASCO from the French public authorities, in recognition of the work achieved over twenty years in the field of exemplary international cooperation. Thanks to you, the North Atlantic today has rational management of salmon based on a fisheries organization aiming to achieve sustainable development."

Ken Whelan, the NASCO President, added "Our Organization is fully committed to do all we can to make sure this magnificent fish can thrive again. The salmon is a symbol of high environmental quality and its plight is of great concern and importance to people around the world. We need everyone's support and involvement to achieve our ambitious conservation goals."

Notes for editors

The North Atlantic Salmon Conservation Organization (NASCO), an intergovernmental organization formed to promote the conservation, restoration, enhancement, and rational management of salmon stocks in the North Atlantic Ocean, met from 6 to 10 June 2005, in Vichy, France. Its members are Canada, Denmark (in respect of the Faroe Islands and Greenland), the European Union, Iceland, Norway, the Russian Federation, and the United States of America. Representatives from 15 non-governmental organizations (NGOs) and 4 inter-governmental organizations (IGOs) also attended the meeting.

The report of the NASCO Annual Meeting, including the annexed documents, and other essential information on the Organization, will be made available on the NASCO website: www.nasco.int.

The next Annual Meeting of NASCO will be held from 5 to 9 June 2006 in Ivalo, Finland.

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ANNEX 37

CNL(05)0

List of Council Papers

Paper No.	**Title**
CNL(05)0	List of Council Papers
CNL(05)1	Provisional Agenda
CNL(05)2	Explanatory Memorandum on the Agenda (revised 5 April 2005)
CNL(05)3	Draft Agenda
CNL(05)4	Draft Schedule of Meetings
CNL(05)5	Secretary's Report
CNL(05)6	Report of the Twenty-Second Annual Meeting of the Finance and Administration Committee
CNL(05)7	Report on the Activities of the North Atlantic Salmon Conservation Organization in 2004
CNL(05)8	Report of the ICES Advisory Committee on Fishery Management
CNL(05)9	Catch Statistics - Returns by the Parties
CNL(05)10	Historical Catch Record 1960-2004
CNL(05)11	Report of the Fourth Meeting of the International Atlantic Salmon Research Board
CNL(05)12	Request for Scientific Advice from ICES
CNL(05)13	Report of the Stakeholder Consultation Meetings on the 'Next Steps for NASCO'
CNL(05)14	Report of the 'Next Steps for NASCO' Working Group
CNL(05)15	Returns under Articles 14 and 15 of the Convention
CNL(05)16	Progress with Application of the Decision Structure for Management of North Atlantic Salmon Fisheries – Returns by the Parties
CNL(05)17	Reports on Progress with Development and Implementation of Habitat Protection and Restoration Plans – Returns by the Parties
CNL(05)18	Report on Progress with the Development of a Database of Salmon Rivers

CNL(05)19 Report of the Workshop on Marking of Farmed Atlantic Salmon

CNL(05)20 Returns Made in Accordance with the Williamsburg Resolution

CNL(05)21 Report of the Meeting of the Liaison Group with the North Atlantic salmon farming industry

CNL(05)22 Unreported Catches - Returns by the Parties

CNL(05)23 Guidelines on Stock Rebuilding Programmes – Returns by the Parties

CNL(05)24 Progress with Application of the Guidelines for Incorporation of Social and Economic Factors into Management Decisions under a Precautionary Approach – Returns by the Parties

CNL(05)25 Progress Report and Future Actions in Relation to Application of the Precautionary Approach

CNL(05)26 Predator-related Mortality

CNL(05)27 Summary of Council Decisions

CNL(05)28 St Pierre and Miquelon

CNL(05)29 Additional Returns under Articles 14 and 15 of the Convention and on Unreported Catches – European Union (Germany and Ireland)

CNL(05)30 Comments from the International Salmon Farmers' Association (ISFA) on the Williamsburg Resolution

CNL(05)31 Draft Report

CNL(05)32 Supplementary Returns by the Russian Federation

CNL(05)33 Additional Returns - European Union (Germany – Lower Saxony)

CNL(05)34 Liming as a Mitigation Measure in Acidified Salmon Rivers in Southern Norway has been a success (Tabled by Norway)

CNL(05)35 Compliance and Accountability Mechanisms in Six International Environmental Treaties (paper tabled by World Wildlife Fund (US) at Open Session on 'Next Steps for NASCO')

CNL(05)36 Agenda

CNL(05)37 Restoration and Management of the Atlantic Salmon in France: Efforts/Results (Presentation by European Union, France)

CNL(05)38 Gear Trials of a Novel Pelagic Trawl for Use in Atlantic salmon (*Salmo salar* L.) Post-Smolt Surveys

CNL(05)39 Working Group Meeting or Special Session on Unreported Catches (Tabled by Norway)

CNL(05)40 Discussion document on Next Steps

CNL(05)41 Presentation of the SALSEA Programme

CNL(05)42 Application of the Decision Structure for Management of North Atlantic Salmon Fisheries - Example of Decision Structure Application – Russian Federation

CNL(05)43 Summary of Actions taken by EU Member States in relation to the Conservation and Management of Salmon Stocks and the Application of the Precautionary Approach

CNL(05)44 Presentation by ICES to NASCO

CNL(05)45 Development of the NASCO Database of Irish Salmon Rivers - Report on Progress (Tabled by European Union – Ireland)

CNL(05)46 Draft Text for Insertion in Paragraph 4.1 of CNL(05)40 to replace sub-paragraphs 1-3

CNL(05)47 Impacts of Acid Rain - 2005 Report (Tabled by Canada)

CNL(05)48 Draft Press Release

CNL(05)49 Strategic Approach for NASCO's 'Next Steps'

CNL(05)50 Report of the Twenty-Second Annual Meeting of the Council of the North Atlantic Salmon Conservation Organization

CNL(05)51 Summary of Actions taken by Canada in relation to Conservation and Management of Salmon Stocks and the Application of the Precautionary Approach

CNL(05)52 Press Release

CNL(05)53 2006 Budget, 2007 Forecast Budget and Schedule of Contributions

CNL(05)70 Statement by AIDSA

CNL(05)71 Statement by NAMMCO

CNL(05)72 Statement by Coomhola Salmon Trust Ltd

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