



**2012**

**REPORT OF THE  
TWENTY-NINTH  
ANNUAL MEETING  
OF THE COUNCIL**

**Edinburgh, Scotland, UK**

**5 - 8 JUNE 2012**

President: Ms Mary Colligan (USA)

Vice-President: Mr Steinar Hermansen (Norway)

Secretary: Dr Malcolm Windsor

**CNL(12)39**



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## **CNL(12)39**

### ***Report of the Twenty-Ninth Annual Meeting of the Council of the North Atlantic Salmon Conservation Organization George Hotel Edinburgh, Scotland, UK***

***5 - 8 June, 2012***

#### **1. Opening Session**

- 1.1 The President, Ms Mary Colligan (US), opened the meeting and welcomed delegates to Edinburgh (Annex 1).
- 1.2 The representatives of Canada, Denmark (in respect of the Faroe Islands and Greenland), the European Union, Norway, the Russian Federation and the United States of America made Opening Statements (Annex 2).
- 1.3 An Opening Statement was made by the European Inland Fisheries and Aquaculture Advisory Commission (EIFAAC) (Annex 3).
- 1.4 An Opening Statement was made by the International Council for the Exploration of the Sea (ICES) (Annex 4).
- 1.5 An Opening Statement was made on behalf of all the Non-Government Organizations (NGOs) attending the Annual Meeting (Annex 5).
- 1.6 The President expressed appreciation for these statements and closed the Opening Session.
- 1.7 A list of participants is given in Annex 6.

#### **2. Adoption of Agenda**

- 2.1 The Council adopted its agenda, CNL(12)41 (Annex 7).

#### **3. Election of Officers**

- 3.1 The Council re-elected Ms Mary Colligan (US) to serve a second two-year term as President, and Mr Steinar Hermansen (Norway) as Vice-President.

#### **4. Financial and Administrative Issues**

##### **4.1 Report of the Finance and Administration Committee**

In the absence of the Chair of the Finance and Administration Committee, the Vice-Chairman, Mr Raoul Bierach (Norway), presented the report of the Committee, CNL(12)5. On the recommendation of the Committee, the Council took the following decisions:

- (i) to accept the audited 2011 annual financial statement, FAC(12)2;
- (ii) to adopt a budget for 2013 and to note a forecast budget for 2014, CNL(12)40 (Annex 8);

- (iii) to ask the Secretary to obtain quotes for a minimum of three years work from auditing firms and to liaise with the Finance and Administration Committee on the appointment for the 2012 and subsequent audits;
- (iv) to amend the Staff Fund Rules, CNL(12)17 (Annex 9);
- (v) to adopt the report of the Finance and Administration Committee.

## **5. Scientific, Technical, Legal and Other Information**

### **5.1 Secretary's Report**

The Secretary made a report to the Council on the status of ratifications of, and accessions to, the Convention and membership of the regional Commissions.

In accordance with Financial Rule 5.5, the Secretary reported on the receipt of contributions for 2012. All contributions had been received and there were no arrears.

He reported on fishing for salmon in international waters by non-NASCO Parties. There had been no sightings during the year since 1 April 2011. While the number of surveillance flights over the area of international waters where sightings had been made in the late 1980s and early 1990s had increased in 2011/2012 the surveillance is still limited to the summer months.

The Secretary reported, (CNL(12)6), that since the last Annual Meeting of the Council, no new applications for observer status had been received. In total, NASCO currently has 35 accredited NGOs. He referred to the recommendation in the External Performance Review Panel's report that the reason for the suspension of one NGO should be explained on the website.

### **5.2 Report on the Activities of the Organization in 2011**

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 2011, CNL(12)7.

### **5.3 Announcement of the Tag Return Incentive Scheme Grand Prize**

The President announced that the winner of the \$2,500 Grand Prize was Mr Andreas Mårtenson, Flyinge, Sweden. The winning tag was of Norwegian origin. It had been applied to a 5kg female salmon at the inlet of the Trondheimsfjord, Norway on 7 July 2011. The salmon was recaptured by angling on the Gaula River six days later. The Council offered its congratulations to the winner.

### **5.4 Scientific Advice from ICES**

The representative of ICES presented the report of the Advisory Committee (ACOM) to the Council, CNL(12)8 (Annex 10). In response to a question from the representative of the NGOs concerning the ENPI CBC Project 'Kolarctic salmon', the representative of the Russian Federation indicated that the project had commenced in 2011 and would be completed in 2013. The project involves three countries (Finland, Norway and Russia). Some preliminary results have already been obtained but have not yet been published.

## 5.5 **Scientific Research Fishing in the Convention Area**

The Secretary reported to the Council that there had been no applications to conduct scientific research fishing in the Convention area during 2012.

## 5.6 **Report on the NASCO/ICES ‘Salmon Summit’**

An international symposium or ‘Salmon Summit’ convened by NASCO and ICES on the topic of 'Salmon at Sea: Scientific Advances and their Implications for Management' was held during 11 - 13 October, 2011 at L’Aquarium, La Rochelle, France. It was attended by 128 scientists and managers from around the North Atlantic, the North Pacific and Baltic regions. Sponsorship had been received from the Total Foundation with additional support from ONEMA. Two reports of the meeting will be prepared. The first, comprising a number of the scientific papers, will be published following peer review in a symposium issue of the ICES Journal of Marine Science. The second report, by the Convenors (Lars Petter Hansen, Dave Reddin and Malcolm Windsor) and the Guest Editor of the ICES Journal of Marine Science (Peter Hutchinson), had already been published and was distributed during the Annual Meeting.

The Secretary indicated that the main conclusion from the ‘Salmon Summit’ was the need to redouble efforts to address factors impacting on productivity to ensure that the 2,500 salmon rivers that flow into the North Atlantic produce the maximum number of healthy wild salmon smolts. That will entail further sacrifices in harvests, more emphasis on habitat protection, restoration and enhancement and further progress in addressing impacts of salmon farming. New information, ideas and tools that can assist managers are emerging. There will be a need to plan ahead for these changes, to work cooperatively with those with similar aims and for more outreach to politicians and the public and to those industries that are impacting salmon habitat. The large and diverse community of non-government organizations supporting the species can play a major role.

The Council recognised that the unique commitment of scientific collaboration among the Parties was a valuable concept of the SALSEA Programme and that such collaboration should remain a standing commitment of NASCO Parties in the future.

## 5.7 **Report of the International Atlantic Salmon Research Board**

The report of the meeting of the Board, CNL(12)9 (Annex 11), was presented by its Chairman, Mr Raoul Bierach (Norway).

## 5.8 **Report of the Standing Scientific Committee**

The Chairman of the Standing Scientific Committee, Dr Peter Hutchinson, 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(12)10 (Annex 12).

The representative of the NGOs suggested that ICES be requested to provide information on the numbers of salmon escaping from salmon farms, both the reported numbers and estimated numbers that are unreported. The Council agreed that it would be useful to have such information and discussed whether it could best be obtained through ICES or by direct reporting to NASCO. The Council agreed that the Parties should be requested to provide this information in their annual returns under the Implementation Plans in 2013 and that the Council would revisit this issue next year in the light of the returns. It was noted that the

statistics on escapes are only part of the picture and that data on the incidence of escaped farmed salmon in fisheries and rivers are also important. The representative of the NGOs requested that in future the NGOs should be represented on the Standing Scientific Committee. The Council decided not to change the composition of the SSC but agreed that NGO input would be sought in future through the Committee's consultation process.

## **6. Report of the External Performance Review Panel**

6.1 At its 2011 Annual Meeting the Council had adopted Terms of Reference for the External Performance Review, CNL(11)44, made budgetary provision to cover the costs of the review and appointed Mr Michael Shewchuk (nominated by UN DOALOS), Ms Judith Swan (nominated by FAO) and Mr Kjartan Hoydal (former Secretary of NEAFC). The Council had agreed that:

- the criteria attached to the TORs are to be used by the Review Panel as it determines appropriate;
- the review should examine the past, present and future of NASCO and the fitness of the organization given the current challenges facing the salmon;
- the Review Panel should produce a report which critically evaluates the performance of NASCO and makes recommendations for change and improvements;
- the Review Panel should decide how best to carry out its work including the need to hold a second meeting;
- the President and Secretary should provide logistical support to the Panel including background material and points of contact.

6.2 The report of the External Performance Review Panel, CNL(12)11, was presented in a Special Session of the Council by Mr Kjartan Hoydal. The report has been made available on the NASCO website [www.nasco.int](http://www.nasco.int). There was an extensive discussion of this report and the Council welcomed the Panel's findings and its endorsement of NASCO's work including the changes introduced under the 'Next Steps' process and the Panel's support to move forward with this in a second cycle of Implementation Plans.

## **7. Progress with the 'Next Steps for NASCO' Process**

### **7.1 Report of the Working Group on Future Reporting under Implementation Plans and Evaluation of these Reports**

Last year the Council had considered a report from its 'Next Steps for NASCO' Review Group. The Group had reviewed progress in implementing the Strategic Approach under each of the seven challenges it identifies. The Group had recognised that NASCO had moved quickly in implementing the measures in the Strategic Approach but for the next cycle of reporting, it had suggested some streamlining in reporting and that there should be greater emphasis placed on the activities and actions each jurisdiction plans to take over a period of five years and on monitoring and evaluation of activities with clearly described identifiable, measurable outcomes and timescales. The Group had further recommended that, in future, Focus Area Reports should be developed around specific themes and that progress on Implementation Plans could be assessed through the Annual Reports, which would be reviewed. The Council had, therefore, established a Working Group to develop a framework for future reporting and evaluation to report back to the 2012 Annual Meeting.

The Chairman of the Working Group on Future Reporting under Implementation Plans and Evaluation of these Reports, Mr Ted Potter (European Union), presented the Group's report, CNL(12)12 (Annex 13). He informed the Council that the Working Group considers that Implementation Plans are the key documents and the success of the next cycle of reporting will depend on these plans specifying clearly the actions each jurisdiction plans to take over a five-year period, the expected outcomes and the approach to monitoring, including enforcement. The Group recommends that these plans should be reviewed and that Annual Progress Reports would identify the status of actions within the Implementation Plans with evaluation to assess if the commitments in the plans have been fulfilled and whether progress is being made towards achievement of the objectives.

To assist jurisdictions in developing their Implementation Plans and Annual Progress Reports, templates had been developed by the Group together with guidance on the format and content of Plans and Reports and on their evaluation. A schedule for submission, review and distribution of these plans and reports had been proposed. The Group also recommended a new cycle of Special Session Reports (to replace Focus Area Reports), developed around specific themes in order to encourage an exchange of information and in-depth consideration of approaches being used to address a particular threat to salmon stocks or challenge to management. A number of possible topics for Special Session reports had been proposed.

## 7.2 **Progress in Implementing a Public Relations Strategy**

The Assistant Secretary reported on progress with the further development of the NASCO website, including the completion of the rivers database, which is now available to the public on the website.

The Council had agreed to capitalise on a Public Relations opportunity by contributing funds to a film project entitled 'Atlantic Salmon – Lost at Sea!'. The funding had been obtained through budget savings to be implemented in 2013 as well as expected contributions from the US and EU - UK (Scotland). The funding will support filming in Greenland, highlighting the sampling programme and will be a positive action to raise the profile of NASCO.

## 8. **Decisions by the Council in the light of the External Performance Review and the Review of the 'Next Steps' process**

8.1 The completion of the first cycle of reporting and review under the 'Next Steps' process and receipt of the External Performance Review Report provide the Council with an opportunity to revisit its vision for the future of NASCO. As an initial step the contracting Parties will coordinate over the course of the year including an inter-sessional meeting of the Parties to:

(a) *Discuss priority objectives and action areas for NASCO and recommendations for how the Organization can best position itself to fulfil these objectives;*

(b) *Review and evaluate the recommendations of the External Performance Review Panel that have not already been acted upon by the Council, including those that relate to the Convention (recommendations 1 and 7 - 35 of the section entitled 'Convention for the Conservation of Salmon in the North Atlantic Ocean');*

- (c) *Consider other recommendations from the 'Next Steps' process that have not yet been implemented, as well as any other relevant information concerning the improvement of the functioning and operation of NASCO and any input submitted from Parties and stakeholders;*
- (d) *Develop a recommended Plan of Action, including prioritised recommendations, for consideration by the Council on potential actions.*

The recommended Plan of Action will be discussed by the Council at its 2013 Annual Meeting.

- 8.2 The representative of the NGOs reiterated the role of the accredited NGOs to NASCO as principal stakeholders and their willingness to work with the Parties to take this process forward. The representative of Denmark (in respect of the Faroe Islands and Greenland) encouraged the other Parties to take this opportunity to correct the imbalance in the Convention noted by the Review Panel and previously highlighted by Denmark (in respect of the Faroe Islands and Greenland). The representative of the US indicated that this is an important initiative and that the US understands that there will be a special inter-sessional meeting of the Heads of Delegations who, given the issues, will need to be supported by appropriate technical expertise.
- 8.3 The Council welcomed the recommendations for streamlining future reporting developed by the Working Group on Future Reporting under Implementation Plans and Evaluation of these Reports. The Council adopted the template on NASCO Implementation Plans for the period 2013-18, CNL(12)42 (Annex 14) and the template for Annual Progress Reports on Actions taken under Implementation Plans, CNL(12)43 (Annex 15). The Council welcomed the Group's Guidelines for the Preparation and Evaluation of NASCO Implementation Plans and for Reporting on Progress but decided to amend the schedule so as to allow for additional time for the jurisdictions to consult with stakeholders in the preparation of Plans. The Guidelines were modified to reflect this change and were adopted by the Council, CNL(12)44 (Annex 16).
- 8.4 The President indicated that she would consult Heads of Delegations after the meeting with regard to participation in the inter-sessional meeting.

## **9. Conservation, Restoration, Enhancement and Rational Management of Atlantic Salmon under the Precautionary Approach**

### **9.1 Annual Reports on Progress in Implementing NASCO's Agreements**

The primary purpose of the annual returns is to track progress in implementing the actions contained in the Implementation Plans. In 2009, the Council had agreed a simple reporting structure for these annual reports. A summary of these returns was presented, CNL(12)16. The returns themselves are contained in documents CNL(12)21 to CNL(12)36.

The representative of the NGOs sought clarification from the European Union on the reasons for the increase in catches in coastal fisheries in England and Wales and Sweden in 2011. A response to this question was provided in the North-East Atlantic Commission.

## 9.2 **Liaison with the North Atlantic Salmon Farming Industry**

At the last meeting of the Liaison Group in 2011 a proposal from Canada on the reconstitution of the Liaison Group had been discussed. A number of options were considered and ISFA had indicated after the meeting that it would prefer to engage directly with the Parties through a seat at the NASCO Annual Meeting, consistent with that afforded to the NGOs. An initial discussion document on this topic had been tabled by Norway, CNL(11)20 which is to be considered as part of the process referred to in paragraph 8.1 above.

The Council had decided at its 2011 meeting that, in view of the ongoing 'Next Steps' process and the External Performance Review, it would consider the most appropriate approach to continuing its liaison with the salmon farming industry, which it greatly valued, at its 2012 meeting. The Council had agreed that the Liaison Group did not need to meet prior to the 2012 Annual Meeting.

The President noted that it would not be possible to respond to the industry at the 2012 Annual Meeting and that the priority for engagement over the next twelve months is within jurisdictions in relation to the development of Implementation Plans. The Council encouraged each jurisdiction to engage with the industry in the development of its Implementation Plan.

## 9.3 **New or Emerging Opportunities for, or Threats to, Salmon Conservation and Management**

In accordance with the 'Strategic Approach for NASCO's Next Steps', this item had been included on the Council's agenda and ICES had been requested to provide relevant information, which is contained in document CNL(12)8. The representative of the NGOs referred to the increasing concern among NGOs across Europe at the increase in hydro-electric installations and the impact these may have on salmon.

## 9.4 **Incorporating Social and Economic Factors in Salmon Management**

In 2008, the Council had reviewed a report from its Socio-Economics Working Group. This Group had commenced work in collating social and economic information relating to the Atlantic salmon but it was recognised that further work was needed and a Sub-Group had been established for this purpose. Progress reports on the work of the Socio-Economic Sub-Group were presented in 2009, 2010 and 2011. Last year it was reported that the Sub-Group had further developed web pages relating to socio-economic values and a proposal for a Special Session on socio-economics. The objective of the Special Session is to provide an opportunity for a more detailed exchange of information on how jurisdictions are incorporating socio-economic factors in decisions relating to: management of salmon fisheries, habitat protection and restoration, and aquaculture and related activities; allow for feedback from the Parties on the usefulness of the NASCO Guidelines; and consider the future role of NASCO in relation to the social and economic aspects of salmon management.

The Council had decided that because of time constraints at the 2012 Annual Meeting, the Special Session would be held in 2013 and had asked the Sub-Group to proceed and develop the programme. The Council had suggested that the Sub-Group might wish to consult EIFAAC with a view to its involvement in the Special Session. The Sub-Group was asked to develop its recommendations well in advance of the 2013 Annual Meeting.

The Council recognised that it will have a heavy schedule of work at its 2013 Annual Meeting and asked that the Secretariat look at the schedule of meetings to see if this Special Session could be accommodated.

#### **9.5 Managing and Sampling of the St Pierre and Miquelon Salmon Fishery**

The representative of France (in respect of St Pierre and Miquelon) introduced document CNL(12)14 (Annex 17) containing information on the management of the fishery, details of catches and of the number of licenses issued and the sampling programme in 2011. France (in respect of St Pierre and Miquelon) had reiterated that it wishes to retain its observer status to NASCO and to develop scientific cooperation with NASCO given that salmon fishing is a traditional, seasonal activity for the inhabitants of the islands.

The representative of Canada thanked the representative of France (in respect of St Pierre and Miquelon) for the report and welcomed the progress on the scientific work. He requested that France (in respect of St Pierre and Miquelon) become an active member of NASCO so as to further enhance the cooperation. The President suggested that, in the light of the External Performance Review recommendation, the Secretary should write to the French authorities inviting them to become a member of NASCO. A similar letter had already been sent recently to Iceland.

The representative of France (in respect of St Pierre and Miquelon) indicated that while the fishery is an interception fishery, it is small and catches low compared to elsewhere in the North Atlantic and it is important for socio-economic reasons. The representative of the NGOs indicated that while catches may be low they include harvests of salmon from endangered stocks. The representative of France (in respect of St Pierre and Miquelon) indicated that following ICES advice, France (in respect of St Pierre and Miquelon) intended to collaborate more closely, particularly with Canada, to improve the quality of genetic analysis in future by using a genetic baseline enriched with North American profiles. The US agreed with the sentiments expressed by the NGOs, Canada and the President and welcomed the statement by France (in respect of St Pierre and Miquelon) to respond to the recommendations of ICES regarding the sampling programme.

#### **9.6 Reports on the Conservation Work of the Three Regional Commissions**

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

### **10. Other Business**

- 10.1 The Council agreed a schedule for the recruitment of a new Secretary from 1 January 2014, CNL(12)18, and agreed to finalise the procedure for the recruitment through correspondence among Heads of Delegations after the Annual Meeting.

### **11. Date and Place of Next Meeting**

- 11.1 The Council accepted an invitation from the European Union on behalf of Ireland to hold its Thirtieth Annual Meeting during 4 - 7 June 2013.
- 11.2 The Council agreed to hold its Thirty-First Annual Meeting during 3 - 6 June 2014 at a place to be decided.

## **12. Report of the Meeting**

12.1 The Council agreed the report of the meeting.

## **13. Press Release**

13.1 The Council agreed a press release, CNL(12)45 (Annex 18).

## **14. Close of the Meeting**

14.1 The President referred to the retirement of the current Secretary on 31 August 2012. On behalf of the Council, she thanked Dr Windsor for his exceptional work for the Organization and wished him a long and healthy retirement. The Secretary then made a statement (Annex 19).

Note: The annexes mentioned above begin on page 21, following the French translation of the report of the meeting. A list of Council papers is included in Annex 20.



## CNL(12)39

### *Compte rendu de la Vingt-neuvième réunion annuelle du Conseil de l'Organisation pour la Conservation du Saumon de l'Atlantique Nord George Hotel, Édimbourg, Écosse, Royaume-Uni*

*5 - 8 juin, 2012*

#### **1. Séance d'ouverture**

- 1.1 La Présidente, Ms Mary Colligan (États-Unis) a ouvert la réunion et a souhaité aux délégués la bienvenue à Édimbourg (annexe 1).
- 1.2 Les représentants du Canada, du Danemark (pour les Îles Féroé et le Groenland), de l'Union européenne, de la Norvège, de la Fédération de la Russie et des États-Unis d'Amérique ont chacun prononcé une allocution d'ouverture (annexe 2).
- 1.3 La Commission Européenne Consultative pour les Pêches et l'Aquaculture dans les eaux Intérieures (CECPAI) a également prononcé une allocution (annexe 3).
- 1.4 Le Conseil International pour l'Exploration de la Mer (CIEM) a prononcé une allocution d'ouverture (annexe 4).
- 1.5 Une allocution d'ouverture a été prononcée conjointement, au nom de l'ensemble des organisations non gouvernementales (ONG) présentes à la Réunion (annexe 5).
- 1.6 La Présidente a exprimé sa reconnaissance pour les allocutions faites et a clos la séance d'ouverture.
- 1.7 La 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(12)41 (annexe 7).

#### **3. Élection des membres du Comité directeur**

- 3.1 Le Conseil a réélu Présidente, Ms Mary Colligan (États-Unis), pour un second mandat de deux ans et Vice Président, M. Steinar Hermansen (Norvège).

#### **4. Questions administratives et d'ordre financier**

##### **4.1 Rapport de la Commission financière et administrative**

En l'absence de la Présidente de la Commission financière et administrative, le Vice-président, M. Raoul Bierach (Norvège), a présenté le rapport de la Commission, CNL(12)5. Fort des recommandations de celle-ci, le Conseil a pris les décisions suivantes :

- (i) accepter la déclaration financière révisée de 2011, FAC(12)2 ;

- (ii) adopter un budget pour 2013 et prendre acte du budget prévisionnel de 2014, CNL(12)40 (annexe 8) ;
- (iii) demander au Secrétaire d'obtenir des devis auprès de Commissaires aux comptes pour un contrat de trois ans minimum et de consulter la Commission financière et administrative sur le choix du Commissaire aux comptes pour 2012 et les années suivantes ;
- (iv) modifier le règlement du Fonds du Personnel, CNL(12)17 (annexe 9);
- (v) adopter le rapport de la Commission financière et administrative.

## **5. Questions scientifiques, techniques, juridiques et autres**

### **5.1 Rapport du Secrétaire**

Le Secrétaire a rendu compte au Conseil des questions suivantes : ratifications de, et accessions à, la Convention et adhésions des membres des Commissions régionales.

Conformément au règlement financier 5.5, le Secrétaire a dressé un rapport sur les contributions de 2012. Elles avaient toutes été perçues. Il n'y avait donc aucun arriéré.

Le Secrétaire a également rendu compte de la pêche au saumon dans les eaux internationales effectuée par des Parties non adhérentes à l'OCSAN. À noter qu'il n'y avait eu cette année, depuis le 1er avril 2011, aucune déclaration d'observation de ce type de pêche. Toutefois, et même si en 2011/2012, on avait augmenté le nombre de vols de surveillance entrepris au dessus des eaux internationales, le contrôle se limitait aux mois d'été.

Le Secrétaire a aussi indiqué (CNL(12)6), qu'il n'y avait eu aucune nouvelle demande d'obtention du statut d'observateur depuis la dernière réunion du Conseil. L'OCSAN compte ainsi, à l'heure actuelle, 35 ONG accréditées. Il s'est par ailleurs reporté à la recommandation offerte par le Panel de révision externe des performances de l'OCSAN dans son rapport, à savoir : expliquer, sur le site Internet de l'OCSAN, la raison pour laquelle une des ONG avait été temporairement exclue.

### **5.2 Rapport sur les activités de l'Organisation de 2011**

Le Conseil a adopté le rapport d'activités 2011 de l'Organisation, CNL(12)7, adressé aux Parties conformément à l'article 5, paragraphe 6 de la Convention.

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

La Présidente a annoncé que M. Andreas Mårtenson, de Flyinge en Suède, avait remporté le Grand prix de 2 500 dollars. La marque gagnante était d'origine norvégienne. Elle avait été appliquée sur un saumon femelle de 5kg dans l'anse du fjord Trondheimsfjord en Norvège le 7 juillet 2011. Le poisson avait été re-capturé six jours plus tard, lors d'une pêche à la ligne dans la rivière Gaula. Le Conseil a présenté ses félicitations au gagnant.

#### 5.4 **Recommandations scientifiques du CIEM**

Le représentant du CIEM a présenté au Conseil le rapport du Comité consultatif (ACOM), CNL(12)8 (annexe 10). En réponse à la question du représentant des ONG concernant le Projet “Kolarctic salmon (Saumon Kolarctic)” de l’ENPI CBC, le représentant de la Fédération de la Russie a indiqué que ce projet avait débuté en 2011 et devrait s’achever en 2013. Le projet faisait intervenir trois pays (la Finlande, la Norvège et la Russie). On avait déjà obtenu des résultats préliminaires, mais ceux-ci n’avaient pas encore été publiés.

#### 5.5 **Pêche menée à des fins de recherche scientifique dans la zone de la Convention**

Le Secrétaire a informé le Conseil qu’il n’y avait eu aucune demande faite, en 2012, pour mener une pêche à des fins de recherches scientifiques dans la zone de la Convention.

#### 5.6 **Rapport sur le “Salmon Summit” co-organisé par le CIEM et l’OCSAN**

Un symposium international, intitulé « Salmon Summit » et organisé par l’OCSAN et le CIEM, s’était déroulé en France, entre le 11 et 13 octobre 2011, à l’Aquarium de La Rochelle. Ce sommet, qui avait eu pour sujet « le saumon en mer : progrès scientifiques et implications concernant la gestion », avait attiré la participation de 128 scientifiques et gestionnaires en provenance de l’Atlantique du Nord, du Pacifique Nord et des régions de la mer Baltique. La Fondation Total avait sponsorisé l’événement et l’ONEMA a apporté un soutien supplémentaire. Le sommet aboutira à la production de deux rapports.

Le premier, qui regroupera plusieurs documents scientifiques, sera publié dans un numéro spécial « Symposium » de la Revue du CIEM *ICES Journal of Marine Science*, après avoir été soumis à l’examen des pairs. Le second rapport, rédigé par les organisateurs (Lars Petter Hansen, Dave Reddin et Malcolm Windsor) et par le rédacteur invité de la Revue du CIEM *ICES Journal of Marine Science* (Peter Hutchinson), avait déjà été publié. Ce document avait été distribué au cours de la Réunion annuelle.

Le Secrétaire a indiqué que le message principal à tirer du “Salmon Summit” concernait la nécessité de redoubler d’efforts afin d’adresser les facteurs qui influaient sur la productivité du saumon. Ceci garantirait en effet que les 2 500 rivières à saumons, qui se jettent dans l’Atlantique du Nord, produisent le maximum de smolts de saumons sauvages sains. Cette action impliquerait toutefois des sacrifices supplémentaires en ce qui concerne les récoltes, une plus grande attention apportée à la protection de l’habitat, la restauration et la mise en valeur des stocks ainsi que des progrès supplémentaires dans le domaine de l’élevage salmonicole et de ses effets nuisibles. De nouvelles données, de nouveaux concepts et de nouveaux outils, qui pourraient aider les gestionnaires, émergent. Les changements, que ces développements entraîneront, exigeront donc une planification préalable. Il sera également nécessaire d’œuvrer en coopération avec ceux qui ont les mêmes objectifs et d’entreprendre un travail de sensibilisation auprès des hommes politiques, du grand public et des industries qui ont un effet nuisible sur l’habitat du saumon. L’ensemble des organisations non gouvernementales qui soutenaient cette espèce de poisson représentait une communauté large et diverse. Celle-ci pouvait jouer un rôle majeur dans ce domaine.

Le Conseil a reconnu que l’un des concepts du Programme SALSEA, à savoir l’engagement unique pris par les Parties dans le domaine de la collaboration scientifique, avait été particulièrement précieux. De ce fait, une coopération de ce genre devrait, dorénavant, devenir un engagement pérenne des Parties au sein de l’OCSAN.

## 5.7 **Rapport de la Commission Internationale de Recherche sur le Saumon Atlantique (CIRSA)**

M. Raoul Bierach (Norvège), Président de la Commission, a présenté le rapport de la réunion de ladite Commission CNL(12)9 (annexe 11).

## 5.8 **Compte rendu du Comité scientifique permanent**

Le Dr. Peter Hutchinson, Président du Comité scientifique permanent, a présenté une demande provisoire de recommandations scientifiques adressée au CIEM. Fort de l'avis du Comité, le Conseil a adopté la demande de recommandations scientifiques, CNL(12)10 (annexe 12), adressée au CIEM.

Le représentant des ONG a suggéré qu'il soit demandé au CIEM de fournir des informations sur le nombre de saumons s'échappant des élevages salmonicoles, informations qui recouvriraient le nombre déclaré ainsi qu'une estimation du nombre non déclaré. Le Conseil a convenu qu'il serait utile d'avoir cette information et s'est penché sur la meilleure façon d'obtenir ces renseignements: soit par le biais du CIEM ou soit, directement, par l'envoi de comptes rendus à l'OCSAN. Le Conseil a finalement convenu de demander aux Parties de fournir ces renseignements lors de leurs envois annuels d'informations, dans le cadre de leur programme de mise en application de 2013. Le Conseil a également accepté de revoir cette question l'année suivante à la lumière des informations reçues. Une remarque a été faite : certes, les statistiques d'échappement sont une chose, mais les données concernant l'incidence de saumons échappés d'élevage dans les pêcheries et rivières sont toutes aussi importantes. Le représentant des ONG a demandé que celles-ci soient représentées, à l'avenir, au sein du Comité scientifique permanent. Le Conseil a décidé de ne pas modifier la composition du CSP mais de solliciter, dorénavant, la participation des ONG par le biais du processus de consultation du Comité.

## 6. **Rapport du panel chargé de l'étude externe des performances de l'OCSAN**

6.1 Lors de sa Réunion annuelle de 2011, le Conseil avait adopté un mandat dans le but d'effectuer un examen externe de ses performances, CNL(11)44. Il avait par ailleurs établi un budget pour couvrir les coûts de cet examen et avait sélectionné M. Michael Shewchuk (nommé par la DOALOS (Division des affaires maritimes et du droit de la mer) des NU), Ms Judith Swan (nommée par la FAO) et M. Kjartan Hoydal (ancien secrétaire de la CPANE). Le Conseil avait convenu :

- que le Panel de révision pourrait user des critères du mandat comme bon lui semblait ;
- qu'étant donné les épreuves actuelles que le saumon devait affronter, l'étude devrait examiner les aptitudes de l'OCSAN dans le cadre de son passé, présent et futur ;
- qu'il importait que le Panel de révision rédige un rapport qui évaluerait, d'un œil critique, les performances de l'OCSAN et qui proposerait tous les changements et améliorations nécessaires ;
- qu'il incombait au Panel de révision de décider de la manière dont il devait s'acquitter au mieux de sa tâche, y compris de décider de la nécessité de tenir une seconde réunion;
- qu'il revenait à la Présidente et au Secrétaire d'apporter un soutien logistique au Panel, dont la mise à leur disposition de toute information contextuelle et de tout contact nécessaire.

- 6.2 Lors d'une séance spéciale du Conseil, M. Kjartan Hoydal avait présenté le rapport du Panel chargé de l'examen externe des performances de l'OCSAN, CNL(12)11. Ce rapport, qui était disponible sur le site Internet de l'OCSAN, [www.nasco.int](http://www.nasco.int), avait donné lieu à un long débat. Le Conseil a accueilli favorablement les conclusions du Panel ainsi que son approbation du travail de l'OCSAN, et particulièrement des développements qui avaient été introduits dans le cadre du processus "Prochaines Étapes". Le Conseil a également apprécié le soutien du Panel quant à l'évolution de ce processus vers un second cycle de programmes de mise en application.

## **7. Etat d'avancement du processus "Prochaines Étapes de l'OCSAN"**

### **7.1 Rapport du Groupe de travail concernant les comptes rendus à effectuer à l'avenir dans le cadre des programmes de mise en application et leur évaluation**

L'année dernière, le Conseil avait étudié un rapport rédigé par le Comité de révision chargé du processus « Prochaines étapes de l'OCSAN ». Ce Comité avait passé en revue les progrès réalisés dans la mise en application d'une approche stratégique par rapport aux sept défis qu'il avait identifiés. Le Comité avait reconnu que l'OCSAN avait agi rapidement en ce qui concernait l'exécution de mesures s'inscrivant dans le cadre d'une approche stratégique. Toutefois, pour le prochain cycle de rapport, le Comité avait suggéré de rationaliser ces comptes rendus. Il avait aussi recommandé qu'une plus grande attention soit accordée aux activités et mesures que chaque juridiction prévoyait de prendre sur une période de cinq ans. Il importait également d'insister davantage sur la surveillance et l'évaluation de ces activités qui devraient inclure l'établissement d'un calendrier et une description claire d'objectifs identifiables et mesurables. De plus, le Comité avait recommandé de baser, à l'avenir, les FARs sur des thèmes spécifiques et d'évaluer les progrès effectués au niveau des programmes de mise en application par le biais des rapports annuels, étant donné que ceux-ci étaient également passés en revue. Le Conseil avait, alors, constitué un Groupe de Travail chargé d'élaborer un cadre pour les prochains rapports et évaluations. Ce Groupe de travail devait rendre compte de ses activités lors de la présente Réunion annuelle (2012).

M. Ted Potter (Union européenne), Président du Groupe de travail concernant les comptes rendus à effectuer à l'avenir dans le cadre des programmes de mise en application et leur évaluation, a présenté le rapport dudit Groupe, CNL(12)12 (annexe 13). Il a informé le Conseil que, selon le Groupe de Travail, les Programmes de mise en application représentaient les documents clefs du succès du prochain cycle de compte rendus. Ce succès dépendra en effet de la clarté avec laquelle les programmes détailleront les mesures que chaque juridiction envisagera de prendre sur une période de cinq ans, les résultats escomptés et l'approche adoptée par les juridictions pour contrôler ces mesures et leur exécution notamment. Le Groupe recommandait une étude de ces programmes. Par ailleurs, les comptes rendus annuels des progrès réalisés identifieraient le stade d'exécution des mesures prises dans le cadre des programmes de mise en application et en offriraient une évaluation permettant ainsi d'établir si les engagements pris dans le cadre desdits programmes avaient été remplis et si l'on progressait dans l'atteinte de ces objectifs.

Afin d'aider les juridictions dans l'élaboration de leurs programmes de mise en application, et de leurs comptes rendus annuels sur l'avancement de ces programmes, le Groupe avait conçu des documents modèles accompagnés de conseils concernant le format et contenu des programmes et comptes rendus ainsi que leur évaluation. Également proposé : un calendrier pour l'envoi, l'étude et la distribution de ces programmes et rapports. Le Groupe recommandait également un nouveau cycle de comptes rendus des séances spéciales (à la place des rapports FARs). Ceux-ci porteraient sur des sujets particuliers afin d'encourager l'échange d'information et une étude approfondie des méthodes employées pour affronter

une menace particulière envers les stocks de saumons ou pour répondre à un défi spécifique de gestion. Plusieurs sujets potentiels de rapports de séances spéciales ont été avancés.

## 7.2 **Etat d'avancement de la mise en application d'une stratégie de relations publiques**

Le Secrétaire adjoint a rendu compte des progrès réalisés concernant l'amélioration supplémentaire du site Internet de l'OCSAN, notamment l'achèvement de la base de données des rivières. Celle-ci est à présent disponible au public à partir du site Web.

Le Conseil avait convenu de tirer parti d'une opportunité de relations publiques en sponsorisant un projet cinématographique intitulé « Atlantic Salmon – Lost at Sea ! ». Le financement avait été obtenu grâce à des économies budgétaires (à effectuer en 2013) et aux contributions reçues des États-Unis et du Royaume-Uni (Écosse). Les fonds faciliteront le tournage du film au Groenland. Ce film qui mettra en valeur le programme d'échantillonnage, représentera une action positive permettant à l'OCSAN de mieux se faire connaître.

## 8. **Décisions prises par le Conseil à la lumière des conclusions émises par l'étude externe des performances de l'Organisation et de l'examen du processus « Prochaines Étapes »**

8.1 Le premier cycle de comptes rendus et la révision des rapports entrepris dans le cadre du processus "Prochaines Étapes" achevés, le Conseil, fort également des conclusions du rapport d'étude externe des performances de l'OCSAN, est dès lors en mesure de revoir sa conception de l'avenir de l'OCSAN. Pour ce faire, et dans un premier temps, les Parties contractantes se mettront en rapport les unes avec les autres au cours de l'année. Elles organiseront en particulier une réunion d'intersession pour :

- (a) *débattre des objectifs et des champs d'action prioritaires de l'OCSAN et offrir des recommandations sur la meilleure façon dont l'Organisation pourrait atteindre ces objectifs ;*
- (b) *revoir et évaluer les recommandations offertes par le Panel d'étude externe des Performances de l'OCSAN dont le Conseil n'a pas encore tenu compte, notamment les recommandations relatives à la Convention (recommandations 1 et 7 à 35 de la section intitulée 'Convention pour la conservation du saumon dans l'Atlantique Nord');*
- (c) *examiner les autres recommandations issues du processus "Prochaines Étapes" qui n'avaient pas encore été mises en application. Examiner également toute autre information pertinente concernant l'amélioration de l'opération de l'OCSAN ainsi que tout avis soumis par les Parties et personnes intéressées ;*
- (d) *mettre au point une recommandation de programme d'initiatives qui inclurait des recommandations prioritaires à soumettre à l'étude du Conseil. Celui-ci pourrait à son tour décider des actions à envisager éventuellement.*

Le Conseil débattera de la recommandation de programme d'initiatives lors de la Réunion annuelle de 2013.

8.2 Le représentant des ONG a rappelé le rôle que jouaient les ONG accréditées au sein de l'OCSAN en tant que principaux organismes intéressés. Il a également répété leur volonté d'œuvrer avec les Parties pour faire progresser ce processus. La représentante du Danemark

(pour les Îles Féroé et le Groenland) a encouragé les autres Parties à saisir cette occasion pour corriger le déséquilibre de la Convention, tel qu'il avait été noté par le Panel d'étude et souligné auparavant par le Danemark (pour les Îles Féroé et le Groenland). Le représentant des États-Unis a indiqué que ceci représentait une initiative importante et que, d'après ce qu'il comprenait, une réunion spéciale d'intersession des Chefs des délégations aurait lieu. Étant donné les sujets à aborder, les Chefs des délégations auraient besoin d'un soutien d'expertise technique appropriée.

8.3 Le Conseil a accueilli favorablement les recommandations visant à rationaliser les prochains comptes rendus, élaborées par le Groupe de Travail chargé de cette question. Cette rationalisation s'inscrivait dans le cadre des programmes de mise en application. Le Conseil a également accueilli favorablement l'Évaluation de ces comptes rendus. Il a adopté le document modèle conçu pour les programmes de mise en application de l'OCSAN pour la période 2013 – 2018, CNL(12)42 (annexe 14) ainsi que celui qui avait été produit pour les rapports annuels décrivant l'évolution des mesures prises dans le cadre des programmes de mise en application, CNL(12)43 (annexe 15). Le Conseil a également adopté les Directives du groupe concernant la préparation et l'évaluation des programmes de mise en application de l'OCSAN. Les Directives sur les comptes rendus concernant l'évolution des mesures prises avaient également reçu leur approbation. Il a toutefois décidé de modifier le calendrier de façon à donner aux juridictions plus de temps pour consulter les personnes intéressées dans la préparation des programmes. Il a également adopté les Directives, une fois ajustées en accord avec cette modification, CNL(12)44 (annexe 16).

8.4 La Présidente a indiqué qu'elle consulterait les Chefs des Délégations à la suite de la réunion à propos de la participation à la réunion d'intersession.

## **9. Conservation, Restauration, Mise en valeur et Gestion rationnelle des stocks de saumons dans le cadre de l'approche préventive**

### **9.1 Rapports annuels sur les progrès effectués dans la mise en application des accords de l'OCSAN**

L'objectif principal des envois annuels d'informations est de mesurer les progrès effectués dans la mise en pratique des initiatives contenues dans les programmes de mise en application. En 2009, Le Conseil avait convenu d'une structure de compte rendu simple pour ces rapports annuels. Un résumé de ces envois d'informations a été présenté, CNL(12)16. Les informations figurent dans leur intégralité dans les documents CNL(12)21 à CNL(12)36.

Le représentant des ONG s'est enquis, auprès du représentant de l'Union Européenne, des raisons de l'augmentation des captures, en 2011, dans les pêcheries côtières en Angleterre, au Pays de Galles et en Suède. Au cours de la réunion de la Commission de l'Atlantique du Nord-Est, une réponse à cette question a été fournie.

### **9.2 Liaison avec l'industrie salmonicole de l'Atlantique Nord**

Un débat sur une proposition canadienne de reconstitution du Groupe de liaison avait eu lieu lors de la dernière réunion dudit Groupe en 2011. Plusieurs options avaient été considérées et l'AIES avait indiqué à la suite de la réunion qu'elle préférerait un engagement direct avec les Parties, par l'obtention d'un siège aux Réunions annuelles de l'OCSAN, au même niveau que les ONG. La Norvège a soumis au débat un avant projet sur ce sujet, CNL(11)20, qui était censé s'inscrire dans le processus mentionné au paragraphe 8.1 ci-dessus.

Étant donné la continuation du processus « Prochaines Étapes » et l'étude externe des performances de l'OCSAN, le Conseil avait décidé, lors de sa réunion en 2011, d'étudier comment continuer le plus judicieusement possible son travail de liaison avec le secteur d'élevage salmonicole, dont il a fortement apprécié la participation à la réunion de 2012. Le Conseil avait convenu qu'il n'était pas nécessaire au Groupe de liaison de se rencontrer avant la Réunion annuelle de 2012.

La Présidente a fait remarquer qu'il ne serait pas possible d'offrir une réponse au secteur salmonicole lors de la Réunion annuelle de 2012. La priorité au cours des douze prochains mois, a-t-elle affirmé, devait être, pour chaque juridiction, l'élaboration des programmes de mise en application. De ce fait, le Conseil a encouragé les juridictions à faire participer le secteur salmonicole à l'élaboration de leurs programmes de mise en application.

### **9.3 Nouvelles opportunités ou opportunités naissantes pour, ou menaces contre, la conservation et la gestion du saumon**

Conformément à l'Approche stratégique, adoptée dans le cadre des « Prochaines Étapes de l'OCSAN », ce point avait été inclus à l'ordre du jour du Conseil et le CIEM avait été prié de fournir les renseignements appropriés. Ces données d'information figurent dans le document CNL(12)8. Le représentant des ONG a mentionné l'inquiétude grandissante qui régnait parmi les ONG en Europe et qui était suscitée par l'augmentation du nombre d'installations hydro-électriques et des effets nuisibles que celles-ci pourraient avoir sur les saumons.

### **9.4 Incorporation des facteurs socio-économiques dans la gestion du saumon**

En 2008, le Conseil avait passé en revue un rapport rédigé par le Groupe de travail chargé des questions socio-économiques. Celui-ci avait commencé sa tâche par la collecte des données d'ordre socio-économique relatives au saumon atlantique. Il a toutefois été reconnu qu'un travail supplémentaire était nécessaire d'où la création d'un sous-groupe. En 2009, 2010 et 2011, une présentation a été faite des rapports sur l'évolution des travaux du sous-groupe "Facteurs Socio-économiques". Il était indiqué que, l'année dernière, le sous-groupe avait amélioré les pages du site relatives aux valeurs socio-économiques et soumis une proposition de séance spéciale sur ce sujet. L'objectif de la Séance spéciale est :

- de fournir une occasion pour un échange plus complet d'informations sur la manière dont les juridictions incorporaient les facteurs socio-économique dans les décisions concernant : la gestion des pêcheries de saumons, la protection et restauration de l'habitat, l'aquaculture et les activités connexes ;
- d'offrir aux Parties une possibilité de retour d'information sur l'utilité des directives de l'OCSAN ;
- et d'envisager le rôle que l'OCSAN pourrait jouer à l'avenir sur les aspects socio-économiques de la gestion du saumon.

Le Conseil avait décidé, qu'en vue des contraintes de temps au cours de la Réunion annuelle de 2012, la séance spéciale aurait lieu en 2013 ; Il a demandé au Sous-groupe d'en définir le programme et a suggéré de consulter la CECPAI quant à sa participation éventuelle à la Séance spéciale. Le Sous-groupe était censé rédiger ses recommandations bien avant la Réunion Annuelle de 2013.

Le Conseil a reconnu que son emploi du temps pour la Réunion annuelle de 2013 était chargé et a prié le Secrétariat d'examiner la liste des réunions pour établir si cette séance spéciale pouvait être envisagée.

#### **9.5 Gestion de la pêcherie de saumons à Saint Pierre et Miquelon et Échantillonnage**

Le représentant de la France (pour Saint-Pierre et Miquelon) a présenté le document CNL(12)14 (annexe 17). Ce document contenait des informations concernant la gestion de la pêcherie, les captures effectuées, le nombre de permis octroyés et le programme d'échantillonnage de 2011. La pêche au saumon constituait une activité traditionnelle et saisonnière chez les habitants des îles. De ce fait, la France (pour Saint-Pierre et Miquelon) a réitéré le désir de conserver un statut d'observatrice et d'accroître sa collaboration scientifique avec l'OCSAN.

Le représentant du Canada a remercié le représentant de la France (pour Saint-Pierre et Miquelon) pour son rapport. Il a également exprimé son appréciation quant aux progrès réalisés dans les travaux d'ordre scientifique. Il a demandé que la France (pour Saint-Pierre et Miquelon) devienne membre à part entière de l'OCSAN de façon à accroître encore plus la coopération entre eux. Forte de la recommandation avancée par l'étude externe des performances de l'OCSAN, la Présidente a suggéré qu'il serait bon de prier le Secrétaire d'écrire aux autorités françaises pour inviter la France à devenir membre de l'OCSAN. Un courrier similaire avait déjà été envoyé aux autorités islandaises.

Le représentant de la France (pour Saint-Pierre et Miquelon) a indiqué que, même si la pêcherie était une pêcherie d'interception, elle demeurait réduite et le nombre de captures était faible par rapport à d'autres endroits de l'Atlantique du Nord. De plus, elle revêtait une importance socio-économique. Le représentant des ONG a répondu que bien que les captures soient faibles, elles comprenaient des saumons provenant de stocks en danger. Le représentant de la France (pour Saint-Pierre et Miquelon) a indiqué que, conformément aux recommandations du CIEM, la France (pour Saint-Pierre et Miquelon) avait l'intention de collaborer plus étroitement, avec le Canada en particulier, afin d'améliorer à l'avenir la qualité de l'analyse génétique en ayant recours à une base génétique enrichie des profils de stocks d'Amérique du Nord. Les États-Unis ont cautionné les observations exprimées par les ONG, le Canada et la Présidente et ont accueilli favorablement la déclaration faite par la France (pour Saint-Pierre et Miquelon) concernant les recommandations du CIEM à propos du programme d'échantillonnage.

#### **9.6 Rapports des trois Commissions régionales concernant leurs activités de conservation**

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

### **10. Divers**

- 10.1 Le Conseil a convenu d'un calendrier pour l'embauche d'un nouveau Secrétaire qui devrait entrer en fonction à partir du 1 janvier 2014, CNL(12)18. Le Conseil a également décidé de finaliser la procédure de recrutement par échange de courrier entre les Chefs des délégations à la suite de la Réunion Annuelle.

## **11. Date et lieu de la prochaine réunion**

- 11.1 Le Conseil a accepté l'invitation de l'Union Européenne (pour l'Irlande) de tenir sa Trentième réunion annuelle du 4 au 7 juin 2013.
- 11.2 Le Conseil a convenu d'organiser sa Trente et unième réunion annuelle du 3 au 6 juin 2014. Le lieu n'a pas encore été décidé.

## **12. Compte rendu de la réunion**

- 12.1 Le Conseil a adopté le compte rendu de la réunion

## **13. Communiqué de Presse**

- 13.1 Le Conseil a accepté le communiqué de presse, CNL(12)45 (annexe 18).

## **14. Clôture de la réunion**

- 14.1 La Présidente a mentionné le fait que le Secrétaire actuel prenait sa retraite le 31 août 2012. Au nom du Conseil, elle a remercié le Dr Windsor pour le travail exceptionnel qu'il avait réalisé pour l'Organisation et lui a souhaité une longue et heureuse retraite ainsi qu'une bonne santé. Allocution suivie d'une déclaration du Secrétaire (annexe 19).

Note: La liste intégrale des documents du Conseil figure à l'annexe 20.

***Opening Statement made by the President of NASCO***

Distinguished Delegates, Observers, Ladies and Gentlemen:

It is my pleasure to welcome you to the Twenty-Ninth Annual Meeting of NASCO. This is a very exciting and special meeting for a number of reasons. In the coming days, we will be receiving and discussing two reports that will help guide the future of the Organization. In addition, this will be the last meeting for our Secretary, Dr. Malcolm Windsor, who has been the guiding force for the Organization since its creation.

It has now been approximately eight years since NASCO initiated a comprehensive review intended to identify the current challenges facing the Organization in the management and conservation of wild Atlantic salmon and ways to address these challenges; review the management and organizational structure of NASCO; and consider the procedural aspects of NASCO and the relationship between the Organization, its Parties and Stakeholders. During the past few years, NASCO has increased its engagement and interaction with NGOs and stakeholders, improved reporting, worked cooperatively to investigate marine mortality, and worked to improve transparency in its operations. The steps that have been taken have been part of an evolution toward the stated vision of the restoration of abundant Atlantic salmon stocks throughout the species' range with the aim of providing the greatest possible benefits to society and individuals.

This year we will be receiving the report from the Working Group on Future Reporting under Implementation Plans and Evaluation of These Reports. The recommendations of this group are designed to ensure that the next reporting cycle includes new Implementation Plans that specify clear actions planned over the next five years, the expected outcomes and the approach to monitoring the effectiveness of the actions. Given the depleted status of Atlantic salmon in many jurisdictions, it is important that we work to implement the recommendations of this Working Group without delay.

Importantly, we will also be receiving and discussing the report from the External Performance Review. Given the time and energy NASCO, the Contracting Parties and the NGOs have invested in the 'Next Steps' process, I think we should all be proud that the Panel complimented the process and the great efforts made to address issues affecting all phases of the salmon life cycle. The Panel recommended that this progress should continue and the excellent recommendations from the Working Group on Future Reporting provide us with a productive path for the next cycle of reports and review. The External Review also made a number of recommendations regarding the need to review the Convention, role and function of the Council and Commissions, and the responsibilities of the Contracting Parties. Additional time will be required to fully evaluate these recommendations and determine what action is appropriate to modernize, strengthen and best equip NASCO, the Contracting Parties and our NGO partners to further the conservation and management of Atlantic salmon.

We will also have the opportunity at this meeting to hear the results of the 'Salmon Summit'. This is another example where the cooperation among the Parties and the NGOs resulted in the launching of significant at sea monitoring that no party alone could have undertaken. While our quest to understand the factors affecting salmon survival at sea has only just begun, the information gained through these surveys and the partnerships formed among researchers in a range of disciplines will pay dividends for years to come.

While the challenges and obstacles facing wild Atlantic salmon are great, the cooperation and dedication of all of you in this room have made accomplishments possible. A great deal of credit must go to Dr. Malcolm Windsor who, as Secretary since the formation of NASCO, has created and fostered an atmosphere of respect, good will and determination. His strong commitment to the future of Atlantic salmon and his calm and easy going manner have not only made our work possible, but enjoyable. I have personally benefitted from Malcolm's knowledge, experience and insights as a member of a delegation, of working groups, and now as President. While we will have occasion later in this meeting to more properly thank Malcolm for his service to NASCO, I could not let this opening session pass without acknowledging his tremendous contribution to the Organization and to the species.

Thank you and I look forward to working with you all this week.

***Opening Statements made by the Parties***



## *Opening Statement made by Canada*

Madame President, distinguished delegates, observers, ladies and gentlemen:

I am pleased to be here again this year to represent Canada at a NASCO annual meeting. This my third NASCO annual meeting and my second as Head of the Canadian delegation. First, I would like to thank our hosts, the Secretariat, for inviting us here to this extraordinary setting in Edinburgh and for providing such an excellent meeting facility.

On the Atlantic Coast of Canada, anadromous Atlantic salmon are found in rivers from the border with the USA, at the mouth of the Bay of Fundy, to Labrador, as far north as Nain, as well as in Ungava Bay. Wild Atlantic salmon is an essential resource of significant cultural and economic importance to many coastal communities across Atlantic Canada.

Canada's concern for the conservation of wild Atlantic salmon is paramount. Of 16 Designatable Units in eastern Canada, COSEWIC has the following conclusions: Five wild Atlantic salmon population segments have been assessed as endangered, one as threatened, four as of special concern, one as extinct, four as not at risk and one data deficient.

Suffice to say, we face a challenging road ahead to conserve and restore wild Atlantic salmon stocks.

We hope that through our cooperation NASCO, with ICES and with NGOs, we will continue to enhance our understandings on how to better address the conservation of salmon stocks.

We believe that balancing our efforts and focus on issues we can control to increase returns, such as habitat conservation and restoration, as well as recovery initiatives in freshwater and near-shore environments are important matters to Canada.

Habitat conservation and recovery initiatives are important aspects of Canada's Wild Atlantic Salmon Conservation Policy. The policy reinforces our government's commitment to conserving wild Atlantic salmon in Canada's coastal and inland waters. A Working Group, comprised of Federal and Provincial officials, First Nations and NGOs last year developed an action plan to implement the Wild Atlantic Salmon Conservation Policy. This is a significant step forward for the conservation of wild Atlantic salmon in Canada that would not have been possible without the active engagement and participation of stakeholders. Canada looks forward to continued engagement with our stakeholders throughout the implementation of the action plan.

Turning to this week, several items on our agenda for the next three days are focused on the future direction of NASCO. We believe that the 'Next Steps' Process has been a valuable and worthwhile endeavour. We have seen the fruits of the 'Next Steps' program labour, most recently through the work of the Working Group on Future Reporting under Implementation Plans, which met in late 2011. Canada has seen much value from the 'Next Steps' and thanks all involved with its processes to date.

Canada also welcomes the report of the External Performance Review panel and thanks the three esteemed panellists for their work. We look forward to working with other NASCO parties to review the recommendations with hopes of continuing to move NASCO in a positive direction. I look forward to working together with you this week and trust that we will have constructive discussions which will prove beneficial for all involved.

Thank you.

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

Madame President, distinguished Delegates, Observers, Ladies and Gentlemen:

On behalf of the governments of the Faroe Islands and Greenland I would like to start by saying that we are delighted to be here in Scotland and especially in the charming city of Edinburgh.

NASCO is at a crossroads. The External Performance Review Panel has highlighted what the Faroe Islands and Greenland have been saying for all these years. If NASCO is to live up to its fundamental purpose – to conserve and restore North Atlantic salmon – then this organisation must also regulate home-water fisheries.

In the words of the Review Panel, there is an apparent imbalance and disconnect between the Convention-based decisions which concern the Greenlandic and Faroese fisheries and the soft law measures which concern the conservation of the salmon stocks in the river nations.

This is unfair. It is not rational management of the salmon stocks. And it is certainly not in the light of modern international principles and best practice in international cooperation on fisheries resources. Especially, when the sacrifices of the Faroe Islands and Greenland haven't led to any significant recovery of the stocks. Because the main threats to the salmon stocks are elsewhere.

The Faroe Islands and Greenland have fulfilled our part of the responsibility. Now it is up to the river nations to live up to their responsibilities. We are looking forward to hear the views of other parties and to contribute to discussions this week on whether and how this can actually be achieved through NASCO.

ICES continues to underline that mixed-stock fisheries present particular threats to the salmon stocks. But thousands of salmon are still caught each year in coastal fisheries. Although we appreciate the conservation measures undertaken by other parties, we are disappointed to see that more than a third of all catches are still taken in coastal waters or estuaries.

We urge the river nations to create the best possible conditions for rebuilding the salmon stocks in order to improve the prospects for the Faroe Islands and Greenland to make full use of our rights to a sustainable salmon fishery at sea.

Madame President, we would like once again to thank the Secretariat for all their efforts in preparing this meeting and for bringing us back here to the hometown of NASCO. And also a very special thanks to you Malcolm for your great efforts and dedication in your work for the conservation and management of the North Atlantic Salmon.

Thank you

## *Opening Statement made by the European Union*

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

It is a pleasure for the European Union to be here in Edinburgh at this 29<sup>th</sup> NASCO meeting.

We are excited for being back to the hometown of NASCO.

All these years, NASCO has had a major role for the sustainable management and conservation of salmon stocks, in particular by promoting principles that are at the heart of the European Common Fisheries Policy, such as the precautionary approach and a science-based management.

Looking back in time, we might ask ourselves if NASCO has delivered on the objectives we had set for this Organisation, but in doing so, we should also ask ourselves what would have happened if NASCO had not been there during all this time.

This year we have a great opportunity to start looking for answers to both these questions. The External Performance Review that NASCO has just undergone will help us in doing so. It is the opinion of the European Union that such Review is an important and powerful tool to decide which NASCO we want for the future. We are therefore looking forward to this first exchange of views. In this respect, the European Union comes here with no prejudged positions on the final outcome of such process. However, it is clear to us that here in Edinburgh we can only commit to starting the debate but not to closing it. That will certainly take a bit more time.

The debate on the future of NASCO will also benefit from the findings of the 'Salmon Summit', which took place in La Rochelle last October. Our understanding of the mortality at sea of Atlantic salmon has dramatically improved under the SALSEA project and it is of key importance for our management decisions in the future.

More generally, increased knowledge and improved scientific advice are paramount to our work. To this extent, we welcome the ICES advice on the mixed-stock fisheries and we believe that Contracting Parties should take it into the biggest account, in particular regarding the development of a risk-based management approach for the Faroe Islands Fishery.

Madam President, we look forward to working with you this week and wish you every success for this Annual Meeting.

But before closing, on behalf of the European Union, I would like to already thank our Secretary, Malcolm, and his team for the excellent work in preparing this meeting. Malcolm, I know that this is going to be a very special meeting for you. I just want you to know that it will also be very special for us. It is difficult to picture NASCO without you: you are much more than a Secretary to NASCO and to us. As such, I would like to express the gratitude and admiration of the EU for all the efforts and dedication that you put in our Organisation and the unique spirit that you have given us during all these years.

We wish you all the best for your future undertakings. We will miss you.  
Thank you.

### *Opening Statement made by Norway*

Thank You Madam President,

Delegates, Observers, Ladies and Gentlemen:

I feel comfortable that we can all agree that the key issue at this meeting will be how to deal with the recommendations of the external performance review panel.

The review panel's analysis is surely thorough and comprehensive and we have to respond to them in a swift and effective manner. Under Your leadership Madame President, and in the good tradition of consensus among the NASCO parties, I am sure we will be able to do so.

## *Opening Statement made by the Russian Federation*

Madam President, Distinguished Delegates, Observers, Ladies and Gentlemen!

On behalf of the Russian delegation I am pleased to greet all participants of the 29th Annual Meeting of NASCO here in NASCO's home city of Edinburgh. I would like to express my delight at being in the country renowned for its many beautiful salmon rivers and for prestigious recreational salmon fishing.

The important issues at this Annual Meeting will be the External Performance Review and the 'Next Steps' Strategy. Therefore, we are looking forward to the report from the External Performance Review Panel on its examination of the past, present and future of NASCO and to the report of the Working Group on Future Reporting under Implementation Plans. We realize that without international cooperation, without combined efforts in developing a strategy for future actions NASCO cannot be successful. We are looking forward to discussing these reports together with all other participants of the Annual Meeting and deciding jointly how we shall live in NASCO in the future.

The international cooperation has always been a basis for NASCO work. Informal consultations between Norway and the Russian Federation concerning coastal fisheries are a good example of such cooperation. I would like to note our good neighbourly relations with Norway and common interests in both science and management of Atlantic salmon. We are working closely together to identify ways to address challenges in the management of salmon mixed-stock fisheries.

I would also like to inform you that due to recent changes in the structure of the Government of the Russian Federation the fisheries management has once again been devolved to the Ministry of Agriculture. However, despite these administrative changes the management of Atlantic salmon commercial and recreational fisheries will remain under the authority of Regional Commissions on regulation of anadromous fish exploitation.

We all know that this NASCO Meeting will be the last one for Dr. Malcolm Windsor as a Secretary of the Organization. On behalf of the Russian delegation I would like to thank him very much for his excellent work and wish him best luck, pleasant post-NASCO life and new achievements.

Finally, Madame President, I would like to thank our very efficient Secretariat for the excellent arrangements for this meeting. The delegation of the Russian Federation looks forward to a very productive and successful meeting.

Thank you for attention!

## *Opening Statement made by the US*

Madame President, Mr. Secretary, distinguished delegates, colleagues, friends:

On behalf of the United States, I would like to take this opportunity to thank Scotland for hosting the 29<sup>th</sup> Annual Meeting of NASCO. It is fitting that this year's meeting is being held here in Edinburgh, NASCO's hometown. We have many important changes and initiatives before us this week. The next few days will, no doubt, mark the end of one era for NASCO and begin another.

Looking first to the future, NASCO is at an important juncture, and we have the critical responsibility of making sure this organization is fit for the future. An important first step in this regard will be to take on-board the lessons learned from implementation of the first full cycle of the 'Next Steps' Process—a process in which we, as an organization, are deeply vested. Toward that end, we are grateful to the members of the Working Group on Future Reporting for their hard work. Once implemented, the recommendations of this group will ensure that future reporting focuses on outcomes while reducing reporting and review burdens by all jurisdictions. We feel that the suite of recommendations within the group's report strike a reasonable balance between reporting burden and transparency.

An important second step this organization needs to take relates to the recently completed independent performance review report. From our perspective, the review panel did a thorough and comprehensive job and their recommendations deserve serious thought as we consider the best ways to move the organization forward. We were particularly pleased that the review panel was so supportive of NASCO's 'Next Steps' process and the work of the Working Group on Future Reporting. It is re-assuring to hear such strong support for the overall direction and steps we have taken toward greater accountability in implementing NASCO's decisions and, more generally, toward supporting transparency and inclusivity in all aspects of our work.

We look forward to the Special Session this afternoon where we will hear directly from the review panel. Clearly, there is much in the report to consider and discuss, and the session will provide an excellent opportunity for everyone to share views on the report itself and, more importantly, on where NASCO goes from here.

There is also much work to be done in each of the Commissions. From our perspective, the work before us in the West Greenland Commission is extremely important. We are fortunate to report a banner year for adult returns to U.S. Rivers in 2011. According to ICES, 2011 was the 12<sup>th</sup> highest estimated return of 2-sea-winter adults since 1971, which is good news. However, such news must be tempered by the reality that this still only represents 13% of our conservation limit. The path for successful recovery of endangered stocks in the United States involves continued international cooperation, and we look forward to working with our NASCO partners to develop a new multi-annual regulatory measure for the period of 2012 through 2014.

Having said that, we take very seriously our responsibility to support international actions by taking strong measures at home to protect and recover Atlantic salmon and its habitat. For example, I am happy to announce that the removal of Great Works Dam, a large hydroelectric dam on the Penobscot River, starts this week. It is a momentous occasion that represents the work of a broad-based partnership of federal and state agencies as well as many NGOs. In addition to this large project, there are many other smaller scale dam removal and habitat improvement projects being implemented throughout the North-East United States. The United States is committed to the conservation of Atlantic salmon and to meeting its NASCO responsibilities. By sharing information on these kinds of domestic investments, our intention is to clearly demonstrate that on-going commitment.

Our last comments as this meeting opens relate not to the future, but to the ending of an era for this organization. This year is the last meeting for our esteemed Secretary, Dr. Malcolm Windsor. The United States would like to take this opportunity to express our profound gratitude to Malcolm for his leadership, hard work, and dedication to this organization and, more importantly, to the conservation and management of Atlantic salmon. There is no denying that NASCO and Atlantic salmon have benefited greatly from Dr. Windsor's deep commitment to and support of sustainable conservation and management of shared resources through international cooperation. As NASCO's first and only Secretary, it is difficult to imagine NASCO without Malcolm. His organizational skills and wise counsel together with his great wit and charm made even the toughest NASCO meeting a pleasure. Dr. Windsor, the United States would like to thank you most sincerely for what you have done for this organization during your remarkable tenure as Secretary. We will miss you, and we wish you all the best in your next adventure.

Madame President and Mr. Secretary, thank you again for your excellent preparations for this meeting. We look forward to a very productive week.



***Opening Statement made to the Council by the  
European Inland Fisheries and Aquaculture Advisory Commission (EIFAAC)***

Madam President, Mr Secretary, delegates, observers, ladies and gentlemen.

I am grateful for the opportunity to provide an opening statement on behalf of the European Inland Fisheries and Aquaculture Advisory Commission (EIFAAC) at this the 29<sup>th</sup> Annual meeting of NASCO.

By way of background EIFAAC is a statutory, advisory body of the Food and Agriculture Organization (FAO) of the United Nations. Established in 1957, it is an inter-governmental forum for collaboration and information exchange on inland fisheries and aquaculture across European countries. EIFAAC has currently 34 members.

Governments, institutions and agencies, including NASCO, can benefit from international advice derived from the EIFAAC's network of policy-makers, managers, scientists and others working on inland fisheries and aquaculture issues.

A coordinated international approach to the resolution of fisheries management issues has increased in importance as we see every increasing pressures and rapid changes in our ecosystems. EIFAAC has a major role in the provision and dissemination of best practice advice to the inland fisheries sector and its stakeholders. In order to meet the dynamic requirements of member states and stakeholders, EIFAAC has gone through its own "Next Steps" programme. To make the work of EIFAAC more efficient, this process has resulted in the development of a new structure for the organisation which takes a focused project based approach to the development of advice and research programmes under the guidance of a Technical and Scientific Committee under the general supervision of a Management Committee.

EIFAAC's mission is to promote the long-term sustainable development, utilization, conservation, restoration and responsible management of European inland fisheries and aquaculture and to support sustainable economic, social, and recreational activities through:

- providing advice and information
- encouraging enhanced stakeholder participation and communication; and
- the delivery of effective research.

Formal adoption of the new EIFAAC Rules of Procedure has been completed and we look forward to the 27<sup>th</sup> EIFAAC Session and Symposium in October 2012, which will be hosted in Finland. EIFAAC would welcome a NASCO representative as an observer at this Session.

EIFAAC and NASCO share the common goal of wild Atlantic salmon conservation while respecting the social, economic and cultural value of this unique species. It is, therefore, very much appreciated that NASCO extends EIFAAC an invitation to observe at this meeting. In return EIFAAC offers NASCO its technical and scientific resources to support research or advice pertaining to salmon in its fresh water environment; EIFAAC has currently active project groups looking at a number of prioritised research areas including management strategies for aquatic invasive species, sustainable management actions on Cormorant populations, fish handling and fish passage. EIFAAC is well positioned to offer expert advice and support to NASCO on issues affecting the Atlantic Salmon in the freshwater element of its lifecycle.

Finally, can I wish all of you a productive and enjoyable NASCO session. Thank you kindly for your attention.

***Opening Statement made by the General Secretary of the  
International Council for the Exploration of the Sea***

Madame President, distinguished colleagues, ladies and gentlemen, dear colleagues,

I am very pleased to participate in the 29th annual NASCO meeting – which is also my first meeting at NASCO in my position as General Secretary of ICES.

While confirming and underlining the role of ICES in providing best available science for use by NASCO in making your management decisions, we also aim to be responsive to changes in your needs. For this reason, we are closely following the review of your activities and how you decide to handle and implement the recommendations stemming from this review.

It is – I believe – no coincidence that the Chair of the external ICES advisory review panel, Mr. Kjartan Hoydal is also participating in and chairing the NASCO review, together with esteemed colleagues Mr. Michael Shewchuk and Ms. Judith Swan.

This will ensure synergies between these two reviews and in that ICES will be up-to-date in providing scientific advice requested by its clients.

As usual ICES is represented here by my colleagues, Henrik Sparholt Advisory Programme Professional Officer and Gerald Chaput, Chairman of the Salmon Working Group, thus ensuring continuity and the same high standards when it comes to the presentation of the report from the ICES Advisory Committee.

The decreasing trend in the salmon stocks over the past decades, in spite of serious reductions in the exploitation at sea, is both mysterious and cause for concern. The reasons are linked to survival at sea of the young salmon but the actual mechanisms are not fully understood and are therefore not easy to resolve. ICES is working on many biological aspects of this issue involving, for example, aquaculture impacts via sea lice, marine ecosystems in general, species interactions in particular, by-catches in open sea fisheries for mackerel and herring, climate effects in the North-East Atlantic, among others. I can also mention that ICES has decided to strategically strengthen our research regarding aquaculture effects on the marine ecosystem including salmon. All this should enable us to constantly improve our scientific advice to NASCO.

Dear Malcolm – even if new in the business, I would like to join in the appreciation of your work and your person as such. Both of which, even with my limited time within ICES, has not gone unnoted for me.

Together with my colleagues I look forward to the discussions and outcome of this week's meeting.

Thank you



***Opening Statement made by the Non-Government Organizations***

Madam President,

Once again this year's ICES advice reminds us that wild Atlantic salmon stocks in the North Atlantic are close to their lowest historic levels. I want to remind Council that eight years ago at the 20<sup>th</sup> anniversary meeting of NASCO in 2004, ASF and WWF(US) presented a Vision Statement which concluded that the NASCO convention needed teeth - despite the excellence of the various NASCO agreements and guidelines, Parties were either failing to implement them, or implementing them so slowly as to have a minimal impact on Atlantic salmon conservation.

The “Next Steps” process emerged out of this dialogue, but despite real gains in participation and transparency, it is an unfortunate fact that NASCO agreements and guidelines, and ICES advice, are still being ignored. Due to a lack of political commitment some of the major threats to Atlantic salmon are not being adequately addressed (issues such as mixed-stock fisheries, the impacts of aquaculture and human impacts on freshwater habitats). Coupled with wider climatic influences, stocks have not significantly improved over these past eight years.

So it is with some pleasure that we welcome the recommendations of the three international experts whose External Performance Review will be presented to Council this week. These experts recognize that the NASCO Convention does not adequately reflect current applicable law and practice, and recommend that it be reviewed with a view to strengthening and modernizing the legal mandate of NASCO and the obligations of the Parties. Among their recommendations are that NASCO ensure the application of the Precautionary Approach to all impacts of human activity on the Atlantic salmon life-cycle, close the remaining mixed-stock fisheries in home waters, and make further progress towards achieving the international goals for sea lice and containment. The NGO Group supports all its recommendations.

This is a long and detailed report with many other positive recommendations. We are pleased that the report commends the ‘Next Steps’ process and recommends (for the second cycle) a focus on the effectiveness of measures undertaken. This is essential to maintain our momentum in the immediate future and it is also important to recognise and build on the results of the SALSEA project.

The key recommendation though, is a thorough review of this Council’s decision-making process in light of the need for binding decisions in all areas of the organisation’s focus, taking into account best practice by other RFMOs. For some Parties this might appear a challenging process, but we urge you to work with the wider stakeholder communities which we represent to explore every alternative to make this happen.

Madam President, as we all know, Atlantic salmon are a hugely valuable and iconic species under a multitude of threats from both natural and human impacts; NASCO has worked hard over the past 28 years to identify best conservation and management practice, but some governments have been slow to respond. The External Performance Review provides a real opportunity for NASCO to make a sea-change in wild Atlantic salmon conservation. We urge The Parties to join us in embracing this report and begin the modernisation process as soon as possible. Atlantic salmon deserve nothing less.



**List of Participants**

\* Denotes Head of Delegation

**CANADA**

* Mr Richard Nadeau <i>Richard.Nadeau@dfo-mpo.gc.ca</i>	<u>Representative</u> Fisheries and Oceans Canada, Québec (QC)
Mr Bud Bird <i>bhl@birdholdings.ca</i>	<u>Representative</u> Fredericton, New Brunswick
Mr Serge Tremblay <i>serge.tremblay@mrnf.gouv.qc.ca</i>	<u>Representative</u> Ministère des Ressources Naturelles et de la Faune du Québec, Québec
Ms Julia Barrow <i>julia.barrow@dfo-mpo.gc.ca</i>	Fisheries and Oceans Canada, Ottawa, Ontario
Ms Anne Dufresne <i>anne.dufresne@dfo-mpo.gc.ca</i>	Fisheries and Oceans Canada, Ottawa, Ontario
Mr Carl McLean <i>carl_mclean@nunatsiavut.com</i>	Nunatsiavut Government, Happy Valley - Goose Bay, Newfoundland
Mr Don MacLean <i>macleand@gov.ns.ca</i>	Nova Scotia Department of Fisheries and Aquaculture, Nova Scotia
Ms Pamela Parker <i>p.parker@atlanticfishfarmers.com</i>	Atlantic Canada Fish Farmers Association, New Brunswick
Ms Jacqueline Perry <i>jacqueline.perry@dfo-mpo.gc.ca</i>	Fisheries and Oceans Canada, Newfoundland
Mr Brian Skinner <i>brian.Skinner@mrnf.gouv.qc.ca</i>	Ministère des Ressources Naturelles et de la Faune du Québec, Québec
Dr James Smith <i>james.smith@dfo-mpo.gc.ca</i>	Fisheries and Oceans Canada, Ottawa, Ontario
Mr Doug Twining <i>doug.twining@dfo-mpo.gc.ca</i>	Fisheries and Oceans Canada, Ottawa, Ontario

**DENMARK (IN RESPECT OF THE FAROE ISLANDS AND GREENLAND)**

*Ms Elin Mortensen <i>elinm.mfa.fo</i>	Foreign Service, Torshavn, Faroe Islands
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Ms Kristina Guldbæk  
*krqu@nanoq.gl*

Ministry of Fisheries, Hunting & Agriculture, Nuuk,  
Greenland

## **EUROPEAN UNION**

\*Mr Marco D'Ambrosio  
*marco.dambrosio@ec.europa.eu*

Representative  
European Commission, Brussels, Belgium

Ms Marie Debievre  
*marie.debieuvre@ec.europa.eu*

Representative  
European Commission, Brussels, Belgium

Ms Carole Barker-Munro  
*carole.barker-munro@scotland.gsi.gov.uk*

Marine Scotland, Edinburgh, Scotland, UK

Ms Carmen Beraldi  
*cberaldi@magrama.es*

Secretaria General del Mar, Madrid, Spain

Ms Elizabeth Black  
*liz.black@environment-agency.gov.uk*

Environment Agency, Penrith, Cumbria, England,  
UK

Dr Ciaran Byrne  
*ciaran.byrne@fisheriesireland.ie*

Inland Fisheries Ireland, Swords, Ireland

Mr Hakan Carlstrand  
*hakan.carlstrand@havochvatten.se*

Swedish Agency for Marine and Water Management,  
Gothenburg, Sweden

Mr Dennis Ensing  
*dennis.ensing@afbini.gov.uk*

Agri-Food & Biosciences Institute, Belfast, Northern  
Ireland, UK

Dr Jaakko Erkinaro  
*jaakko.erkinaro@rktl.fi*

Finnish Game and Fisheries Research Institute, Oulu,  
Finland

Mr Clemens Fieseler  
*clemens.fieseler@ble.de*

Federal Ministry for Agriculture and Food, Bonn, Germany

Dr Cathal Gallagher  
*cathal.gallagher@fisheriesireland.ie*

Inland Fisheries Ireland, Swords, Ireland

Dr Paddy Gargan  
*paddy.gargan@fisheriesireland.ie*

Inland Fisheries Ireland, Swords, Ireland

Mr Tapio Hakaste  
*tapio.hakaste@mmm.fi*

Ministry of Agriculture and Forestry, Helsinki,  
Finland

Ms Eija Kirjavainen  
*eija.kirjavainen@mmm.fi*

Ministry of Agriculture and Forestry, Helsinki,  
Finland

Mr Marcus McAuley  
*Marcus.McAuley@dardni.gov.uk*

Department of Agriculture and Rural Development,  
Belfast, Northern Ireland, UK

Mr John McCartney <i>john.mccartney@loughs-agency.org</i>	Loughs Agency, L'Derry, Northern Ireland, UK
Mr Julian MacLean <i>julian.maclean@scotland.gsi.gov.uk</i>	Marine Scotland, Pitlochry, Scotland, UK
Mr Fintan McPhillips <i>fintan.mcphillips@dcenr.ie</i>	Department of Communications, Energy and Natural Resources, Cavan, Ireland
Mr Denis Maher <i>denis.maher@dcenr.gov.ie</i>	Department of Communications, Energy and Natural Resources, Cavan, Ireland
Mr David Mann <i>david.mann@dcalni.gov.uk</i>	Department of Culture, Arts and Leisure, Belfast, Northern Ireland, UK
Dr Niall O'Maoileidigh <i>omaoile@marine.ie</i>	Marine Institute, Newport, Ireland
Dr James Orpwood <i>james.orpwood@scotland.gsi.gov.uk</i>	Marine Scotland, Pitlochry, Scotland, UK
Mr Marc Owen <i>marc.owen@defra.gsi.gov.uk</i>	Department for Environment, Food and Rural Affairs, London, England, UK
Mr Pentti Pasanen <i>pentti.pasanen@ely-keskus.fi</i>	Centre for Economic Development, Transport and the Environment for Lapland, Rovaniemi, Finland
Mr Ted Potter <i>ted.potter@cefas.co.uk</i>	Centre for Environment, Fisheries and Aquaculture Science, Lowestoft, England, UK
Mr Ian Russell <i>ian.russell@cefas.co.uk</i>	Centre for Environment, Fisheries and Aquaculture Science, Lowestoft, England, UK
Professor Phil Thomas <i>phil.thomas@artilus.co.uk</i>	Scottish Salmon Producers' Organisation, Balerno, Scotland, UK
Ms Bénédicte Valadou <i>benedicte.valadou@onema.fr</i>	ONEMA, Direction Générale, Vincennes, France
Dr Alan Wells <i>alan@asfb.org.uk</i>	Association of Salmon Fishery Boards, Edinburgh, Scotland, UK
Mr Manson Wright <i>manson.wright@scotland.gsi.gov.uk</i>	Marine Scotland, Edinburgh, Scotland, UK

## **NORWAY**

\* Mr Steinar Hermansen  
*sh@md.dep.no*

Representative  
Ministry of Environment, Oslo

Mr Raoul Bierach  
*raoul.bierach@dirnat.no*  
(Chairman of the International Atlantic Salmon Research Board)

Representative  
Directorate for Nature Management, Trondheim

Mr Arne Eggereide  
*arne.eggereide@dirnat.no*

Representative  
Directorate for Nature Management, Trondheim

Dr Peder Fiske  
*peder.fiske@nina.no*

Norwegian Institute for Nature Research, Trondheim

Ms Heidi Hansen  
*heidi.hansen@dirnat.no*

Directorate for Nature Management, Trondheim

Mr Yngve Torgersen  
*yngve.torgersen@fk.d.dep.no*

Ministry of Fisheries and Coastal Affairs, Oslo

## **RUSSIAN FEDERATION**

\* Dr Boris Prischepa  
*persey@pinro.ru*

Representative  
Knipovich Polar Research Institute of Marine Fisheries and Oceanography (PINRO), Murmansk

Mr Dmitry A Kosargin  
*kosargin@fishcom.ru*

Federal Agency for Fisheries, Moscow

Dr Svetlana Krylova  
*krylova@pinro.ru*

Knipovich Polar Research Institute of Marine Fisheries and Oceanography (PINRO), Murmansk

Mr Dmitry S Lipatov  
*karelybvod@mail.ru*

Karelybvod, Petrozavodsk

Mr Andrey Merenkov  
*mrv@fishnet.ru*

Murmanrybvod, Murmansk

Mr Viacheslav A Movchan  
*karelybvod@mail.ru*

Karelybvod, Petrozavodsk

Dr Sergey Prusov  
*prusov@pinro.ru*

Knipovich Polar Research Institute of Marine Fisheries and Oceanography (PINRO), Murmansk

Ms Elena Samoylova  
*elena@pinro.ru*

Knipovich Polar Research Institute of Marine Fisheries and Oceanography (PINRO), Murmansk

## USA

*Ms Mary Colligan <i>mary.a.colligan@noaa.gov</i>	<u>President of NASCO</u> National Marine Fisheries Service, Gloucester, Massachusetts
Mr Stephen Gephard <i>steve.gephard@ct.gov</i>	<u>Representative</u> Department of Energy and Environmental Protection, Inland Fisheries Division, Old Lyme, Connecticut
Mr George Lapointe <i>georgelapointe@gmail.com</i>	<u>Representative</u> Hallowell, Maine
Mr Sebastian Belle <i>futureseas@aol.com</i>	Maine Aquaculture Association, Hallowell, Maine
Ms Kimberly Blankenbeker <i>Kimberly.Blankenbeker@noaa.gov</i>	National Marine Fisheries Service, Silver Spring, Maryland
Ms Nicole Ricci <i>RicciNM@state.gov</i>	US Department of State, Washington
Mr Rory Saunders <i>rory.saunders@noaa.gov</i>	National Marine Fisheries Service, Orono, Maine
Mr Tim Sheehan <i>Tim.Sheehan@noaa.gov</i>	National Marine Fisheries Service, Woods Hole, Massachusetts

## STATES NOT PARTIES TO THE CONVENTION

### **France (in respect of St Pierre and Miquelon)**

Mr Nicolas Fairise <i>Nicolas.fairise@agriculture.gouv.fr</i>	Ministère de l'Écologie, du Développement durable et de l'énergie, Paris, France
--	---

## INTER-GOVERNMENTAL ORGANIZATIONS

Dr Cathal Gallagher <i>cathal.gallagher@fisheriesireland.ie</i>	European Inland Fisheries and Aquaculture Advisory Commission
Ms Anne Christine Brusendorff <i>anne.christine@ices.dk</i>	General Secretary, ICES, Copenhagen, Denmark
Mr Gérald Chaput <i>Gerald.Chaput@dfo-mpo.gc.ca</i>	Chairman, Working Group on North Atlantic Salmon, ICES, Copenhagen, Denmark
Dr Henrik Sparholt <i>henriks@ices.dk</i>	ICES, Copenhagen, Denmark

Ms Elin Mortensen  
*elinm.mfa.fo* North Atlantic Marine Mammal Commission

Mr Marco D'Ambrosio  
*marco.dambrosio@ec.europa.eu* North East Atlantic Fisheries Commission

## **NON-GOVERNMENT ORGANIZATIONS**

**Chairman of NASCO's Accredited NGOs / Institute of Fisheries Management, UK**  
Mr Chris Poupard  
*chris.poupard@btinternet.com*

**Angling Council of Ireland**  
Mr Bob Seward  
*bob.seward@anglingcouncilireland.ie*

**Association Internationale de Défense du Saumon Atlantique, France**  
Dr Frederic Mazeaud  
*fredzoma@gmail.com*

**Atlantic Salmon Federation Canada**  
Mr David Meerburg  
*dmeerburg@asf.ca*  
Ms Sue Scott  
*sscott@asf.ca*

**Atlantic Salmon Trust, UK**  
Mr Anthony Andrews  
*director@atlanticsalmontrust.org*  
Mr Melfort Campbell  
Professor Ken Whelan  
*ken.whelan@hotmail.com*

**Association of Salmon Fishery Boards, UK**  
Mr Andrew Wallace  
*andrew.wallace@fishhall.org.uk*  
Mr Nick Yonge  
*nyonge@rtc.org.uk*

**Conservatoire National du Saumon Sauvage, France**  
Mr Patrick Martin  
*p.martin@cns.fr*

**Coomhola Salmon Trust Ltd, Ireland**  
Mr Mark Boyden  
*streamscapes@eircom.net*

**Federation of Irish Salmon and Sea-Trout Anglers**  
Mr Noel Carr  
*dgl@indigo.ie*  
Mr Paul Lawton  
*paul.lawton@hotmail.com*

**Irish Seal Sanctuary**  
Mr Patrick Peril  
*peril5@eircom.net*

**Institute of Fisheries Management, UK**  
Mr John Gregory  
*john.gregory@ifm.org.uk*

**Norwegian Association of Hunters and Anglers/European Anglers Alliance, Norway**  
Mr Oyvind Fjeldseth *o.f@njff.org*

**Norske Lakseelver**  
Mr Torfinn Evensen *Torfinn@lakseelver.no*

**Salmon and Trout Association, UK**  
Mr Hugh Campbell Adamson *haca@stracathro.com*  
Mr Paul Knight *paul@salmon-trout.org*

**Salmon Net Fishing Association of Scotland**  
Mr William Shearer

**Salmon Watch Ireland, Ireland**  
Mr Niall Greene *niall.b.greene@gmail.com*

**Ulster Angling Federation**  
Mr Jim Haughey *jim\_haughey@yahoo.co.uk*

**World Wide Fund for Nature, France**  
Mr Martin Arnould *marnould@wwf.fr*

**WWF Norway**  
Ms Anne Christine Meaas *acmeaas@wwf.no*

#### **OTHER ACCREDITED OBSERVERS**

Mr Mykhailo Osnach *Consulate of Ukraine, Edinburgh, Scotland, UK*  
Mr Serhii Briukhovetskyi *Consulate of Ukraine, Edinburgh, Scotland, UK*

#### **PERFORMANCE REVIEW PANEL REPRESENTATIVE**

Mr Kjartan Hoydal  
*kjartanhoy@gmail.com*

**SECRETARIAT** *hq@nasco.int*

Dr Malcolm Windsor *Secretary*  
Dr Peter Hutchinson *Assistant Secretary*  
Ms Mairi Ferguson *PA to the Secretary*  
Ms Louise Forero *PA*

#### **Support Staff**

Ms Emma Erwin *Scottish Government, Edinburgh, Scotland, UK*  
Ms Fiona Hepburn *Scottish Government, Edinburgh, Scotland, UK*  
Ms Valerie Lusk *Scottish Government, Edinburgh, Scotland, UK*



CNL(12)41

**Twenty-Ninth Annual Meeting of the Council**

**George Hotel, Edinburgh, Scotland, UK**

**5 - 8 June, 2012**

*Agenda*

- 1. Opening Session**
- 2. Adoption of Agenda**
- 3. Election of Officers**
- 4. Financial and Administrative Issues**
  - 4.1 Report of the Finance and Administration Committee
- 5. Scientific, Technical, Legal and Other Information**
  - 5.1 Secretary's Report
  - 5.2 Report on the Activities of the Organization in 2011
  - 5.3 Announcement of the Tag Return Incentive Scheme Grand Prize
  - 5.4 Scientific Advice from ICES
  - 5.5 Scientific Research Fishing in the Convention Area
  - 5.6 Report on the NASCO/ICES 'Salmon Summit'
  - 5.7 Report of the International Atlantic Salmon Research Board
  - 5.8 Report of the Standing Scientific Committee
- 6. Report of the External Performance Review Panel**
- 7. Progress with the 'Next Steps for NASCO' Process**
  - 7.1 Report of the Working Group on Future Reporting under Implementation Plans and Evaluation of these Reports
  - 7.2 Progress in Implementing a Public Relations Strategy
- 8. Decisions by the Council in the light of the External Performance Review and the Review of the 'Next Steps' process**

- 9. Conservation, Restoration, Enhancement and Rational Management of Atlantic Salmon under the Precautionary Approach**
  - 9.1 Annual Reports on Progress in Implementing NASCO's Agreements
  - 9.2 Liaison with the North Atlantic Salmon Farming Industry
  - 9.3 New or Emerging Opportunities for, or Threats to, Salmon Conservation and Management
  - 9.4 Incorporating Social and Economic Factors in Salmon Management
  - 9.5 Management and Sampling of the St Pierre and Miquelon Salmon Fishery
  - 9.6 Reports on the Conservation Work of the Three Regional Commissions
- 10. Other Business**
- 11. Date and Place of Next Meeting**
- 12. Report of the Meeting**
- 13. Press Release**

## CNL(12)40

*North Atlantic Salmon Conservation Organization  
2013 Budget and 2014 Forecast Budget (Pounds Sterling)*

Section	Description	Expenditure	
		Budget 2013	Forecast 2014
1	Staff-related costs	265,890	351,079
2	Travel and subsistence	143,000	28,000
3	Research and advice	63,630	65,000
4	Contribution to Working Capital Fund	12,000	50,000
5	Meetings	8,000	8,000
6	Office supplies, printing and translation	25,000	25,500
7	Communications	15,000	15,000
8	Headquarters Property	38,500	39,500
9	Office furniture and equipment	6,500	6,500
10	Audit and other expenses	10,100	9,800
11	Tag Return Incentive Scheme	4,700	4,800
12	International Atlantic Salmon Research Fund	0	11,719
13	Contribution to Contractual Obligation Fund	83,000	66,000
14	Contribution to Recruitment Fund	0	15,000
	Total	675,320	695,898

Section	Description	Income	
		Budget 2013	Forecast 2014
15	Contributions - Contracting Parties	616,320	634,898
16	General Fund - Interest	2,000	4,000
17	Income from Headquarters Property	57,000	57,000
18	Surplus or Deficit (-) from 2011	0	0
	Total	675,320	695,898

**Adjustments to 2012 contributions (Pounds Sterling)  
to take into account confirmed 2010 Catch Statistics**

Party	2010 Provisional catch	2010 Confirmed catch	2012 Contribution based on provisional catch	2012 Contribution based on confirmed catch	Adjustment to 2013 contribution
Canada	146	153	71,420	73,717	+2297
Denmark (Faroe Islands and Greenland)	40	38	40,876	40,369	-507
European Union	510	496	176,306	173,179	-3126
Norway	642	642	214,341	215,516	+1175
Russian Federation	88	88	54,707	54,868	+161
USA	0	0	29,350	29,350	0
<b>TOTAL</b>	<b>1,426</b>	<b>1,417</b>	<b>587,000</b>	<b>587,000</b>	<b>0</b>

Note: A positive adjustment represents an underpayment in 2011.

**NASCO Budget Contributions for 2013 and Forecast  
Budget Contributions for 2014 (Pounds Sterling)**

Party	2011 Provisional catch (tonnes)	Contribution for 2013	Adjustment from 2012	Adjusted contribution for 2013	Forecast contribution for 2014
Canada	179	82,368	+2297	84,665	84,851
Denmark (Faroe Islands and Greenland)	28	38,880	-507	38,373	40,052
European Union	512	178,272	-3126	175,146	183,646
Norway	696	231,264	+1175	232,439	238,235
Russian Federation	83	54,720	+161	54,881	56,369
USA	0	30,816	0	30,816	31,745
<b>TOTAL</b>	<b>1,498</b>	<b>616,320</b>	<b>0</b>	<b>616,320</b>	<b>634,898</b>

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

CNL(12)17

*NASCO Staff Fund*

*Rules*

1. **Application**

- 1.1 These Rules apply to the NASCO Staff Fund and govern the operation of the Deferred Salary Scheme established by the decision of the Council, CNL(01)49.

2. **Membership**

- 2.1 Any Secretariat Member may become a Member of the Scheme and may remain so while in employment with NASCO. However, the Council has decided, CNL(04)52, that Members of the Secretariat, as at 11 June 2004, shall retain Secretariat Member status while in receipt of benefits from the Scheme and shall be responsible for and manage their own funds during this time.

3. **Contributions**

- 3.1 Contributions to the Scheme by NASCO and by the Members of the Scheme shall be held in the NASCO Staff Fund, established in accordance with NASCO Financial Rule 6.1, and sub-divided into a separate deferred salary account for each Member.
- 3.2 The Organization will defer 15.8% of the gross salary of each Member of the Scheme to the Fund or such other amount as is determined by the Council from time to time. Each Member of the Scheme shall defer a minimum of 7.9% of gross salary or such other minimum amount as is determined by the Council from time to time. Members of the Scheme may request that additional contributions be deferred from salary and paid into the Fund. Contributions made to the Fund shall be enhanced by 5% by NASCO as a contribution to investment charges.
- 3.3 The tax imposed on the salary of Secretariat Members for the benefit of the Organization shall be calculated on the sum remaining after deduction of their contributions to the Fund.

4. **Management of the Fund**

- 4.1 Contributions retained by NASCO over the deferred period and thereafter may be held on deposit or, should the Member of the Scheme concerned so decide, be otherwise invested.

5. **Benefits**

- 5.1 Each Member of the Scheme shall at all times be fully vested and have entitlement to give notice requesting payment in whole or in part of their individual deferred salary account at any time whilst remaining a Secretariat Member. Such benefits are considered as tax-paid deferred salary payments.
- 5.2 In the event of death of a Member of the Scheme the Secretary shall return the full value of that Member's deferred salary account to that Member's spouse or such other beneficiary as may have been advised by written notice to the Secretary.

**Council**

**CNL(12)8**

***Report of the ICES Advisory Committee***  
*(Section 10.1 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.



## 10 NORTH ATLANTIC SALMON STOCKS

### 10.1 Introduction

#### 10.1.1 Main tasks

At its 2011 Statutory Meeting, ICES resolved (C. Res. 2011/2/ACOM09) that the **Working Group on North Atlantic Salmon** [WGNAS] (chaired by Gérald Chaput, Canada) will meet at ICES HQ, 26 March–4 April 2012 to consider questions posed to ICES by the North Atlantic Salmon Conservation Organization (NASCO).

The sections of the report which provide the responses to the terms of reference are identified below.

a) With respect to Atlantic salmon in the North Atlantic area:	Section 10.1
1. provide an overview of salmon catches and landings, including unreported catches by country, catch and release, and production of farmed and ranched Atlantic salmon in 2011 <sup>1</sup> ;	10.1.5
2. report on significant new or emerging threats to, or opportunities for, salmon conservation and management <sup>2</sup> ;	10.1.6
3. provide a review of examples of successes and failures in wild salmon restoration and rehabilitation and develop a classification of activities which could be recommended under various conditions or threats to the persistence of populations;	10.1.7
4. provide a compilation of tag releases by country in 2011;	10.1.8
5. identify relevant data deficiencies, monitoring needs, and research requirements. Where relevant suggest improvement for the revision of the Data Collection Framework (DCF), to be taken into account by the Workshop on Eel and Salmon DCF (WKESDCF).	10.1.9
b) With respect to Atlantic salmon in the Northeast Atlantic Commission area:	Section 10.2
1) describe the key events of the 2011 fisheries <sup>3</sup> ;	10.2.1
2) review and report on the development of age-specific stock conservation limits;	10.2.1
3) describe the status of the stocks;	10.2
4) provide catch options or alternative management advice for 2012–2015, 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 <sup>4</sup> ;	10.2
5) further develop a risk-based framework for the provision of catch advice for the Faroese salmon fishery, providing a clear indication of the management decisions required for implementation;	10.1.10
6) further develop a framework of indicators that could be used to identify any significant change in the assessments used in previously provided multi-annual management advice;	10.1.11

7 ) provide advice on best practice for conducting monitoring surveys for the parasite <i>Gyrodactylus salaris</i> .	10.1.12
c) With respect to Atlantic salmon in the North American Commission area:	Section 10.3
1 ) describe the key events of the 2011 fisheries (including the fishery at St Pierre and Miquelon) <sup>3</sup> ;	10.3.1
2 ) update age-specific stock conservation limits based on new information as available;	10.3.1
3 ) describe the status of the stocks;	10.3.1
4 ) provide catch options or alternative management advice for 2012–2015 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 <sup>4</sup> .	10.3
d) With respect to Atlantic salmon in the West Greenland Commission area:	Section 10.4
1 ) describe the key events of the 2011 fisheries <sup>3</sup> ;	10.4.1
2 ) Describe the status of the stocks <sup>5</sup> ;	10.4.1
3 ) provide catch options or alternative management advice for 2012–2014 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 <sup>4</sup> ;	10.4
4 ) update the framework of indicators used to identify any significant change in the previously provided multi-annual management advice;	10.1.13
5 ) advise on possible explanations for the variations in fishing patterns (e.g. effort, licenses, and landings) observed in the Greenland fishery in recent years.	10.4.1

Notes:

1. With regard to question a) i, for the estimates of unreported catch the information provided should, where possible, indicate the location of the unreported catch in the following categories: in-river; estuarine; and coastal. Numbers of salmon caught and released in recreational fisheries should be provided.
2. With regard to question a) ii, ICES is requested to include reports on any significant advances in understanding of the biology of Atlantic salmon that is pertinent to NASCO, including information on any new research into the migration and distribution of salmon at sea and the potential implications of climate change for salmon management.
3. In the responses to questions b) i, c) i, and d) i, ICES is asked to provide details of catch, gear, effort, composition, and origin of the catch and rates of exploitation. For home-water 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, on the bycatch of other species in salmon gear, and on the bycatch of salmon in any existing and new fisheries for other species is also requested.
4. In response to questions b) iv, c) iv, and d) iii, provide a detailed explanation and critical examination of any changes to the models used to provide catch advice and report on any developments in relation to incorporating environmental

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variables in these models.

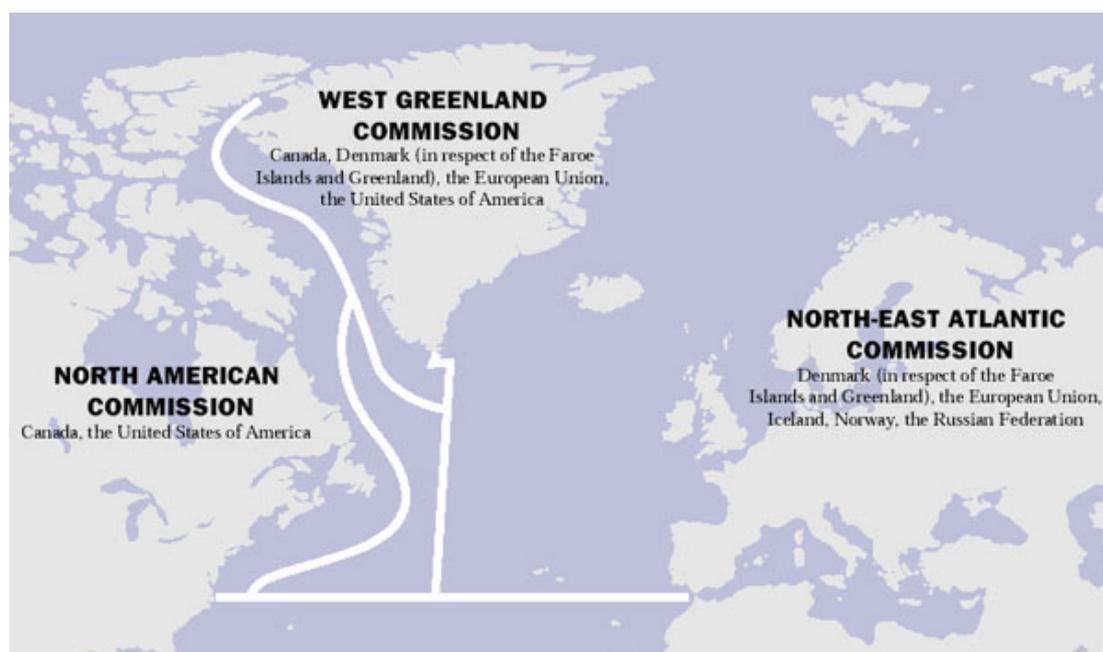
5. In response to question d) ii, ICES is requested to provide a brief summary of the status of North American and Northeast Atlantic salmon stocks. The detailed information on the status of these stocks should be provided in response to questions b) iii and c) iii.
- 

In response to the terms of reference, the Working Group considered 38 Working Documents. A complete list of acronyms and abbreviations used in this report is provided in Annex 1. References cited are given in Annex 2.

### 10.1.2 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 Organization (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. Although sovereign states retain their role in the regulation of salmon fisheries for salmon originating in their own rivers, distant-water salmon fisheries, such as those at Greenland and Faroes, which take salmon originating in 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:**



### 10.1.3 Management objectives

NASCO has identified the primary management objective of that organization as:

“To contribute through consultation and cooperation 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 NASCO’s Standing Committee on the Precautionary Approach interpreted this as being “to maintain both the productive capacity and diversity of salmon stocks” (NASCO, 1998).

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

“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”.

#### **10.1.4 Reference points and application of precaution**

Atlantic salmon has characteristics of short-lived fish stocks; mature abundance is sensitive to annual recruitment because there are only a few age groups in the adult spawning stock. Incoming recruitment is often the main component of the fishable stock. For such fish stocks, the ICES maximum sustainable yield (MSY) approach is aimed at achieving a target escapement (MSY  $B_{\text{escapement}}$ , the amount of biomass left to spawn). No catch should be allowed unless this escapement can be achieved. The escapement level should be set so there is a low risk of future recruitment being impaired, similar to the basis for estimating  $B_{\text{pa}}$  in the precautionary approach. In short-lived stocks, where most of the annual surplus production is from recruitment (not growth), MSY  $B_{\text{escapement}}$  and  $B_{\text{pa}}$  might be expected to be similar and  $B_{\text{pa}}$  is a reasonable initial estimate of MSY  $B_{\text{escapement}}$ .

ICES considers that to be consistent with the MSY and the precautionary approach, fisheries should only take place on salmon from rivers where stocks have been shown to be at full reproductive capacity. Furthermore, due to differences in status of individual stocks within stock complexes, mixed-stock fisheries present particular threats.

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. In many regions of North America, the CLs are calculated as the number of spawners required to fully seed the wetted area of the river. In some regions of Europe, pseudo stock–recruitment observations are used to calculate a hockey-stick relationship, with the inflection point defining the CLs. In the remaining regions, the CLs are calculated as the number of spawners that will achieve long-term average MSY, as derived from the adult-to-adult stock and recruitment relationship (Ricker, 1975; ICES, 1993). NASCO has adopted the region-specific CLs (NASCO, 1998). These CLs are limit reference points ( $S_{\text{lim}}$ ); having populations fall below these limits should be avoided with high probability.

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

Where there are no specific management objectives 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, the following shall apply:

ICES considers that if the lower bound of the 90% confidence interval of the current estimate of spawners is above the CL, then the stock is at full reproductive capacity (equivalent to a probability of at least 95% of meeting the CL).

When the lower bound of the confidence interval is below the CL, but the midpoint is above, then ICES considers the stock to be at risk of suffering reduced reproductive capacity. Finally, when the midpoint is below the CL, ICES considers the stock to suffer reduced reproductive capacity.

Therefore, stocks are regarded by ICES as being at full reproductive capacity only if they are above the MSY  $B_{\text{escapement}}$  (or CLs).

For catch advice on the mixed-stock fishery at West Greenland (catching non-maturing 1SW fish from North America and non-maturing 1SW fish from Southern NEAC), NASCO has adopted a risk level (probability) of 75% of simultaneous attainment of management objectives in seven geographic regions (ICES, 2003) as part of an agreed management plan. NASCO uses the same approach for catch advice for the mixed-stock fishery affecting six geographic regions for the North American stock complex. ICES notes that the choice of a 75% risk (probability) for simultaneous attainment of six or seven stock units is approximately equivalent to a 95% probability of attainment for each individual unit.

### 10.1.5 Catches of North Atlantic salmon

#### 10.1.5.1 Nominal catches of salmon

Figure 10.1.5.1 displays reported total nominal catch of salmon in four North Atlantic regions during 1960–2011. Nominal catches of salmon reported for countries in the North Atlantic for 1960–2011 are given in Table 10.1.5.1. Catch statistics in the North Atlantic include fish farm escapees, and in some Northeast Atlantic countries also ranched fish.

Icelandic catches have traditionally been split into two separate categories, wild and ranched, reflecting the fact that Iceland has been the only North Atlantic country where large-scale ranching has been undertaken with the specific intention of harvesting all returns at the release site. The release of smolts for commercial ranching purposes ceased in Iceland in 1998, but ranching for rod fisheries in two Icelandic rivers continued into 2011 (Table 10.1.5.1). While ranching does occur in some other countries, this is on a much smaller scale. Some of these operations are experimental and at others harvesting does not occur solely at the release site. The ranched component in these countries has therefore been included in the nominal catch.

Reported catches in tonnes for the three NASCO Commission Areas for 2002–2011 are provided below.

AREA	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
NEAC	2490	2300	1974	1989	1832	1392	1535	1161	1422	1424
NAC	150	140	164	142	140	114	151	123	149	182
WGC	9	9	15	15	22	25	26	26	40	28
Total	2649	2449	2153	2146	1994	1531	1712	1310	1611	1634

The provisional total nominal catch for 2011 was 1634 t, just 23 t above the updated catch for 2010 (1611 t). The 2011 catch was only two tonnes above the average of the previous five years (1632 t), and over 400 t below the average of the last 10 years (2053 t).

ICES recognises that mixed-stock fisheries present particular threats to stock status. These fisheries predominantly operate in coastal areas and NASCO specifically requests that the nominal catches in homewater fisheries be partitioned according to whether the catch is taken in coastal, estuarine, or riverine areas. The 2011 nominal catch (in tonnes) was partitioned accordingly and is shown below for the NEAC and NAC Commission Areas. Figure 10.1.5.2 presents these data on a country-by-

country basis. There is considerable variability in the distribution of the catch among individual countries. In most countries the majority of the catch is now taken in freshwater; the coastal catch has declined markedly.

AREA	COAST		ESTUARY		RIVER		TOTAL
	Weight	%	Weight	%	Weight	%	Weight
NEAC	484	34	63	4	878	62	1424
NAC	15	8	53	29	115	63	182

Coastal, estuarine, and riverine catch data aggregated by region are presented in Figure 10.1.5.3. In northern Europe, about half the catch has typically been taken in rivers and half in coastal waters (although there are no coastal fisheries in Iceland and Finland), with estuarine catches representing a negligible component of the catch in this area. There has been a reduction in the proportion of the catch taken in coastal waters over the last five years. In southern Europe, catches in all fishery areas have declined dramatically over the period. While coastal fisheries have historically made up the largest component of the catch, these fisheries have declined the most, reflecting widespread measures to reduce exploitation in a number of countries. In the last four years, the majority of the catch in this area has been taken in freshwater.

In North America, the total catch over the period 2000–2011 has been relatively constant. The majority of the catch in this area has been taken in riverine fisheries; the catch in coastal fisheries has been relatively small in any year (15 t or less), but has increased as a proportion of the total catch over the period.

#### 10.1.5.2 Unreported catches

The total unreported catch in NASCO areas in 2011 was estimated to be 421 t; however, there was no estimate for Russia. The unreported catch in the North East Atlantic Commission Area in 2011 was estimated at 382 t, and that for the West Greenland and North American Commission Areas at 10 t and 29 t, respectively. The following table shows unreported catch by NASCO commission areas in the last 10 years:

AREA	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
NEAC	946	719	575	605	604	465	433	317	357	382
NAC	83	118	101	85	56	-	-	16	15	29
WGC	10	10	10	10	10	10	10	10	10	10

The 2011 unreported catch by country is provided in Table 10.1.5.2. It has not been possible to separate the unreported catch into that taken in coastal, estuarine, and riverine areas. Over recent years efforts have been made to reduce the level of unreported catch in a number of countries (e.g. through improved reporting procedures and the introduction of carcass tagging and logbook schemes).

#### 10.1.5.3 Catch-and-release

The practice of catch-and-release (C&R) in rod fisheries has become increasingly common as a salmon management/conservation measure in light of the widespread decline in salmon abundance in the North Atlantic. In some areas of Canada and USA, C&R has been practiced since 1984, and in more recent years it has also been widely used in many European countries, both as a result of statutory regulation and through voluntary practice.

The nominal catches do not include salmon that have been caught and released. Table 10.1.5.3 presents C&R information from 1991 to 2011 for countries that have records; C&R may also be

practised in other countries while not being formally recorded. There are large differences in the percentage of the total rod catch that is released: in 2011 this ranged from 12% in Norway (this is a minimum figure, as statistics were collected on a voluntary basis) to 73% in UK (Scotland), reflecting varying management practices and angler attitudes among countries. Catch-and-release rates have typically been highest in Russia (average of 84% in the five years 2004 to 2008) and are believed to have remained at this level. However, there were no obligations to report C&R fish in Russia in 2009 and records for 2010 and 2011 are incomplete. Within countries, the percentage of fish released has tended to increase over time. There is also evidence from some countries that larger MSW fish are released in higher proportions than smaller fish. Overall, over 206 000 salmon were reported to have been released around the North Atlantic in 2011.

#### **10.1.5.4 Farming and sea ranching of Atlantic salmon**

The provisional estimate of farmed Atlantic salmon production in the North Atlantic area for 2011 is 1273 kt, the third year in which production in this area has been in excess of one million tonnes. The 2011 total represents an 8% increase on 2010 and a 26% increase on the previous five-year mean. Norway and UK (Scotland) continue to produce the majority of the farmed salmon in the North Atlantic (78% and 12%, respectively). Farmed salmon production in 2011 was below the previous five-year average in Canada, Ireland, and Iceland. The production of farmed salmon in Russia has increased dramatically over last two years.

World-wide production of farmed Atlantic salmon has been in excess of one million tonnes since 2002. It is difficult to source reliable production figures for all countries outside the North Atlantic area and it has been necessary to use 2010 estimates for some countries in deriving a world-wide estimate for 2011. Noting this caveat, total production in 2011 is provisionally estimated at around 1604 kt (Figure 10.1.5.4), a 17% increase on 2010, recovering after the small decrease in production first noted in 2009 and reflecting an increase in production outside the North Atlantic. Production in this area is estimated to have accounted for 20% of the total in 2011 (up from 14% in 2010). Production outside the North Atlantic is still dominated by Chile.

The world-wide production of farmed Atlantic salmon in 2011 was over 980 times the reported nominal catch of Atlantic salmon in the North Atlantic.

The total harvest of ranched Atlantic salmon in countries bordering the North Atlantic in 2011 was 33 t, the majority of which (30 t) was taken by the Icelandic ranched rod fisheries (Figure 10.1.5.5). Small catches of ranched fish from experimental projects were also recorded in Ireland.

#### **10.1.6 NASCO has asked ICES to report on significant, new, or emerging threats to, or opportunities for, salmon conservation and management.**

##### **10.1.6.1 Update on SALSEA**

The SALSEA–Merge programme was designed to advance the understanding of oceanic-scale, ecological, and ecosystem processes. Through a partnership of nine European nations, the programme has provided new information on genetic stock identification techniques, new genetic marker development, fine-scale estimates of marine growth on a weekly and monthly basis, the use of novel high seas pelagic trawling technology, and estimates of food and feeding patterns. In addition it has provided fine-scale migration and distribution models, merging hydrographic, oceanographic, genetic, and ecological data.

Research cruises to designated areas in the Northeast Atlantic took place in 2008 and 2009. In total, 1728 post-smolts and 53 adult salmon were captured in 233 trawl tows. The tissues from these fish and associated environmental data collected at sea were combined with a subset of 1800 tissue

samples selected from archival material. A unique, comprehensive biological and environmental database (SALSEA PGNAPES) was developed to facilitate any future analyses.

The SALSEA–Merge programme facilitated the development of a unique molecular assignment protocol – GRAASP: **G**enetically-based **R**egional **A**ssignment of Atlantic **S**almon **P**rotocol – based on a suite of 14 microsatellite loci. The baseline database comprised 26 813 individuals from 467 locations, in 284 rivers, representing about 85% of non-Baltic European salmon production. A total of 3871 of the 4151 marine samples were assigned on a regional basis. Significant temporal and spatial heterogeneity in the distribution of the regional stock groups was found and fish of farm-origin identified, demonstrating the value and power of the tool.

Over 23 000 scales of Atlantic salmon from seven rivers, located in six countries, and smolt age and fine-scale growth of 2242 sea-caught post-smolts were analysed. The average rate of circuli formation in the marine zone of scales was estimated to be 6.3 days per circulus. Both the age structure and the number of marine circuli in the scales obtained during the post-smolt surveys suggest that the majority of the post-smolts originated in rivers in southern Europe. Marine growth rates varied among years, with highest growth rates in 2002, followed by 2003 and 2009. The lowest growth rates were in 2008. Growth rates during the first period at sea were lowest for salmon of southernmost origin. Historical growth indices from archival scale sets from Ireland, Norway, Finland, and Iceland were linked to prevailing environmental and biological conditions. There was evidence that growth is linked to oceanic conditions for all rivers and to recruitment for Irish and possibly Icelandic rivers. The diet of salmon, herring, and mackerel was studied for four years (2002, 2003, 2008, and 2009). Although the fish examined fed in close proximity in the ocean, the diet differed among the three species. Salmon showed differences in diet among years from 2002–2009. The condition factor of salmon decreased from 2002 to 2009.

While assignment to river of origin was possible for some stocks, the marine samples were assigned to 17 sub-regions of origin to provide an overview of the distribution and migrations of salmon at sea. This enabled the oceanic distribution of salmon at sea to be mapped, providing unique insights into likely migration routes, timing, and dispersal of salmon from different regions. Likely migration routes based entirely on genetic identification were assembled for two individual river stocks, the Loire Allier (France) and the Bann River, UK (N. Ireland). The distribution of post-smolts was linked to ocean currents. South of 61.5°N, the post-smolts are not randomly distributed within the migration path, but are located in areas where the currents are stronger than average. A migration drift model for specific stocks of post-smolts was developed. When temperature and salinity preferences were included with active swimming behavior, this proved to be an important mechanism for altering the migration routes and the post-smolt distribution pattern. Also, interannual variation in wind fields, and thus the surface currents, also altered the migration pathways. Several key areas in the migration routes, where shifts in the migration direction may occur due to climate change, were also identified. A conceptual ecological model was developed, where the main factors relating to the survival of salmon at sea were identified and described. A full report of the SALSEA–Merge programme is available on the NASCO web page ([www.NASCO.int](http://www.NASCO.int)).

More recently, results of the pelagic ecosystem surveys conducted in the Labrador Sea during 2008 and 2009 as part of SALSEA North America were reported (Sheehan *et al.*, In press). A total of 107 Atlantic salmon were captured using a pelagic surface trawl and multi-panel surface gillnets. New information on the fish and macro-invertebrate communities located in the upper 10 m of the water column was obtained. Multiple smolt cohorts were captured, indicating that post-smolts and returning adults from different rivers in North America occupy similar habitat. The data collected have improved the knowledge of the ecology of Atlantic salmon in the Labrador Sea and are a valuable addition to the historical datasets.

### 10.1.6.2 Atlantic salmon genetics

SALSEA–Merge, and other current and previous projects, have contributed to the establishment of a comprehensive genetic baseline for salmon populations in northern Europe. Work continues to develop this baseline for the salmon populations of northernmost Europe into a practical and useful tool for the management of mixed-stock coastal fisheries in Norway and Russia. In 2011 a new EU project “Trilateral co-operation on our common resource; the Atlantic salmon in the Barents region” (Kolarctic Salmon) was started.

Building on the SALSEA initiative to develop a compatible genetic database over the entire salmon distribution area, a North American project supported by the Natural Sciences and Engineering Research Council of Canada (NSERC) has started. A Canadian genetic database is being constructed by expanding the river coverage for each province and standardizing genetic data from rivers already sampled. Standardization is done using a reference group of individuals analyzed by all genetic laboratories and by using the same set of microsatellite loci. Combining, calibrating, and integrating databases of all Canadian provinces and USA Atlantic salmon populations will provide a valuable tool for identifying the North American origin of salmon from the Greenland, the Labrador, and the Saint-Pierre et Miquelon fisheries.

### 10.1.6.3 Recent studies on marine ecology of US origin Atlantic salmon

Ultrasonic telemetry, marine trawl surveys, and modelling of environmental variables and salmon marine survival have been used to develop a better understanding of salmon’s role in the marine ecosystem and the causal mechanisms of marine survival while looking for opportunities for management intervention. Acoustic tracking studies of smolts migrating on the Narraguagus River, Maine were used to estimate smolt survival to the Gulf of Maine, map migration paths, and document emigration timing for this population. Survival trajectories show higher losses in the estuary and inner bay areas and lower losses in the middle and outer bay areas (Kocik *et al.*, 2009). A Surface Trawl Survey (2001–2005) in Penobscot Bay, Maine and the nearshore Gulf of Maine waters was conducted to investigate early marine dynamics of a hatchery-dependent Atlantic salmon population. There were significant differences in the early migration success of different stocking groups, but subsequent marine survival was independent of stocking group. Migration pathways were identified and marine migration paths across the Gulf of Maine were hypothesized. The co-occurring species complex was described and any benefits of a predator refuge is considered minimal for emigrating post-smolts, given a mismatch in the size overlap among species and low abundance of other co-occurring diadromous populations (Sheehan *et al.*, 2011). Diet analyses yielded insights into the feeding ecology of early marine phase post-smolts from different rearing origins (Renkawitz and Sheehan, 2011). More than 50% of the diet was fish, although there were significant differences in diet quality (calories) and quantity (weight/volume) between different origin groups. Post-smolts that lived in the river longer (i.e., from naturally reared and parr-stocked origins) were smaller and consumed more fish than invertebrates compared to larger post-smolts that originated from smolt stocking programmes (Figure 10.1.6.1). To confirm that the pelagic surface trawl was targeting the migratory habitat of post-smolts, Renkawitz *et al.* (In press) implanted ultrasonic depth tags into hatchery-reared smolts from the Penobscot River. Greater than 95% of all detections of the releases smolts occurred in water depths of 5 m or less, thereby validating the assumption that post-smolts would be available to the surface trawl gear. Information on emigration speed and dynamics, migration path, and survival were also generated. Rapid emigration (i.e., approximately 1 km h<sup>-1</sup>) and preferential surface orientation improved survival. Overall survival to the Gulf of Maine was 39% and was highest for smaller fish and those released earlier in the smolt run when river discharge was greater. These data provide valuable insights into the dynamics of the nearshore marine migration for post-smolts. Detailed emigration and behavioural data such as these allow scientists and managers to delineate areas of high mortality and to develop strategies to improve survival while providing marine spatial planners with information to minimize impacts of coastal zone development.

Friedland *et al.* (2012) further investigated hypotheses of the inter-related nature of potential climate and biological effects due to changes in spring wind pseudostress and the distribution of piscivorous predator fields on post-smolt salmon migrating through the Gulf of Maine. They concluded that there has been a concurrent decline in marine survival for Penobscot River 2SW returns with change in the direction of spring winds, which has likely extended the migration of post-smolts into the western Gulf of Maine. Higher spring sea surface temperatures were also associated with shifting distributions of a range of fish species into the salmon migration corridor, some of which likely predate upon salmon post-smolts. Climate variation and shifting predator distributions in the Gulf of Maine are consistent with the predator hypothesis of recruitment control previously suggested for the stock complex.

#### **10.1.6.4 Recent results from acoustic tracking investigations in Canada**

The Atlantic Salmon Federation (ASF) has continued to assess estuarine and coastal survival of tagged Atlantic salmon released in rivers of the Gulf of St. Lawrence. Inferred survival for smolts in 2011 from freshwater release points to the head of tide (80–90%), and from the head of tide to estuary exits (40–60%), were similar to those that have been observed in previous years. The proportion of fish detected migrating across the Gulf of St. Lawrence to the Strait of Belle Isle was similar (25–45%) to 2010 for each of the rivers. Smolt travel rates across the Gulf of St. Lawrence ranged from 15 to 24 km per day (1.2–1.9 body lengths per second). There was a partial detector array functioning in the Cabot Strait (37 km northward from Cape Breton Island) exit of the Gulf of St. Lawrence in 2011, but no tagged smolts were detected.

Tagged kelts arrived at the Strait of Belle Isle slightly in advance of smolts, but there was again an overlap in 2011 of smolt and kelt movements past the array in late June through early July. One Riviere St Jean kelt, tagged as an upstream migrating 2SW maiden adult in June 2010 was detected at the Strait of Belle Isle array on 9 July 2011 and was subsequently captured 74 days later in the fishery at Nuuk, Greenland on 22 September 2011. Of the 50 Miramichi River kelts tagged in 2011, six returned to the river as consecutive year spawners between 9 and 26 July, fifteen passed the Strait of Belle Isle array between 25 June and 23 July, and at least one exited through Cabot Strait. From these studies over the past few years, high (greater than 90%) kelt survival through the estuary has been noted with most mortality of the kelts likely occurring within the Gulf of St. Lawrence. Kelts that are destined to return to the river as consecutive repeat spawners are spending about 55 days at sea while those destined to be alternate year repeat spawners are spending about 400 days at sea. Travel rates for these tagged kelts have ranged from 10 to 69 km per day. Overwinter survival of kelts has been demonstrated to be high with 69% (N=11) of kelts tracked into the river as consecutive year spawners surviving fisheries, spawning, the overwinter period, and successfully migrating to sea the following spring.

#### **10.1.6.5 Changing biological characteristics**

Trends in various biological characteristics of salmon were previously reported in the ICES SGBICEPS (ICES, 2010), such as decreasing mean fork lengths in returning adult 1SW fish in the River Bush in UK (N. Ireland) since 1973. The same trend has been observed for 1SW returning adults on the River Bann in UK (N. Ireland), but the mean fork length of 2SW fish showed only a very small, but not significant, decrease. Also notable was the increase in numbers of 2SW returns to the River Bush in UK (N. Ireland) and the increase in the relative proportion of 2SW vs. 1SW since 2003. A similar change in 1SW:MSW ratios was found in the Norwegian stocks; from the 2006 smolt cohort onwards the estimates for the proportion returning as 1SW decreased from about 50% to about 30% and has remained at this lower level. Estimates for 2SW and 3SW returning adults for the same period have shown an opposite shift.

Data from Ireland, however, did not mirror the trends in increased numbers of MSW observed in Norway and UK (N. Ireland). Spring runs of salmon, which contain a high proportion of MSW fish did not show any clear trend in the percentage of the spring run relative to the total run. Data on three of 17 individual rivers showed a relative increase in spring run numbers, but the majority showed no trend at all. The above observations could indicate a shift in life history strategy from 1SW to MSW in some Northern NEAC and Southern NEAC stocks, possibly due to poor growth in the first season at sea.

#### **10.1.6.6 Change in run timing and body wounds on the Miramichi River salmon**

The run timing of Atlantic salmon to the Miramichi River (Canada) was previously characterized as bimodal, with the first mode occurring in the summer (prior to 31 August) and the second in the fall (after 31 August). Early and late runs of salmon to the Miramichi River were obvious from monitoring trapnets in the estuary in the early and mid-1990s, but it appears to have changed over time to a dominant summer mode (Figure 10.1.6.2). The reduced late run of salmon to the Miramichi River is not believed to be related to the loss of a distinct fall run of fish but rather to a shift in behaviour where they enter the river during the summer and no longer stay in Miramichi Bay until autumn. The reason for the change in behaviour is unknown but may lead to increased mortality from exposure to higher in-river water temperatures and longer exposure to angling exploitation.

Large and small salmon with significant wounds have been observed at the DFO index trapnets on both the Northwest and Southwest Miramichi rivers since 2009. Nearly 100% of the observations occurred during the months of June and July. The wounds are specific to salmon and none of the other 10+ species captured at these facilities show any signs of trauma. Many of the wounds are severe lacerations which expose the fishes' flesh or body cavity. Similar wounds on salmon, attributed to predators, have been reported from other locations in the North Atlantic, particularly UK (Scotland) (Thompson and Mackay, 1999).

#### **10.1.6.7 ECOKNOWS progress**

The EU 7th framework project called 'ECOKNOWS' (years 2010–2014) is a consortium with the objective to develop models and algorithms that make use of all types of relevant biological knowledge in fisheries science. The project is structured in a Bayesian environment which provides a sound framework for including information from multiple sources. The generic assessment tools are being applied to case study stocks/fisheries, one of which is the Atlantic salmon assessment and forecast models presently used in the Baltic and North Atlantic area. A life cycle approach, following cohorts through river parr and smolt classes, sea ages, and returns has been proposed as a means of providing a more appropriate structure for treating these modelling and management issues.

The proposed assessment models will be embedded into a full stage-structured life cycle model that incorporates the temporal dynamics of the recruitment process, including freshwater and marine survival (Figure 10.1.6.3). For the North Atlantic, the model will be designed at the scale of the three stock complexes (southern Northeast Atlantic, northern Northeast Atlantic, North America) to capture the complex meta-population structure stemming from homing behaviour for reproduction in freshwater. The multiscale approach will allow the exploration of long-term trends and climate influences on key population parameters shared by several population components, such as marine survival, together with time and spatial variability of region-specific life history traits such as the ones characterizing the freshwater phase of the life cycle. A major scientific challenge is to quantify the relative part of the mortality process that takes place in and during the freshwater and marine portions of the life cycle. The ECOKNOWS project will compile available freshwater stock-recruit data and carry out a meta-analysis, the outcome of which could then be used as informative prior information about the freshwater phase. A crucial factor driving the salmon stock status is the

marine survival of post-smolts. In both the Baltic and North Atlantic, there is precise, well-documented information on return rates of smolts to adults for a limited number of rivers. The time-series have demonstrated the important changes in marine survival. The use of abiotic (e.g. sea surface temperature) and biotic (e.g. abundance of predator and preys) environmental covariates potentially driving spatiotemporal patterns in survival will also be given special consideration. The work in the salmon case study is being carried out in close collaboration with the ICES WGNAS and WGBAST and one of the commitments of ECOKNOWS is to report regularly to ICES WGNAS and WGBAST on progress in model development and their application.

#### **10.1.6.8 Update on Workshop on Age Determination of Salmon (WKADS)**

A Workshop on Age Determination of Salmon (WKADS) was held in Galway, Ireland (18–20 January 2011) with the objectives of reviewing, assessing, documenting, and making recommendations on current methods of ageing Atlantic salmon. The Workshop had primarily focused on digital scale reading to measure age and growth, with a view to standardization.

A second Workshop is planned for September 2012 to address issues regarding protocols, inter-laboratory calibration, and quality control as they relate to the interpretation of age and calculation of growth and other features from scales.

#### **10.1.6.9 Red vent syndrome and other parasites**

The condition known as red vent syndrome (RVS; characterized by swollen and/or bleeding vents), noted in Atlantic salmon since 2005, has been linked to the presence of a nematode worm, *Anisakis simplex* (Beck *et al.*, 2008). Trapping records for rivers in UK (England & Wales) and France suggest a further reduction in 2011 and the incidence was much lower in 2011 compared to the previous three to four years in Ireland. Within the NAC stock complex, RVS has previously been detected in the Scotia–Fundy (2008 and 2009) and Quebec regions. In 2009 a monitoring programme was begun in Quebec and results will be available in 2012.

There is no clear indication that RVS affects either the survival of the fish or their spawning success. Affected fish have been taken for use as broodstock in a number of countries, successfully stripped of their eggs, and these have developed normally in hatcheries. Recent results have also demonstrated that affected vents showed signs of progressive healing in freshwater, suggesting that the time when a fish is examined for RVS, relative to its period of in-river residence, is likely to influence perceptions about the prevalence of the condition.

In 2011 *Paragnathia formica*, an estuarine crustacean isopod, was detected on 5% of salmon caught at the trap facility located near the upper limit of the estuary of the Scorff River (France). It is not clear whether this is a new infestation or one that has simply gone undetected until now. Symptoms include inflammation in the vent area and on the fins and may be mistaken for sea lice bites or red vent syndrome. Monitoring is ongoing.

#### **10.1.6.10 Dumping of mine tailings in Norwegian fjords**

It was reported that there are plans for expansion of existing mining activities in many regions in Norway. Several of the existing and planned mining activities are located within National Salmon Fjords and close to National Salmon Rivers. The National Salmon Fjords and National Salmon Rivers were established as a means of protecting the most important salmon stocks in Norway from harmful impact from human activities. Mining, and the industrial processes associated with it, can be harmful for salmonids in several ways. Runoff from mines containing sulfides and heavy metals to rivers and streams may affect freshwater production and survival, and dumping of mine tailings in fjords may have negative impacts on smolt survival, and the fjord ecosystems in general. The increased development of the mining industry in Norway, and especially in the National Salmon Fjord areas, poses a potential serious threat to salmon populations, and further evaluation of the

effects of mining waste disposal on both salmon and the ecosystem in the fjords should be conducted.

#### **10.1.6.11 River classification in fisheries management**

In 1999, a three-year Atlantic salmon management plan in Newfoundland and Labrador incorporated a river classification system. The river classification system defined different season bag limits for individual licences based on four categories of river status. Rivers were assigned to a category and the corresponding season retention limits were based on the size of the river and its assessed status relative to conservation objectives. In 2011 the river classification system was assessed to determine whether there were measurable changes in the catch and effort in the recreational fishery as a result of this management structure. The analyses showed that during the first eleven years (1999–2009) of the plan there was an overall decrease in the total number of small salmon harvested (about 6000 fewer salmon per year). However, the analyses also showed that all of the reductions in harvest occurred on rivers with the lowest allowable retention (Class II and III rivers; 4 and 2 fish per year). On rivers that allowed an annual retention of 6 fish (Class I rivers), the total harvest increased by approximately 2100 fish per year after the implementation of the plan. Effort and catch shifted from the lowest class rivers (Class II and III) to the highest class rivers (Class I), as was intended by the plan.

#### **10.1.6.12 Environmental thresholds for managing Atlantic salmon fisheries**

A recent science review in Canada considered defining environmental thresholds related to water temperature for the management of Atlantic salmon fisheries. Climate change projections for Atlantic Canada are for increases in air temperatures of 2–6°C within the next 100 years. These higher air temperatures will lead to increased water temperatures, alterations in stream flow, threats to Atlantic salmon in rivers, and pressures on resource users. In several rivers of the southern Gulf of St. Lawrence (Canada), water temperatures during June to August can frequently exceed 25°C. The high temperatures are particularly important for the early-run adult Atlantic salmon. To date, the criteria used for management intervention resulting in a closure of the recreational fishery have been *ad hoc* and not pre-defined, which has resulted in delays in management response and reduced benefits to the resource.

The temperature thresholds proposed to trigger an angling closure are based on the bioenergetics of salmonids and consist of a temperature and a duration. The proposed closure trigger is: if the minimum water temperature ( $T_{\min}$ ) over each of two consecutive days equals or exceeds 20°C. The proposed opening trigger is: if the minimum water temperature ( $T_{\min}$ ) over each of two consecutive days is less than 20°C. The choice of two days as an indication of a physiologically stressful condition for Atlantic salmon is motivated by the studies on behavioural changes in juvenile Atlantic salmon. Dedicated research to determine if 20°C is a good choice for adult Atlantic salmon is required.

The performance of these opening and closing triggers was assessed by retrospective evaluation of the number of closures and the duration of the closures based on temperature data at two monitoring locations in the Miramichi River for the years 1992 to 2011. The number of closures which have been initiated annually ranged from one to five and the total number of days closed ranged from a low of 2 days to a high of 23 days. Criteria such as the number of interventions and the duration within and between interventions could be examined retrospectively to inform management if frequency of closures and duration are factors of interest.

The impacts of angling during warm water events were considered by management because fishing is an activity which can be managed under regulations. Salmon are angled during warm water temperature events and the mortality rate from catch and release angling increases sharply at temperatures above 20°C. Other human activities, including wading in streams, swimming in pools,

boat traffic, as well as scientific activities, can displace fish and contribute to stress on Atlantic salmon during warm water events.

**10.1.7 NASCO has asked ICES to provide a review of examples of successes and failures in wild salmon restoration and rehabilitation and develop a classification of activities which could be recommended under various conditions or threats to the persistence of populations**

The Study Group on Effectiveness of Recovery Actions for Atlantic Salmon [SGERAAS] has not yet been able to address the question. The issue of the restoration and rehabilitation of salmon stocks remains a concern. Progress on this issue is anticipated in the coming year.

**10.1.8 NASCO has asked ICES to provide a compilation of tag re-releases by country in 2011**

Data on releases of tagged, fin-clipped, and otherwise marked salmon in 2011 were provided by ICES and are compiled as a separate report (ICES, 2012b). A summary of tag releases is provided in Table 10.1.8.1.

**10.1.9 NASCO has requested ICES to identify relevant data deficiencies, monitoring needs, and research requirements**

ICES discussed the data that are currently requested by NASCO as well as those required for the NEAC PFA run-reconstruction and forecast models and the NEAC national conservation limit model. It was recognised that while most Member States provided data to ICES, there was considerable variation in the quality. Significant amounts of additional data (e.g. from index stocks) are also provided to ICES, but it is not clear that the best use is made of this information. It was noted that index river data are used in the Baltic salmon assessment, and that the collection of these data is covered by the Data Collection Framework (DCF). It was suggested that the structure of the salmon data collection in the Baltic under the DCF might provide a good basis for the data collection in other areas. The DCF is due to be reviewed in 2013. To provide advice for that process, an ICES workshop (WKESDCF) will be convened in Copenhagen 3–6 July 2012 to examine the data requirements for salmon (and eel). ICES encouraged scientists from Member States to attend the workshop to ensure that they contribute to and fully support the recommendations that will go forward to the EU.

ICES recommends that the Working Group on North Atlantic Salmon (WGNAS) should meet in 2013 to address questions posed by ICES, including those posed by NASCO. The Working Group intends to convene in the headquarters of the ICES in Copenhagen, Denmark from 4 to 13 April 2013.

**List of recommendations**

- 1) ICES recommends that further work be undertaken to address the issues raised by the Workshop on Age Determination of Salmon regarding protocols, inter-laboratory calibration, and quality control as they relate to the interpretation of age and calculation of growth and other features from scales. A second Workshop has been convened for September 2012 to undertake this work (Section 10.1.6.8).
- 2) ICES recommends that efforts to convene a Study Group be re-initiated in order to address the question from NASCO for examples of successes and failures in wild salmon restoration and rehabilitation and to develop a classification of activities which could be recommended under various conditions or threats to the persistence of populations (Section 10.1.7).
- 3) ICES welcomed the opportunistic assessment of the incidence of salmon bycatch in pelagic mackerel fisheries at Iceland and Faroes in 2010 and 2011. The sampling effort

provided new information on the temporal and spatial distribution of salmon in this area, as well as the biology of the fish. ICES recommends that similar sampling should continue in order to provide further information on the bycatch of salmon in pelagic fisheries in these areas (Section 10.2).

- 4) ICES recommends that further work be undertaken to check the appropriateness of the various data inputs used in the catch advice framework for the Faroese fishery, including seeking original datasets from the sampling programmes of the fishery in the historical time period (Section 10.1.10).
- 5) ICES recommends that further work be undertaken to permit the running of the risk framework based on management units defined at the country level, to improve the allocation of the Faroes catch to national management units and to seek additional data to improve the quality of the assessment (Section 10.1.10).
- 6) ICES recommends that sampling of the Labrador subsistence fisheries and Saint-Pierre et Miquelon mixed-stock fisheries be continued and expanded (i.e. sample size, geographic coverage, tissue samples, seasonal distribution of the samples) in future years. The sampling programme conducted in 2010 and 2011 in Labrador and Saint-Pierre et Miquelon provided data on biological characteristics of the harvest and this information is useful for updating parameters used in the Run-reconstruction Model for North America. The sampling also provided material (tissue samples from scales) to assess the origin of salmon in these fisheries (Section 10.3.1).
- 7) ICES welcomed the efforts to sample the catches at Saint-Pierre et Miquelon and Labrador for genetic stock identification and recommend that sampling be continued in the future. However, ICES identified a number of issues with the sampling programme that, if corrected, would greatly increase the value of the data (Section 4.1.5 in ICES, 2012a).
- 8) ICES recommends that additional data from the recreational fisheries be examined to better estimate salmon returns and stock status in Labrador (Section 10.3).
- 9) ICES supports the efforts of the Greenlandic authorities for the expansion of the logbook reporting system as a condition of the licensing system for the salmon fishery at West Greenland (Section 10.4.1).
- 10) ICES recommends a continuation and expansion of the broad geographic sampling programme (multiple NAFO divisions) to more accurately estimate continent of origin and biological characteristics of the salmon in the West Greenland mixed-stock fishery. ICES recommends that arrangements be made to enable sampling in Nuuk, as an important proportion of the catch is landed in this community on an annual basis (Section 5.1.3 in ICES, 2012a).
- 11) In support of the management objective from NASCO to ensure that individual river stocks meet their conservation limits, ICES recommends that additional monitoring data or analyses of existing monitoring data (catches, juvenile surveys, short-term count data), be considered to augment the river-specific data used to develop the stock status and to improve management advice in both NAC and NEAC areas.

#### **10.1.10 NASCO has asked ICES to further develop a risk-based framework for the provision of catch advice for the Faroese salmon fishery, providing a clear indication of the management decisions required for implementation**

ICES (2011) provided a detailed example of a risk-based framework for the provision of catch advice for the Faroese salmon fishery. ICES noted that management decisions were required on the following issues which were discussed in detail in the advice to NASCO:

- season (January to December, or October to May) for which a TAC should apply;
- choice of management units for NEAC stocks;
- specification of management objectives; and

- a share arrangement for the Faroes fishery.

A proposal for the share arrangement was provided by NASCO, but little feedback was provided on the other three points. A decision by managers is still required on the four issues outlined above. In the absence of decisions from NASCO, a risk analysis framework is presented which closely mirrors the system used for the provision of advice to NASCO for the West Greenland salmon fishery. Pragmatic choices were made in relation to the unresolved decisions, as follows:

- ICES (2011) recommended that NASCO manage any fishery at Faroes on the basis of fishing seasons operating from October to June. This approach has been assumed in the catch advice provided.
- ICES (2011) provided advice on the factors affecting the selection of management units. The availability of information on the composition of the catch at Faroes and limitations in model development constrained the choice of management units in this risk analysis to the four NEAC age and stock complexes used previously.
- ICES (2011) suggested that it would be appropriate to use the same management approach as for the West Greenland catch advice. The objective would therefore be that there should be an agreed probability of all management units simultaneously exceeding their CLs. ICES notes that the choice of a 75% risk level (probability) for simultaneous attainment of six or seven stock units for West Greenland and NAC is approximately equivalent to a 95% probability of attainment for each individual unit. Because of the smaller number of management units currently used for the Faroes, and in the case of future use of a larger number of management units (e.g. countries), ICES recommends that the objective for the Faroes salmon fishery be that each individual management unit be assessed relative to a 95% probability of meeting the individual unit CL rather than according to a simultaneous risk criterion. The risk analysis of catch options can nevertheless be calculated to show the probabilities of meeting or exceeding the CLs in each of the management units and meeting them simultaneously.
- NASCO proposed using the baseline period of 1984–1988 to calculate the share allocation. This value (8.4%) was applied.

The process for assessing each catch option within the risk framework, as described by ICES (2011), was applied. Work is underway to apply genetic stock identification to the scale samples collected from the Faroes fishery in the 1980s and 1990s, but this work is yet to be completed. Pending these efforts, recoveries in home waters of adults tagged in the Faroes fishery between 1991 and 1993 were examined (Hansen and Jacobsen, 2003). These data set were considered to provide the best estimate of the allocation of the Faroes catch between the Northern and Southern NEAC stock complexes. The division of the catch at the national level is considered less reliable because of the relatively small numbers of tag recoveries (approximately 100 recoveries). It was proposed that the proportions of the Faroese catch originating from the Northern and Southern NEAC stock complexes could be estimated for the years 1991–1993 (when the adult tagging programmes were undertaken) on the basis of the tag recoveries by sea age. These proportions could then be further divided to countries/regions within each stock complex on the basis of the proportion of the total PFA for the complex originating from the countries/regions. This would also allow the proportions to be adjusted according to the annual variations in PFA. The revised catch allocation for the Faroese fishery at the country scale is provided in Table 10.1.10.1 and these have been used in the PFA run-reconstruction, the Bayesian forecast model, and the risk framework for evaluation of catch options.

### **10.1.11 NASCO has asked ICES to further develop a framework of indicators that could be used to identify any significant change in previously provided multi-annual management advice in the NEAC area**

ICES (2011) re-evaluated the approach for developing a framework of indicators (FWI) for the Faroese fishery. Since the PFA estimates for the NEAC stock complexes have predominately remained above the SER over the time-series, it was suggested that the status of stocks in the NEAC area should be re-evaluated if the FWI signals that the PFA estimates are deviating substantially from the median values from the forecast.

Several criteria for assessing when the PFA deviates substantially from the forecast were explored. In 2011 ICES suggested using the 95% confidence interval for the mean of the predicted indicator value, based on the median PFA forecast value, to determine if there was a substantial deviation from the PFA forecast (Figure 10.1.11.1, upper panel). In 2012 it was proposed that the 75% predictive interval for the indicator itself (not for its mean) be used (Figure 10.1.11.1, lower panel). This generally results in a wider interval for the indicator and, thus, a lower chance of a reassessment than the approach suggested in 2011. However, this was considered to be a more realistic criterion given the relatively wide variability in the indicator data sets.

If the FWI suggests that the forecasted PFA is either an under-estimation or an over-estimation of the realised PFA in any of the four stock complexes, then this should trigger a reassessment. Because of the relative scarcity of potential indicators when the stocks are divided into alternative, smaller management units, ICES recommends that the values of each indicator be regressed against the PFA of the stock complex to which the indicator belongs. For example, an MSW indicator from Norway should be regressed against MSW PFA for Northern NEAC.

A data set is considered informative and should be kept as an indicator in the FWI if the following conditions are met: sample size ( $N \geq 10$ );  $R^2 \geq 0.2$ ; data set updated annually and new value available by January 15. Fifty possible indicator datasets were examined and 27 fulfilled the criteria for inclusion in the FWI (five for Northern NEAC 1SW PFA, four for Northern NEAC MSW PFA, five for Southern NEAC 1SW PFA and 13 for Southern NEAC MSW PFA) (Tables 10.1.11.1 and 10.1.11.2). The FWI spreadsheet was developed and it provides an automatic evaluation of the need for a reassessment once the new indicator values are available in January (Table 10.1.11.3).

ICES demonstrated the performance of the FWI by applying it as if it had been in place in January 2012. Thus, the FWI was applied using the forecasts that were made in 2011 (maturing 1SW PFA for 2011 and non-maturing PFA for 2010, for Northern and Southern NEAC separately) and the various indicator values for the 2011 season (Table 10.1.11.4). The indicators suggested that the forecasted PFA was below the realised PFA for Northern NEAC non-maturing salmon. For the other stock complexes the indicators did not suggest any substantial difference between the realised PFAs and the forecasted PFAs. However, since a change was indicated for one stock complex, then a re-assessment would have been recommended as a result of applying the FWI in January 2012.

ICES proposes that the same timeline and sequence of events be employed in implementing the FWI for NEAC as used for the existing West Greenland Commission FWI (ICES, 2007) (Figure 10.1.11.2). The FWI for NEAC could be implemented for the 2013 and 2014 fishery years. In 2012, ICES provides multi-year catch advice and updated spreadsheets of the FWI for NEAC. Subsequently, in January 2013, the FWI is applied for NEAC. If no significant deviation from forecasted PFA is indicated for any of the four stock complexes, then no re-assessment is necessary and the cycle continues to 2014. Further, if no significant deviation is detected in 2014, the cycle continues until 2015 when new assessments and multi-year catch advice will be required. However, if a significant deviation is detected in any year, then a reassessment would be recommended and this, together with an update of the FWI, would be provided by ICES. If no re-assessment proved

necessary in either 2013 or 2014, the FWI would automatically be updated in 2015, at the time of the next scheduled multi-year assessment.

#### **10.1.12 NASCO has asked ICES to provide advice on best practice for conducting monitoring surveys for the parasite *Gyrodactylus salaris***

*Gyrodactylus salaris* is an ectoparasite that mainly infects Atlantic salmon (*Salmo salar*), but it can survive and reproduce on several salmonids, such as rainbow trout (*Oncorhynchus mykiss*), Arctic charr (*Salvelinus alpinus*), North American brook trout (*Salvelinus fontinalis*), grayling (*Thymallus thymallus*), North American lake trout (*Salvelinus namaycush*), and brown trout (*Salmo trutta*) (in declining order of susceptibility). When introduced to areas outside its native range in the Baltic, the parasite *Gyrodactylus salaris* has proved to be highly damaging to salmon populations that have not developed resistance, resulting in mortality rates of up to 100% on salmon fry and parr. In light of this, preventing further spread of the parasite to new areas is of high importance, and monitoring programmes should be developed in areas where risk of infection is high to ensure early detection of any *G. salaris* infection and to facilitate implementation of measures to control or eradicate the parasite.

Norway, Sweden, Russia, Ireland, and UK (England & Wales) have implemented monitoring programmes for *G. salaris*.

#### **General considerations**

Samples should be taken annually from hatcheries producing Atlantic salmon and/or rainbow trout (*Oncorhynchus mykiss*) including commercial hatcheries for the fish farming industry and hatcheries that produce fish for supplementing natural stocks of salmon, or for rainbow trout fisheries. The number of fish analysed should be higher in rainbow trout samples than in samples from Atlantic salmon, since the prevalence and intensity of *G. salaris* is lower on rainbow trout than on Atlantic salmon. Furthermore, there should be more extensive monitoring in rivers. Thus, rivers that are considered important due to their size and production, economic contribution, life history characteristics or other factors, should be monitored more closely. Such priority considerations may vary between countries and regions. In addition to this, it is suggested that a risk-based framework be applied to select the most appropriate rivers for monitoring and that the consequences of infection in the river be evaluated. A contingency plan should be in place in the case of new infestations.

## **Priorities for monitoring**

1. Highest priority should be placed on rivers with reduced densities of salmon parr, observations of high numbers of dead parr, or where there are large reductions in adult salmon numbers or catches compared to other nearby rivers or previous years.
2. Rivers where salmon stocks are supplemented by hatchery fish or that have hatchery facilities for Atlantic salmon or rainbow trout draining into them should be surveyed on an annual basis.
3. The survival of *G. salaris* is negatively correlated with salinity above 7.5 parts per thousand (Soleng and Bakke, 1997), so larger sea-areas with high salinity in between river outlets will probably reduce the risk of spread among the rivers by migrating salmonids. Therefore, rivers close to other rivers with *G. salaris* and/or with neighbouring catchment areas should also be surveyed on an annual basis.
4. Other rivers should be surveyed regularly (for example every fifth year).

## **Life stage to monitor**

In rivers infected with *G. salaris* the numbers of salmon parr show a rapid decline from pre-infection levels (Johnsen and Jensen, 1991; Johnsen *et al.*, 1999). Older life stages are often few in number, but show high prevalence of the parasite. Therefore, older salmon parr should be analysed if found, and the number of individuals should be complemented with younger life stages to reach the designated number of fish.

## **When to monitor**

The number of *G. salaris* per infected fish is generally highest in the autumn (Johnsen and Jensen, 1992). It is recommended that salmon should be sampled in the autumn, or directly after observations of high numbers of dead fish in the river. Prevalence of *G. salaris* tends to be lower at temperatures above 14°C.

## **Where to monitor**

In the early stages of infection in a river, levels of infections may show local variation, and it is recommended that samples be collected from lower, middle, and upper reaches of the river. This is especially important in larger rivers. In the case of rivers with hatchery releases, samples should be taken close to the release sites. Where neighbouring river(s) are infected, samples should be taken close to the river mouth of the uninfected river because the most likely source of spread may be by direct entry of infected fish into the river.

## **How many fish to sample**

In the Norwegian monitoring programme, 30 salmon parr have been sampled per river. In infested rivers, the parasite can normally be found on at least 40% of the older salmon parr (Johnsen and Jensen, 1988), so except in the early stages of an infestation, a minimum of 30 fish should provide a high probability of discovery if the parasite is present in the river. Investigations in Sweden indicate that the dorsal and pectoral fins of infected fish have the highest frequencies of infection and are particularly important body areas to assess for screening purposes. In Sweden, sampling levels are based on the prevalence of the parasite, and 20 fish per site is generally considered to be sufficient.

## **Analysis of samples**

Samples should be collected, preserved and analysed according to the guidelines in the Gyrodactylosis (*G. salaris*) chapter in the Manual of diagnostic tests for aquatic animals from the World Organization for Animal Health (OIE)  
[http://www.oie.int/fileadmin/Home/eng/Health\\_standards/aahm/2010/2.3.03\\_Gyrodactylosis.pdf](http://www.oie.int/fileadmin/Home/eng/Health_standards/aahm/2010/2.3.03_Gyrodactylosis.pdf).

- Whole fish should be preserved in 96% EtOH in bottles large enough to provide excess space and preservative. The concentration of EtOH after preservation should not be below 70%. Fins cut off from the body and stored in EtOH as described above can also be submitted.
- Samples from a river or a farm can be pooled, although each fish is subsequently examined and analysed separately. Fins of fish from a farm or a river can be pooled and are also examined and analysed separately.
- Dead fish, stored on ice, are not acceptable. The parasites soon die if not covered in water, and as these parasites do not have an exoskeleton, dead parasites disintegrate quickly.
- Detection of *Gyrodactylus* and identification of *G. salaris* is a two-step process. Firstly, parasite specimens are observed using optical equipment and secondly, parasites are identified, usually on an individual basis using other equipment and methods. Optical equipment (binocular dissecting microscope with good illumination) must be used to detect *Gyrodactylus*. Trained morphologists can perform morphological identification of *Gyrodactylus* specimen(s) to *G. salaris* based on structures of the attachment organ. However, a morphological diagnosis should be confirmed by molecular tools. A combination of both morphological and molecular methods is recommended.

### **10.1.13 NASCO has requested ICES to update the framework of indicators used to identify any significant change in the previously provided multi-annual management advice in the West Greenland Commission area**

In 2007, ICES developed a Framework of Indicators (FWI) to be used in interim years to determine if there is an expectation that the previously provided multi-year management advice for the Greenland fishery is likely to change in subsequent years (ICES, 2007). A significant change in management advice would be an unforeseen increase in stock abundance to a level that would allow a fishery in the case where no catch had been previously advised, or a decrease in stock abundance when catch options had been chosen. In 2009 the FWI was updated for application for the 2010 to 2011 fisheries (ICES, 2009). The updated framework was applied in January 2010 and 2011 to determine if a re-assessment was advised.

The 2012 assessment begins the cycle of forecasting and catch advice for the 2012 to 2014 fishing years. ICES has been asked to update the FWI in support of the multi-year catch advice and the potential approval of multi-year regulatory measures.

The update consisted of:

- Adding the values of the indicator variables for the most recent years,
- Quantifying the threshold value for the indicator variables and the probabilities of a true high state and a true low state for those indicator variables retained for the framework,
- Revising/adding the indicator variables and the functions for evaluating the indicator score to the framework spreadsheet, and
- Providing the spreadsheet for doing the framework of indicators assessment.

A total of 40 indicator variables, represented by 22 different rivers, were retained for the North American Commission area. Of these, eight were return or survival rate indicators of hatchery fish, while the remainder were of wild 2SW or large salmon (N = 18), wild 1SW or small salmon (N = 13), or all (N = 1) returns to rivers or survival rate. A summary is provided in the following table:

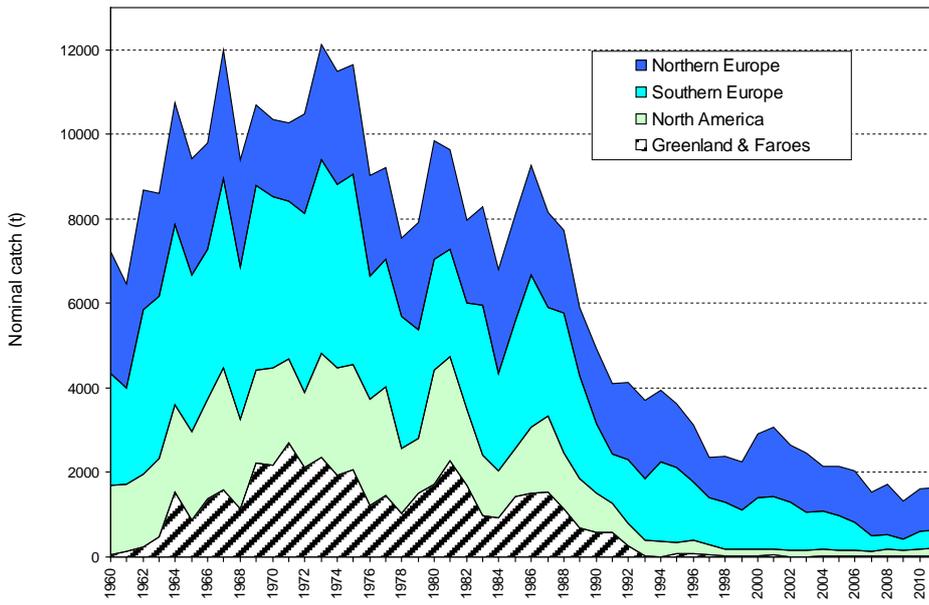
Origin	Wild	Wild	Wild	Wild	Hatchery	Hatchery	
TYPE OF DATA	Return	Return	Survival	Survival	Survival	Survival	
SIZE/AGE GROUP	Small/1S W	Large/2S W/ MSW	Small/1S W	Large/2S W	Small/1S W	Large/2S W	Total
Labrador							0
Newfoundland	3						3
Quebec	4	10	1	2			17
Gulf	1	1					2
Scotia-Fundy	3	4			2	4	13
USA <sup>1</sup>	1	2 <sup>2</sup>			1	1	5
Total	12	17	1	2	3	5	40

<sup>1</sup> for USA, returns include both wild and hatchery-origin fish.

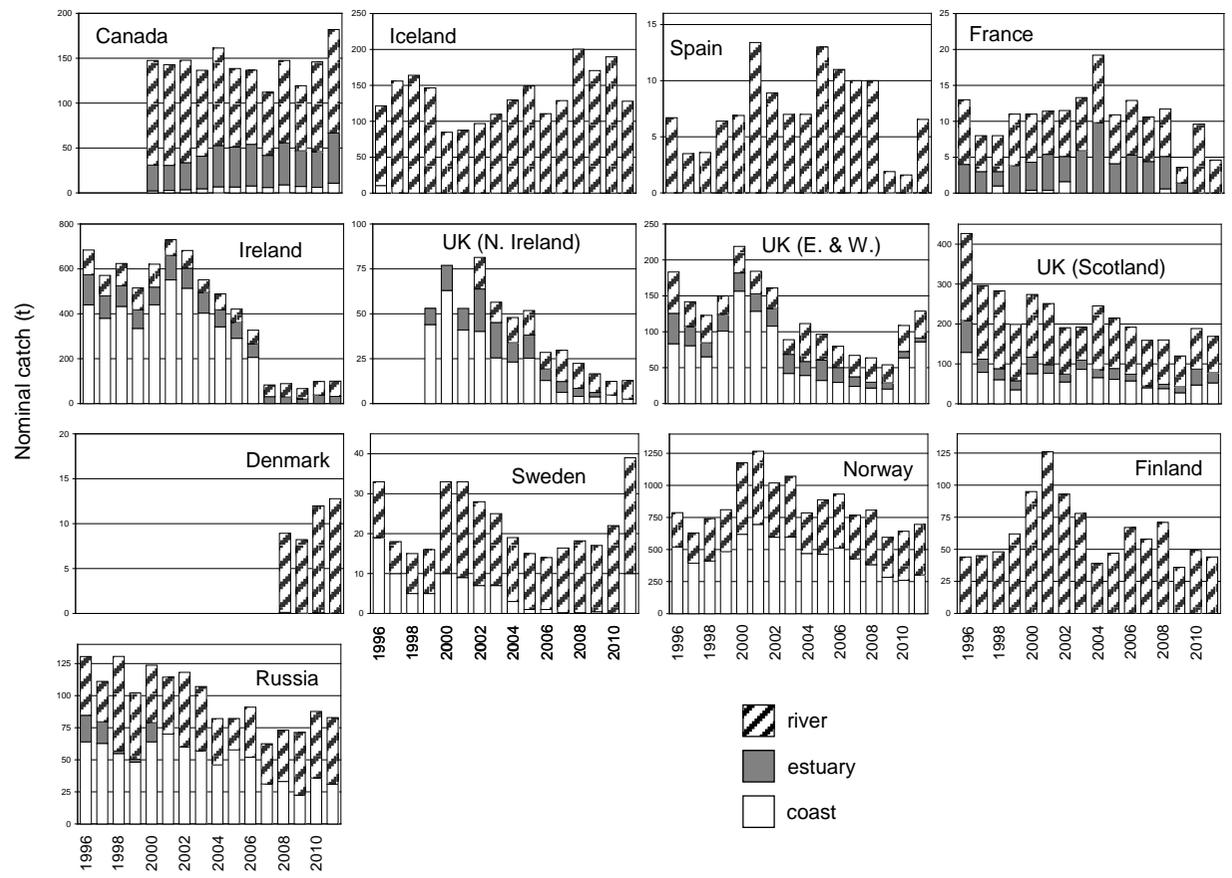
<sup>2</sup> in one river (Narraguagus), returns are of all age/size groups combined.

No indicator variables were retained for the Labrador area or for the southern NEAC 1SW non-maturing complex. All the retained indicator variables had at least 80% probability of identifying a true low state or a true high state.

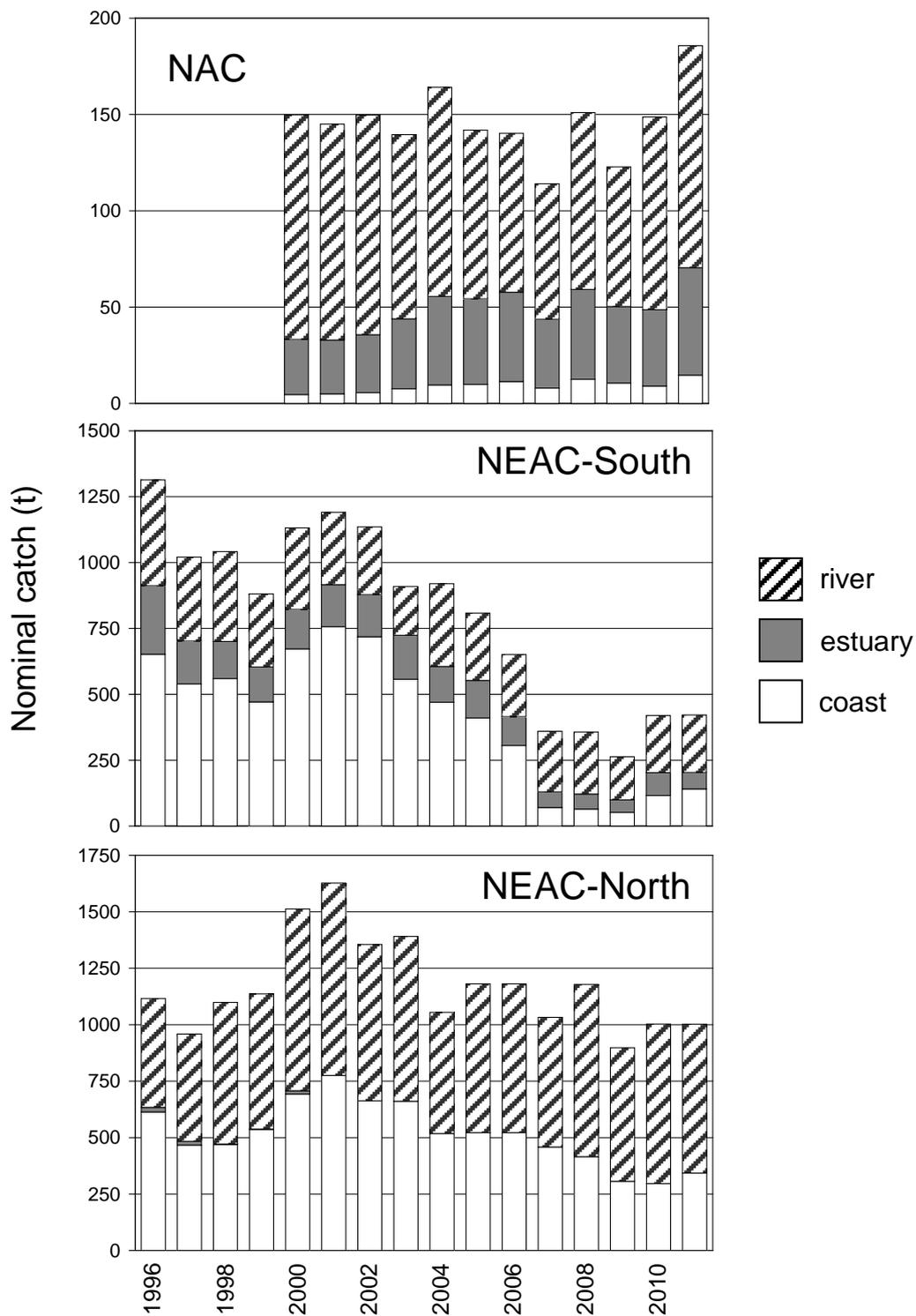
The FWI spreadsheet will be made available to NASCO. It would be used with the returns or return rate data for 2012 to evaluate the appropriateness of the 2013 advice, and with the returns or return rate data for 2013 to evaluate the appropriateness of the 2014 advice. The data for the indicator variables to populate the framework must be available in January of the year of interest.



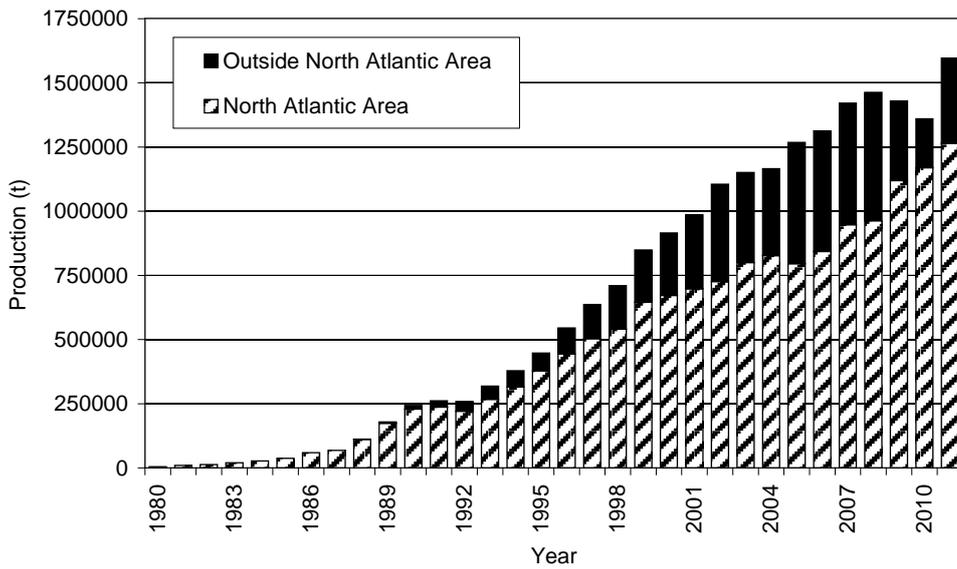
**Figure 10.1.5.1** Reported total nominal catch of salmon (tonnes round fresh weight) in four North Atlantic regions, 1960 to 2011.



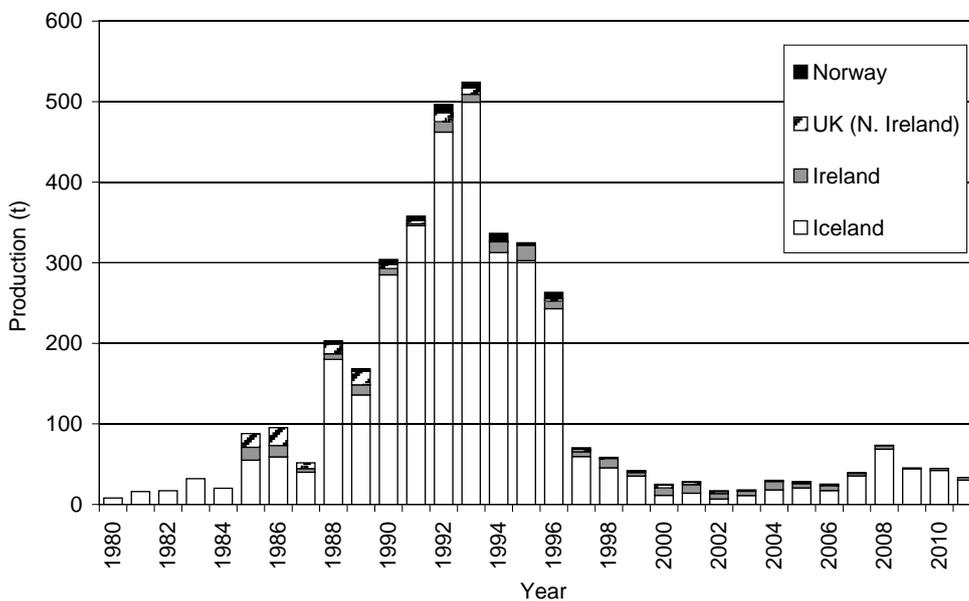
**Figure 10.1.5.2** Nominal catch (t) by country taken in coastal, estuarine, and riverine fisheries.



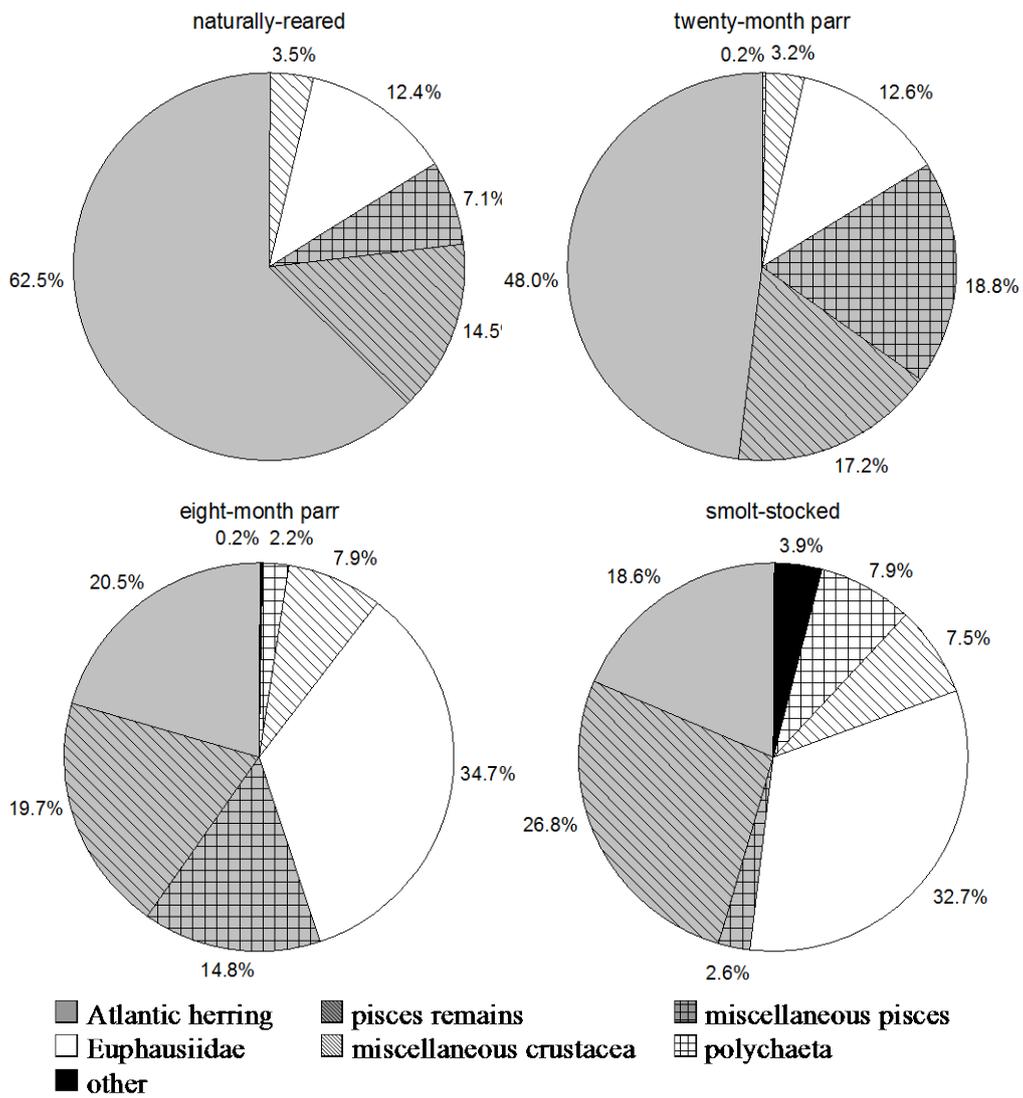
**Figure 10.1.5.3** Nominal catch (t) taken in coastal, estuarine, and riverine fisheries for the NAC area, and for the northern and southern NEAC areas. Note that vertical axes scales vary.



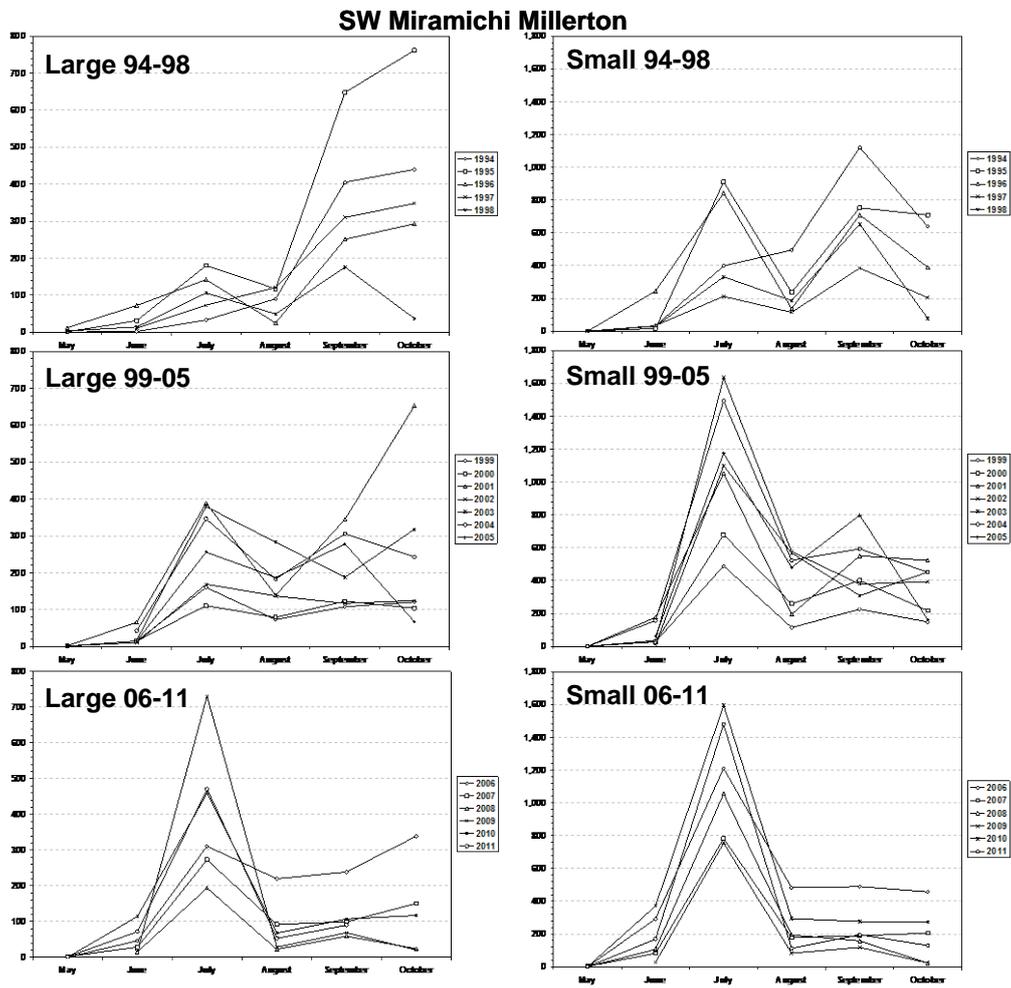
**Figure 10.1.5.4** World-wide production of farmed Atlantic salmon, 1980 to 2011.



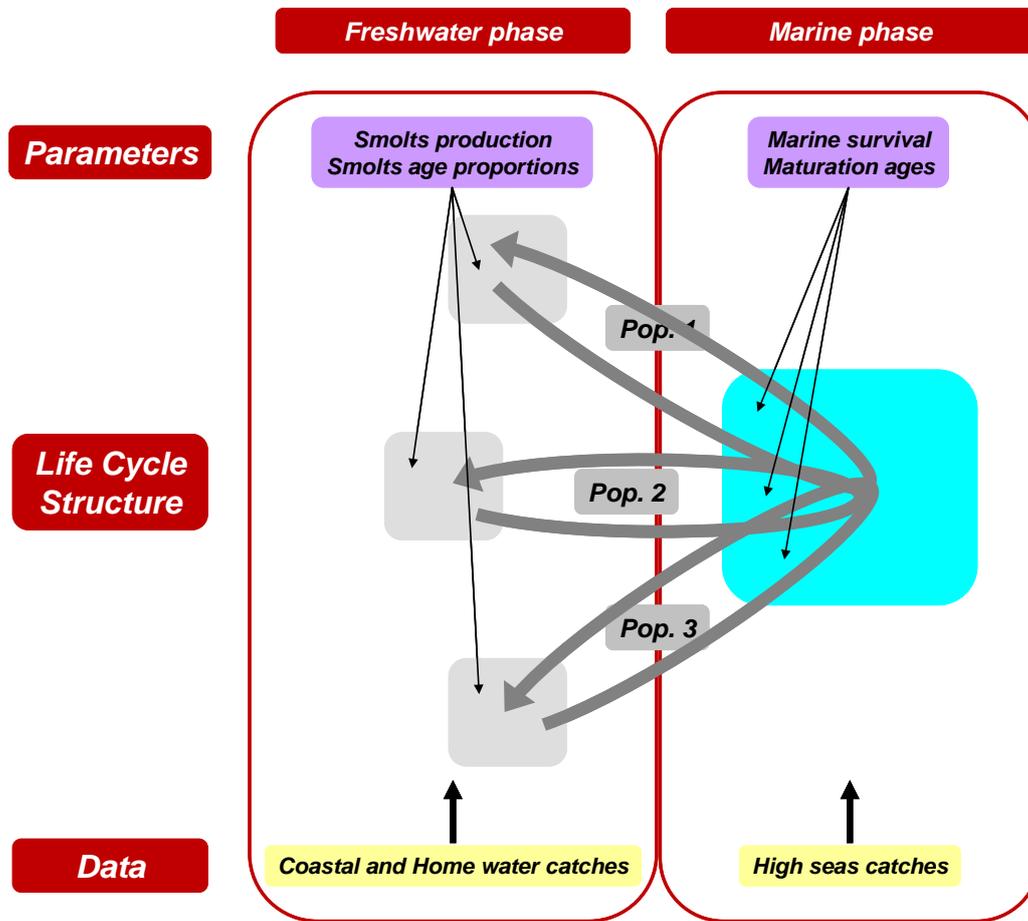
**Figure 10.1.5.5** Production of ranched Atlantic salmon (tonnes round fresh weight) in the North Atlantic, 1980 to 2011.



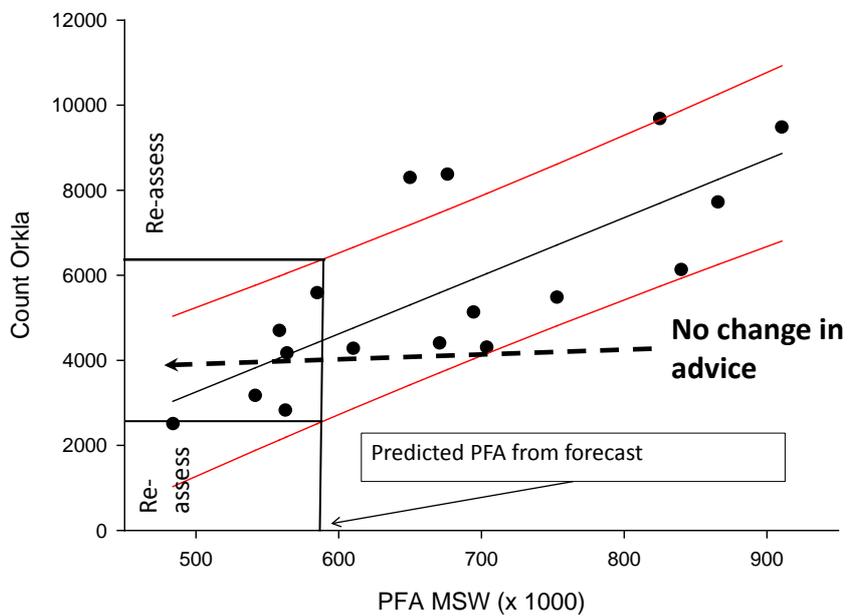
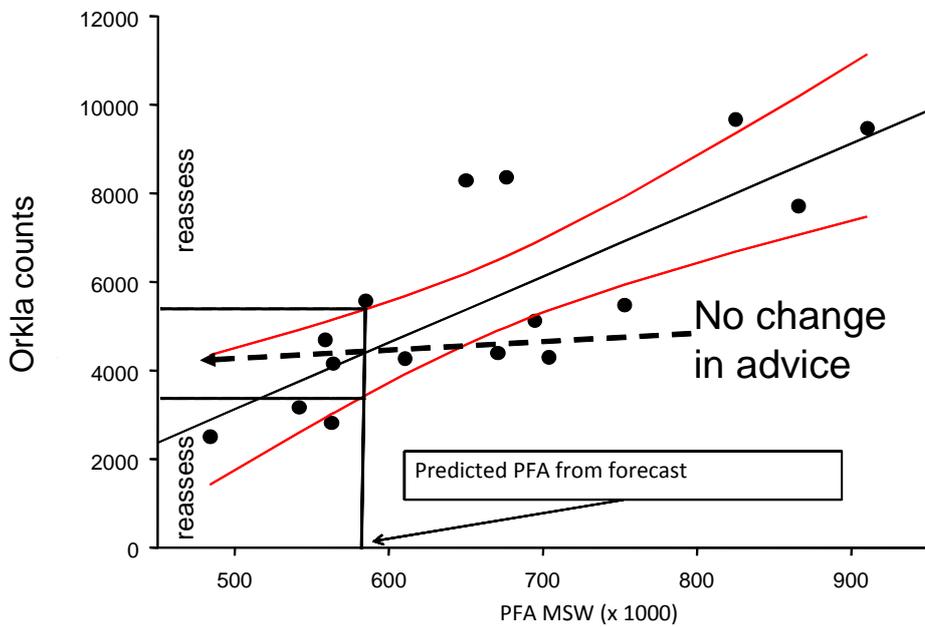
**Figure 10.1.6.1** Dietary composition by wet weight (g) of Atlantic salmon post-smolts caught in Penobscot Bay, Maine from 2001 to 2005 grouped by four rearing origins: naturally reared, twenty-month parr, eight-month parr, and smolt stocking. Post smolts with a longer river residence phase (i.e., naturally reared) generally fed on more fish, particularly Atlantic herring, and fewer euphausiids during their emigration through Penobscot Bay as compared to post smolts with shorter river residence phases (i.e., smolt-stocked).



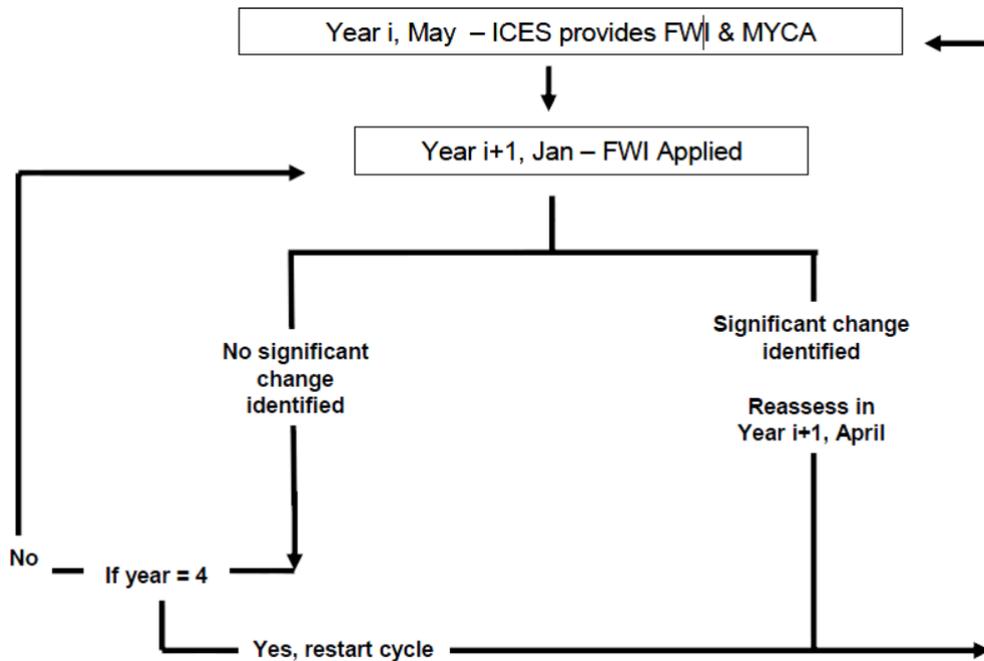
**Figure 10.1.6.2** Run timing of large salmon and small salmon to estuary trapnets on the Southwest Miramichi River, 1994–2011.



**Figure 10.1.6.3** Schematic structure of stage-structured life cycle model that incorporates the temporal dynamics of the recruitment process, including the freshwater and marine phases. The model captures the complex meta-population structure stemming from homing behaviour for reproduction in freshwater. Hierarchical structure will be used to capture time and spatial variability of region-specific parameters such as the ones characterizing the freshwater phase of the life cycle.



**Figure 10.1.11.1** An example of the reassessment intervals for the indicators proposed by ICES (2011) based on confidence intervals for the indicator mean values (upper panel), compared to the proposed reassessment intervals for the indicators based on the predictive intervals for the indicator values (lower panel). The values of an indicator (counts in this example) are plotted against the PFA. The regression line is shown in black and the limits for the mean prediction (95%, upper panel) and for the predicted value (75%, lower panel) are shown in red. From the forecasted PFA in the year in question, the values of the indicator corresponding to the upper and lower interval limits are estimated. If the indicator value falls outside these limits, a reassessment is recommended by this particular indicator.



**Figure 10.1.11.2** Suggested timeline for employment of the Framework of Indicators (FWI). In Year  $i$ , ICES provides multi-year catch advice (MYCA) and an updated FWI which re-evaluates the updated datasets and is summarized in an Excel worksheet. In January of Year  $i+1$ , the FWI is applied and two options are available depending on the results. If no significant change with respect to forecasted PFAs is detected, no re-assessment is necessary and the cycle continues to Year  $i+2$ . If no significant change is detected in Year  $i+2$ , the cycle continues to Year  $i+3$ . If a significant change is detected in any year, then reassessment is recommended. In that case, ICES would provide an updated FWI the following May. ICES would also provide an updated FWI if year equals four.

**Table 10.1.5.1** Reported total nominal catches of salmon by country (in tonnes round fresh weight), 1960 to 2011 (2011 figures include provisional data).

Year	NAC Area			NEAC (N. Area)						NEAC (S. Area)					Faroes & Greenland				Total Reported Nominal Catch	Unreported catches			
	Canada (1)	USA	St. P&M	Norway (2)	Russia (3)	Iceland		Sweden			Ireland (E & W) (5,6)	UK (N.Irl.) (6,7)	UK (Scotl.)	France (8)	Spain (9)	Faroes (10)	East Grld. (11)	West Grld. (12)		Other (12)	NASCO Areas (13)	International waters (14)	
						Wild	Ranch (4)	(West)	Denmark	Finland													
1960	1636	1	-	1659	1100	100	-	40	-	-	743	283	139	1443	-	33	-	-	60	-	7237	-	-
1961	1583	1	-	1533	790	127	-	27	-	-	707	232	132	1185	-	20	-	-	127	-	6464	-	-
1962	1719	1	-	1935	710	125	-	45	-	-	1459	318	356	1738	-	23	-	-	244	-	8673	-	-
1963	1861	1	-	1786	480	145	-	23	-	-	1458	325	306	1725	-	28	-	-	466	-	8604	-	-
1964	2069	1	-	2147	590	135	-	36	-	-	1617	307	377	1907	-	34	-	-	1539	-	10759	-	-
1965	2116	1	-	2000	590	133	-	40	-	-	1457	320	281	1593	-	42	-	-	861	-	9434	-	-
1966	2369	1	-	1791	570	104	2	36	-	-	1238	387	287	1595	-	42	-	-	1370	-	9792	-	-
1967	2863	1	-	1980	883	144	2	25	-	-	1463	420	449	2117	-	43	-	-	1601	-	11991	-	-
1968	2111	1	-	1514	827	161	1	20	-	-	1413	282	312	1578	-	38	5	-	1127	403	9793	-	-
1969	2202	1	-	1383	360	131	2	22	-	-	1730	377	267	1955	-	54	7	-	2210	893	11594	-	-
1970	2323	1	-	1171	448	182	13	20	-	-	1787	527	297	1392	-	45	12	-	2146	922	11286	-	-
1971	1992	1	-	1207	417	196	8	18	-	-	1639	426	234	1421	-	16	-	-	2689	471	10735	-	-
1972	1759	1	-	1578	462	245	5	18	-	32	1804	442	210	1727	34	40	9	-	2113	486	10965	-	-
1973	2434	3	-	1726	772	148	8	23	-	50	1930	450	182	2006	12	24	28	-	2341	533	12670	-	-
1974	2539	1	-	1633	709	215	10	32	-	76	2128	383	184	1628	13	16	20	-	1917	373	11877	-	-
1975	2485	2	-	1537	811	145	21	26	-	76	2216	447	164	1621	25	27	28	-	2030	475	12136	-	-
1976	2506	1	3	1530	542	216	9	20	-	66	1561	208	113	1019	9	21	40	<1	1175	289	9327	-	-
1977	2545	2	-	1488	497	123	7	10	-	59	1372	345	110	1160	19	19	40	6	1420	192	9414	-	-
1978	1545	4	-	1050	476	285	6	10	-	37	1230	349	148	1323	20	32	37	8	984	138	7682	-	-
1979	1287	3	-	1831	455	219	6	12	-	26	1097	261	99	1076	10	29	119	<0,5	1395	193	8118	-	-
1980	2680	6	-	1830	664	241	8	17	-	34	947	360	122	1134	30	47	536	<0,5	1194	277	10127	-	-
1981	2437	6	-	1656	463	147	16	26	-	44	685	493	101	1233	20	25	1025	<0,5	1264	313	9954	-	-
1982	1798	6	-	1348	364	130	17	25	-	54	993	286	132	1092	20	10	606	<0,5	1077	437	8395	-	-
1983	1424	1	3	1550	507	166	32	28	-	58	1656	429	187	1221	16	23	678	<0,5	310	466	8755	-	-
1984	1112	2	3	1623	593	139	20	40	-	46	829	345	78	1013	25	18	628	<0,5	297	101	6912	-	-
1985	1133	2	3	1561	659	162	55	45	-	49	1595	361	98	913	22	13	566	7	864	-	8108	-	-
1986	1559	2	3	1598	608	232	59	54	-	37	1730	430	109	1271	28	27	530	19	960	-	9255	315	-
1987	1784	1	2	1385	564	181	40	47	-	49	1239	302	56	922	27	18	576	<0,5	966	-	8159	2788	-
1988	1310	1	2	1076	420	217	180	40	-	36	1874	395	114	882	32	18	243	4	893	-	7737	3248	-
1989	1139	2	2	905	364	141	136	29	-	52	1079	296	142	895	14	7	364	-	337	-	5904	2277	-
1990	911	2	2	930	313	141	285	33	13	60	567	338	94	624	15	7	315	-	274	-	4925	1890	180-350

**Table 10.1.5.1 continued.**

Year	NAC Area			NEAC (N. Area)							NEAC (S. Area)					Faroes & Greenland				Total Reported Nominal Catch	Unreported catches			
	Canada (1)	USA	St. P&M	Norway (2)	Russia (3)	Iceland		Sweden (West)			Ireland (E & W) (5,6)	UK (N.Irl.) (6,7)	UK (Scotl.) (8)	France (9)	Spain (10)	Faroes (11)	East Grld. (12)	West Grld. (13)	Other (14)		NASCO Areas (13)	International waters (14)		
						Wild	Ranch (4)		Denmark	Finland														
1991	711	1	1	876	215	129	346	38	3	70	404	200	55	462	13	11	95	4	472	-	4106	1682	25-100	
1992	522	1	2	867	167	174	462	49	10	77	630	171	91	600	20	11	23	5	237	-	4119	1962	25-100	
1993	373	1	3	923	139	157	499	56	9	70	541	248	83	547	16	8	23	-	-	-	3696	1644	25-100	
1994	355	0	3	996	141	136	313	44	6	49	804	324	91	649	18	10	6	-	-	-	3945	1276	25-100	
1995	260	0	1	839	128	146	303	37	3	48	790	295	83	588	10	9	5	2	83	-	3629	1060	-	
1996	292	0	2	787	131	118	243	33	2	44	685	183	77	427	13	7	-	0	92	-	3136	1123	-	
1997	229	0	2	630	111	97	59	19	1	45	570	142	93	296	8	4	-	1	58	-	2364	827	-	
1998	157	0	2	740	131	119	46	15	1	48	624	123	78	283	8	4	6	0	11	-	2395	1210	-	
1999	152	0	2	811	103	111	35	16	1	62	515	150	53	199	11	6	0	0	19	-	2247	1032	-	
2000	153	0	2	1176	124	73	11	33	5	95	621	219	78	274	11	7	8	0	21	-	2912	1269	-	
2001	148	0	2	1267	114	74	14	33	6	126	730	184	53	251	11	13	0	0	43	-	3069	1180	-	
2002	148	0	2	1019	118	90	7	28	5	93	682	161	81	191	11	9	0	0	9	-	2654	1039	-	
2003	141	0	3	1071	107	99	11	25	4	78	551	89	56	192	13	9	0	0	9	-	2457	847	-	
2004	161	0	3	784	82	111	18	20	4	39	489	111	48	245	19	7	0	0	15	-	2157	686	-	
2005	139	0	3	888	82	129	21	15	8	47	422	97	52	215	11	13	0	0	15	-	2156	700	-	
2006	137	0	3	932	91	93	17	14	2	67	326	80	29	192	13	11	0	0	22	-	2029	670	-	
2007	112	0	2	767	63	93	36	16	3	58	85	67	30	169	11	9	0	0	25	-	1546	475	-	
2008	158	0	4	807	73	132	69	18	9	71	89	64	21	160	12	9	0	0	26	-	1720	443	-	
2009	126	0	3	595	71	126	44	17	8	36	67	54	17	120	4	2	0	0	26	-	1317	327	-	
2010	153	0	3	642	88	147	42	22	13	49	98	109	12	180	10	2	0	0	40	-	1609	367	-	
2011	179	0	4	696	83	98	30	39	13	44	100	129	13	169	5	7	0	0	28	-	1635	441	-	
Average																								
2006-2010	137	0	3	749	77	118	42	17	7	56	133	75	22	164	10	6	0	0	28	-	1644	456	-	
2001-2010	142	0	3	877	89	109	28	21	6	66	354	102	40	192	11	8	0	0	23	-	2071	673	-	

Key:

- Includes estimates of some local sales, and, prior to 1984, by-catch.
- Before 1966, sea trout and sea charr included (5% of total).
- Figures from 1991 to 2000 do not include catches taken in the recreational (rod) fishery.
- From 1990, catch includes fish ranched for both commercial and angling purposes.
- Improved reporting of rod catches in 1994 and data derived from carcase tagging and log books from 2002.
- Catch on River Foyle allocated 50% Ireland and 50% N. Ireland.
- Angling catch (derived from carcase tagging and log books) first included in 2002.
- Data for France include some unreported catches.
- Weights estimated from mean weight of fish caught in Asturias (80-90% of Spanish catch).
- 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 since 2001.
- Includes catches made in the West Greenland area by Norway, Faroes, Sweden and Denmark in 1965-1975.
- Includes catches in Norwegian Sea by vessels from Denmark, Sweden, Germany, Norway and Finland.
- No unreported catch estimate available for Canada in 2007 and 2008. Data for Canada in 2009 and 2010 are incomplete. No unreported catch estimate available for Russia since 2008.
- Estimates refer to season ending in given year.

**Table 10.1.5.2** Estimates of unreported catches by various methods, in tonnes by country within national EEZs in the Northeast Atlantic, North American, and West Greenland Commissions of NASCO, 2011.

Commission Area	Country	Unreported Catch t	Unreported as % of Total North Atlantic Catch (Unreported + Reported)	Unreported as % of Total National Catch (Unreported + Reported)
NEAC	Denmark	6	0.3	31
NEAC	Finland	7	0.4	14
NEAC	Iceland	10	0.5	7
NEAC	Ireland	10	0.5	9
NEAC	Norway	298	15.1	30
NEAC	Sweden	4	0.2	9
NEAC	France	1	0.1	18
NEAC	UK (E & W)	23	1.2	15
NEAC	UK (N.Ireland)	0	0.0	2
NEAC	UK (Scotland)	23	1.2	12
NAC	USA	0	0.0	0
NAC	Canada	29	1.5	14
WGC	West Greenland	10	0.5	26
	Total Unreported Catch *	421	21.3	
	Total Reported Catch of North Atlantic salmon	1635		

\* No unreported catch estimate available for Russia in 2011.

Unreported catch estimates not provided for Spain and St. Pierre et Miquelon

**Table 10.1.5.3** Numbers of fish caught and released in rod fisheries along with the % of the total rod catch (released + retained) for countries in the North Atlantic where records are available, 1991–2011. Figures for 2011 are provisional.

Year	Canada <sup>4</sup>		USA		Iceland		Russia <sup>1</sup>		UK (E&W)		UK (Scotland)		Ireland		UK (N Ireland) <sup>2</sup>		Denmark		Norway <sup>3</sup>	
	Total	% of total rod catch	Total	% of total rod catch	Total	% of total rod catch	Total	% of total rod catch	Total	% of total rod catch	Total	% of total rod catch	Total	% of total rod catch	Total	% of total rod catch	Total	% of total rod catch	Total	% of total rod catch
1991	22167	28	239	50			3211	51												
1992	37803	29	407	67			10120	73												
1993	44803	36	507	77			11246	82	1448	10										
1994	52887	43	249	95			12056	83	3227	13	6595	8								
1995	46029	46	370	100			11904	84	3189	20	12151	14								
1996	52166	41	542	100	669	2	10745	73	3428	20	10413	15								
1997	50009	50	333	100	1558	5	14823	87	3132	24	10965	18								
1998	56289	53	273	100	2826	7	12776	81	4378	30	13464	18								
1999	48720	50	211	100	3055	10	11450	77	4382	42	14846	28								
2000	64482	56	0	-	2918	11	12914	74	5959	40	21072	32								
2001	59387	55	0	-	3611	12	16945	76	4869	41	27724	38								
2002	50924	52	0	-	5985	18	25248	80	5910	47	24058	42								
2003	53645	55	0	-	5361	16	33862	81	4943	53	29170	55								
2004	62316	57	0	-	7362	16	24679	76	11516	46	46279	50					255	19		
2005	63005	62	0	-	9224	17	23592	87	10554	54	46165	55	2553	12			606	27		
2006	60486	62	1	100	8735	19	33380	82	9955	55	47669	55	5409	22	302	18	794	65		
2007	41192	58	3	100	9691	18	44341	90	9942	53	55660	61	13125	40	470	16	959	57		
2008	54887	53	61	100	17178	20	41881	86	11918	54	53347	62	13312	37	648	20	2033	71	5512	5
2009	52151	59	0	-	17514	24	-	-	8397	57	48371	67	10265	37	847	21	1709	53	6696	6
2010	55895	53	0	-	21476	29	14585	56	13958	59	78267	70	15136	40	823	25	2512	60	15041	12
2011	77641	59	0	-	18593	32	-	-	13079	61	67989	73	11383	31	1197	32	2153	55	14303	12
<b>5-yr mean 2006-2010</b>	<b>52922</b>	<b>57</b>			<b>14919</b>	<b>22</b>			<b>10834</b>	<b>55</b>	<b>56663</b>	<b>63</b>	<b>11449</b>	<b>35</b>	<b>715</b>	<b>22</b>	<b>1220</b>	<b>55</b>		
<b>% change on 5-year mean</b>	<b>+47</b>	<b>+3</b>			<b>+25</b>	<b>+45</b>			<b>+21</b>	<b>+9</b>	<b>+20</b>	<b>+16</b>	<b>-1</b>	<b>-12</b>	<b>+68</b>	<b>+46</b>	<b>+76</b>	<b>+1</b>		

Key: <sup>1</sup>No data were provided by the authorities for 2009 nor for 2011 and data for 2010 were incomplete, however catch-and-release is understood to have remained at similar high levels.

<sup>2</sup>Data for 2006-2009 is for the DCAL area only; the figure for 2010 is a total for N.Ireland.

<sup>3</sup>The statistics were collected on a voluntary basis, the numbers reported must be viewed as a minimum.

<sup>4</sup>Released fish in the kelt fishery of New Brunswick are not included in the totals for Canada.

**Table 10.1.8.1** Summary of Atlantic salmon tagged and marked in 2011 – ‘Hatchery’ and ‘Wild’ refer to smolts and parr; ‘Adults’ relates to both wild and hatchery-origin fish.

Country	Origin	Primary Tag or Mark				Total
		Microtag	External mark	Adipose clip	Other Internal <sup>1</sup>	
Canada	Hatchery Adult	0	1,034	1,031	881	2,946
	Hatchery Juvenile	0	6,975	419,996	525	427,496
	Wild Adult <sup>2</sup>	0	3,958	902	172	5,032
	Wild Juvenile <sup>2</sup>	0	13,667	9,240	648	23,555
	<b>Total</b>	<b>0</b>	<b>25,634</b>	<b>431,169</b>	<b>2,226</b>	<b>459,029</b>
Denmark	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	118,500	0	162,700	0	281,200
	Wild Adult	0	0	0	0	0
	Wild Juvenile	0	0	0	0	0
	<b>Total</b>	<b>118,500</b>	<b>0</b>	<b>162,700</b>	<b>0</b>	<b>281,200</b>
France	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile <sup>3</sup>	0	0	525,380	0	525,380
	Wild Adult <sup>3</sup>	178	0	0	0	178
	Wild Juvenile	2,813	1,659	0	0	4,472
<b>Total</b>	<b>2,991</b>	<b>1,659</b>	<b>525,380</b>	<b>0</b>	<b>530,030</b>	
Germany	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	18,000	0	0	0	18,000
	Wild Adult	0	0	0	0	0
	Wild Juvenile	5,420	0	0	0	5,420
	<b>Total</b>	<b>23,420</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>23,420</b>
Iceland	Hatchery Adult	0	4	0	0	4
	Hatchery Juvenile	54,400	0	0	0	54,400
	Wild Adult	0	228	0	0	228
	Wild Juvenile	2,700	0	0	0	2,700
	<b>Total</b>	<b>57,100</b>	<b>232</b>	<b>0</b>	<b>0</b>	<b>57,332</b>
Ireland	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	189,240	0	187,497	0	376,737
	Wild Adult	0	0	0	0	0
	Wild Juvenile	5,317	0	0	0	5,317
	<b>Total</b>	<b>194,557</b>	<b>0</b>	<b>187,497</b>	<b>0</b>	<b>382,054</b>
Norway	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	127,188	5,995	0	0	133,183
	Wild Adult	0	716	0	0	716
	Wild Juvenile	1,700	2,123	0	0	3,823
	<b>Total</b>	<b>128,888</b>	<b>8,834</b>	<b>0</b>	<b>0</b>	<b>137,722</b>
Russia	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	0	0	1,184,725	0	1,184,725
	Wild Adult	0	2,525	0	0	2,525
	Wild Juvenile	0	0	0	0	0
	<b>Total</b>	<b>0</b>	<b>2,525</b>	<b>1,184,725</b>	<b>0</b>	<b>1,187,250</b>
Sweden	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	0	3000	164,544	0	167,544
	Wild Adult	0	0	0	0	0
	Wild Juvenile	0	500	0	0	500
	<b>Total</b>	<b>0</b>	<b>3,500</b>	<b>164,544</b>	<b>0</b>	<b>168,044</b>
UK (England & Wales)	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	6,800	0	224,570	0	231,370
	Wild Adult	0	239	0	0	239
	Wild Juvenile	9,855	0	5,917	0	15,772
	<b>Total</b>	<b>16,655</b>	<b>239</b>	<b>230,487</b>	<b>0</b>	<b>247,381</b>
UK (N. Ireland)	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	17,809	0	32,089	0	49,898
	Wild Adult	0	0	0	0	0
	Wild Juvenile	1,957	0	0	0	1,957
	<b>Total</b>	<b>19,766</b>	<b>0</b>	<b>32,089</b>	<b>0</b>	<b>51,855</b>
UK (Scotland)	Hatchery Adult	0	0	0	0	0
	Hatchery Juvenile	0	0	25,000	1,280	26,280
	Wild Adult	0	594	0	0	594
	Wild Juvenile	2,373	0	0	1,929	4,302
	<b>Total</b>	<b>2,373</b>	<b>594</b>	<b>25,000</b>	<b>3,209</b>	<b>31,176</b>
USA	Hatchery Adult	0	2,050	58	5,318	7,426
	Hatchery Juvenile	0	0	504,648	539	505,187
	Wild Adult	0	0	0	733	733
	Wild Juvenile	0	0	0	184	184
	<b>Total</b>	<b>0</b>	<b>2,050</b>	<b>504,706</b>	<b>6,774</b>	<b>513,530</b>
All Countries	Hatchery Adult	0	3,088	1,089	6,199	10,376
	Hatchery Juvenile	531,937	15,970	3,431,149	2,344	3,981,400
	Wild Adult	178	8,260	902	905	10,245
	Wild Juvenile	32,135	17,949	15,157	2,761	68,002
	<b>Total</b>	<b>564,250</b>	<b>45,267</b>	<b>3,448,297</b>	<b>12,209</b>	<b>4,070,023</b>

<sup>1</sup> Includes other internal tags (PIT, ultrasonic, radio, DST, etc.)

<sup>2</sup> May include hatchery fish.

<sup>3</sup> Includes external dye mark.

**Table 10.1.10.1** Revised estimation of composition (proportion) of catch at Faroes by complex and country/region, based on recoveries of adults tagged at the Faroes, 1991 to 1993.

Complex	Country	Maturing 1SW	Non-maturing 1SW
Northern NEAC	Russia	0.116	0.163
	Finland	0.059	0.050
	Norway	0.290	0.295
	Sweden	0.019	0.016
	Iceland-NE	0.016	0.011
	Subtotal	0.500	0.535
Southern NEAC	France	0.018	0.005
	Ireland	0.173	0.043
	UK(N. Ireland)	0.046	0.014
	UK(England & Wales)	0.044	0.034
	UK(Scotland)	0.195	0.337
	Iceland-SW	0.025	0.007
	Subtotal	0.500	0.440
Other	Canada, Spain, Denmark	0.000	0.2060
Total		1.000	1.000

**Table 10.1.11.1** Candidate indicator data sets examined and results of the analyses of suitability of indicator data for inclusion in the Framework of Indicators (FWI) for the Northern NEAC complex.

<b>Northern NEAC stock complex indicators</b>					
Candidate indicator data set	N	R <sup>2</sup>	Significant (p<= 0.05)	R <sup>2</sup> > 0.2	Comment
<b>1SW</b>					
Returns all 1SW Norway (PFA)	23	0.92	significant	yes	
Survival W 1SW Imsa Norway	29	0.42	significant	yes	
Counts all Nausta Norway	14	0.39	significant	yes	
Counts all Øyensåa Norway	13	0.34	significant	yes	
Survival H 1SW Imsa Norway	28	0.26	significant	yes	
Catch all 1SW Finland	28	0.12	not significant	no	
Counts 1SW Tuloma Russia	26	0.06	not significant	no	
<b>MSW</b>					
PFA MSW Coast Norway	23	0.72	significant	yes	
Survival H 2SW Drammen Norway	25	0.59	significant	yes	No data collected after 2010
Counts all Orkla Norway	17	0.58	significant	yes	
Counts all Nausta Norway	14	0.37	significant	yes	
Counts all Målselv Norway	21	0.23	significant	yes	
Counts MSW Tuloma Russia	25	0.08	not significant	no	
Catch W 2SW Finland	25	0.04	not significant	no	

**Table 10.1.11.2** Candidate indicator data sets examined and results of the analyses of suitability of indicator data for inclusion in the Framework of Indicators (FWI) for the Southern NEAC complex.

<b>Southern NEAC stock complex indicators</b>					
Candidate indicator data set	N	R <sup>2</sup>	Significant (p<= 0.05)	R <sup>2</sup> > 0.2	Comment
<b>1SW</b>					
Ret. W 1SW Bush UK(N.I.)	18	0.61	significant	yes	
Ret. W 1SW North Esk UK(Sc.)	31	0.52	significant	yes	
Ret. W 1SW Itchen UK(E&W)	24	0.34	significant	yes	
Ret. W 1SW Frome UK(E&W)	39	0.30	significant	yes	
Ret. Freshw 1SW Bush UK(N.I.)	37	0.23	significant	yes	
Survey coast 1SW Dee UK(E&W)	18	0.18	not significant	no	
Ret. W 1SW Test UK(E&W)	23	0.14	not significant	no	
Ret. W 1SW Dee UK(E&W)	20	0.13	not significant	no	
Ret. W 1SW Tamar UK(E&W)	15	0.06	not significant	no	
Count 1SW Lune UK(E&W)	15	0.01	not significant	no	
Count 1SW Fowey UK(E&W)	15	0.01	not significant	no	
<b>MSW</b>					
Ret. W MSW Itchen UK(E&W)	24	0.70	significant	yes	
Ret. W 1SW Bush UK(N.I.)	18	0.68	significant	yes	
Catch W MSW Ellidaar Iceland	40	0.55	significant	yes	
Ret. W 2SW Baddoch UK(Sc.)	24	0.45	significant	yes	
Ret. W MSW Frome UK(E&W)	39	0.44	significant	yes	
Ret. W 1SW Tamar UK(E&W)	14	0.43	significant	yes	
Ret. W 1SW Frome UK(E&W)	38	0.37	significant	yes	
Ret. W 1SW North Esk UK(Sc.)	30	0.36	significant	yes	
Count MSW Lune UK(E&W)	15	0.34	significant	yes	
Ret. W 1SW Itchen UK(E&W)	23	0.25	significant	yes	
Ret. Freshw 2SW Bush UK(N.I.)	36	0.25	significant	yes	
Count MSW Fowey UK(E&W)	15	0.23	not significant	yes	
Ret. W 2SW North Esk UK(Sc.)	31	0.20	significant	yes	
Ret. W 2SW Girnoch UK(Sc.)	40	0.20	significant	no	
Ret. W MSW Test UK(E&W)	23	0.16	not significant	no	
Count 1SW Fowey UK(E&W)	14	0.12	not significant	no	
Ret. W 1SW Dee UK(E&W)	19	0.10	not significant	no	
Ret. W All West water UK(Sc.)	21	0.10	not significant	no	
Ret. W 1SW Test UK(E&W)	23	0.07	not significant	no	
Survey coast 1SW Dee UK(E&W)	17	0.04	not significant	no	
Ret. W All West water UK(Sc.)	21	0.04	not significant	no	
Ret. W MSW Dee UK(E&W)	20	0.01	not significant	no	
Ret. W MSW Tamar UK(E&W)	15	0.00	not significant	no	
Count 1SW Lune UK(E&W)	14	0.00	not significant	no	
Survival coast MSW Dee UK(E&W)	17	0.00	not significant	no	

**Table 10.1.11.3** FWI spreadsheet at the stock complex level for NEAC. In January 2013 the values of the indicators should be put into this spreadsheet to determine if a reassessment in 2013 is recommended. The advice provided will be automatically updated when data are entered. The conclusion of the spreadsheet in this illustration is irrelevant in the absence of data.

FWI NEAC		2013	Indicators suggest:				REASSESS								
<b>Indicators for Northern NEAC 1SW PFA</b>												<b>Reassess in year 2013?</b>			
		<b>Insert data from 2012 here</b>	<b>N reg</b>	<b>Slope</b>	<b>Intercept</b>	<b>r<sup>2</sup></b>	<b>Median PFA</b>	<b>12.5%ile</b>	<b>87.5%ile</b>	<b>Outside 75% conf.lim.</b>		<b>Outside 75% confidence limits</b>			
									<b>below</b>	<b>above</b>	<b>below</b>	<b>above</b>			
1	Returns all 1SW NO PFA est		23	0.536108	-73170.20	0.91	577600	194219.71	278751.74	0	0	Uninformative	Uninformative		
2	Survivals W 1SW NO Imsa		28	0.000012	-4.14	0.42	577600	-1.59	7.56	0	0	Uninformative	Uninformative		
3	Survivals H 1SW NO Imsa		29	0.000006	-1.11	0.26	577600	-0.75	5.47	0	0	Uninformative	Uninformative		
4	Counts all NO Øyensåa (1SW)		13	0.002703	256.13	0.33	577600	708.37	2926.92	0	0	Uninformative	Uninformative		
5	Counts all NO Nausta (1SW)		14	0.002486	-490.54	0.39	577600	2.84	1888.12	0	0	Uninformative	Uninformative		
							<b>Sum of scores</b>			<b>0</b>	<b>0</b>				
										<b>Indicators suggest that the PFA forecast is an overestimation. REASSESS</b>		<b>Indicators suggest that the PFA forecast is an underestimation. REASSESS</b>			
<b>Indicators for Northern NEAC MSW PFA</b>												<b>Reassess in year 2013?</b>			
		<b>Insert data from 2012 here</b>	<b>N reg</b>	<b>Slope</b>	<b>Intercept</b>	<b>r<sup>2</sup></b>	<b>Median PFA</b>	<b>12.5%ile</b>	<b>87.5%ile</b>	<b>Outside 75% conf.lim.</b>		<b>Outside 75% confidence limits</b>			
									<b>below</b>	<b>above</b>	<b>below</b>	<b>above</b>			
1	PFA-MSW-CoastNorway		23	0.344433	-12251.11	0.71	824900	240360.77	303382.23	0	0	Uninformative	Uninformative		
2	Orkla counts		17	0.013484	-3478.47	0.57	824900	5669.61	9619.69	0	0	Uninformative	Uninformative		
3	Målselv counts		21	0.003871	14.46	0.22	824900	2126.89	4289.14	0	0	Uninformative	Uninformative		
4	Counts all NO Nausta		14	0.004249	-1647.46	0.36	824900	865.86	2849.54	0	0	Uninformative	Uninformative		
							<b>Sum of scores</b>			<b>0</b>	<b>0</b>				
										<b>Indicators suggest that the PFA forecast is an overestimation. REASSESS</b>		<b>Indicators suggest that the PFA forecast is an underestimation. REASSESS</b>			
<b>Indicators for Southern NEAC 1SW PFA</b>												<b>Reassess in year 2013?</b>			
		<b>Insert data from 2012 here</b>	<b>N reg</b>	<b>Slope</b>	<b>Intercept</b>	<b>r<sup>2</sup></b>	<b>Median PFA</b>	<b>12.5%ile</b>	<b>87.5%ile</b>	<b>Outside 75% conf.lim.</b>		<b>Outside 75% confidence limits</b>			
									<b>below</b>	<b>above</b>	<b>below</b>	<b>above</b>			
1	Ret. W 1SW UK(E&W) Itchen M		24	0.000330	-106.71	0.34	1187000	80.15	489.51	0	0	Uninformative	Uninformative		
2	Ret. W 1SW UK(E&W) Frome M		39	0.000497	65.49	0.31	1187000	103.51	1206.63	0	0	Uninformative	Uninformative		
3	Ret. W 1SW UK(Sc.) North Esk M		31	0.006129	5122.42	0.52	1187000	9092.67	15701.63	0	0	Uninformative	Uninformative		
4	Ret. W 1SW UK(NI) Bush M		18	0.004420	-2435.32	0.61	1187000	1028.93	4593.43	0	0	Uninformative	Uninformative		
5	Ret. Freshw 1SW UK(NI) Bush		37	0.000673	478.23	0.23	1187000	477.32	2078.00	0	0	Uninformative	Uninformative		
							<b>Sum of scores</b>			<b>0</b>	<b>0</b>				
										<b>Indicators suggest that the PFA forecast is an overestimation. REASSESS</b>		<b>Indicators suggest that the PFA forecast is an underestimation. REASSESS</b>			
<b>Indicators for Southern NEAC MSW PFA</b>												<b>Reassess in year 2013?</b>			
		<b>Insert data from 2012 here</b>	<b>N reg</b>	<b>Slope</b>	<b>Intercept</b>	<b>r<sup>2</sup></b>	<b>Median PFA</b>	<b>12.5%ile</b>	<b>87.5%ile</b>	<b>Outside 75% conf.lim.</b>		<b>Outside 75% confidence limits</b>			
									<b>below</b>	<b>above</b>	<b>below</b>	<b>above</b>			
1	Ret. W 2SW UK(Sc.) Baddoch NM		24	0.000034	3.23	0.45	781000	15.75	43.05	0	0	Uninformative	Uninformative		
2	Ret. W 2SW UK(Sc.) North Esk NM		31	0.003676	4605.52	0.21	781000	4124.05	10828.88	0	0	Uninformative	Uninformative		
3	Ret. W 1SW UK(Sc.) North Esk NM		30	0.006340	8457.39	0.35	781000	9640.38	17176.92	0	0	Uninformative	Uninformative		
4	Ret. W MSW UK(E&W) Itchen NM		24	0.000289	-96.89	0.70	781000	60.20	198.12	0	0	Uninformative	Uninformative		
5	Ret. W 1SW UK(E&W) Itchen NM		23	0.000426	-2.64	0.25	781000	108.40	551.24	0	0	Uninformative	Uninformative		
6	Ret. W MSW UK(E&W) Frome NM		39	0.000737	104.10	0.44	781000	157.03	1202.63	0	0	Uninformative	Uninformative		
7	Ret. W 1SW UK(E&W) Frome NM		38	0.000720	119.80	0.37	781000	151.71	1212.30	0	0	Uninformative	Uninformative		
8	Catch W MSW Ice Ellidaar NM		40	0.000092	-22.38	0.55	781000	-8.28	107.53	0	0	Uninformative	Uninformative		
9	Ret. Freshw 2SW UK(NI) Bush		36	0.000157	41.30	0.24	781000	25.26	302.32	0	0	Uninformative	Uninformative		
10	Ret. W 1SW UK(NI) Bush NM		18	0.005612	-802.38	0.66	781000	1940.95	5220.71	0	0	Uninformative	Uninformative		
11	Ret. W 1SW UK(E&W) Tamar NM		14	0.009158	-1853.33	0.44	781000	4034.89	6563.82	0	0	Uninformative	Uninformative		
12	Count MSW UK(E&W) Lune NM		15	0.003815	-1088.59	0.36	781000	1290.37	2491.09	0	0	Uninformative	Uninformative		
13	Count MSW UK(E&W) Fowey NM		15	0.000200	-45.65	0.24	781000	68.31	152.17	0	0	Uninformative	Uninformative		
							<b>Sum of scores</b>			<b>0</b>	<b>0</b>				
										<b>Indicators suggest that the PFA forecast is an overestimation. REASSESS</b>		<b>Indicators suggest that the PFA forecast is an underestimation. REASSESS</b>			

**Table 10.1.11.4** Output of the spreadsheet for the test of FWIs for NEAC for 2012 based on the values of the indicators from 2011. Because the indicators suggest that the forecast for Northern NEAC MSW PFA was an underestimate, the overall advice from the spreadsheet is reassess.

FWI NEAC		2012		Indicators suggest:		REASSESS							
An example													
<b>Indicators for Northern NEAC 1SW PFA</b>						<b>Reassess in year 2012?</b>							
	<b>Insert data from 2011 here</b>	<b>N reg</b>	<b>Slope</b>	<b>Intercept</b>	<b>r<sup>2</sup></b>	<b>Median PFA</b>	<b>12.5%ile</b>	<b>87.5%ile</b>	<b>Outside 75% conf.lim.</b>		<b>Outside 75% confidence limits</b>		
									<b>below</b>	<b>above</b>	<b>below</b>	<b>above</b>	
1	Returns all 1SW NO PFA est	171994	22	0.530320	-68503.69	0.91	366400	79749.32	171861.94	-1	1	NO	YES
2	Survivals W 1SW NO Imsa	1.8	27	0.000012	-4.13	0.40	366400	-4.52	5.27	-1	-1	NO	NO
3	Survivals H 1SW NO Imsa	2.3	28	0.000006	-1.21	0.26	366400	-2.31	4.35	-1	-1	NO	NO
4	Counts all NO Øyensåa (1SW)	1446	12	0.002637	316.65	0.29	366400	-28.89	2594.93	-1	-1	NO	NO
5	Counts all NO Nausta (1SW)	1824	13	0.002934	-903.82	0.51	366400	-771.96	1114.67	-1	1	NO	YES
							<b>Sum of scores</b>			<b>-5</b>	<b>-1</b>		
												<b>Indicators do not suggest that the PFA forecast is an overestimation.</b>	<b>Indicators do not suggest that the PFA forecast is an underestimation.</b>
<b>Indicators for Northern NEAC MSW PFA</b>						<b>Reassess in year 2012?</b>							
	<b>Insert data from 2011 here</b>	<b>N reg</b>	<b>Slope</b>	<b>Intercept</b>	<b>r<sup>2</sup></b>	<b>Median PFA</b>	<b>12.5%ile</b>	<b>87.5%ile</b>	<b>Outside 75% conf.lim.</b>		<b>Outside 75% conf.lim.</b>		
									<b>below</b>	<b>above</b>	<b>below</b>	<b>above</b>	
1	PFA-MSW-Coast Norway	285788	22	0.340604	-9302.74	0.70	575800	155137.47	218496.75	-1	1	NO	YES
2	Orkla counts	6131	16	0.015027	-4373.19	0.62	575800	2401.72	6156.64	-1	-1	NO	NO
3	Målselv counts	2899	20	0.004227	-196.54	0.24	575800	1147.60	3326.79	-1	-1	NO	NO
4	Counts all NO Nausta	1824	13	0.004430	-1755.77	0.35	575800	-224.55	1814.61	-1	1	NO	YES
							<b>Sum of scores</b>			<b>-4</b>	<b>0</b>		
												<b>Indicators do not suggest that the PFA forecast is an overestimation.</b>	<b>Indicators suggest that the PFA forecast is an underestimation. REASSESS</b>
<b>Indicators for Southern NEAC 1SW PFA</b>						<b>Reassess in year 2012?</b>							
	<b>Insert data from 2011 here</b>	<b>N reg</b>	<b>Slope</b>	<b>Intercept</b>	<b>r<sup>2</sup></b>	<b>Median PFA</b>	<b>12.5%ile</b>	<b>87.5%ile</b>	<b>Outside 75% conf.lim.</b>		<b>Outside 75% conf.lim.</b>		
									<b>below</b>	<b>above</b>	<b>below</b>	<b>above</b>	
1	Ret. W 1SW UK(E&W) Itchen M	474	23	0.000372	-171.97	0.43	842600	-58.54	340.89	-1	1	NO	YES
2	Ret. W 1SW UK(E&W) Frome M	675	38	0.000507	47.11	0.31	842600	-93.23	1041.10	-1	-1	NO	NO
3	Ret. W 1SW UK(Sc.) North Esk M	8103	30	0.005915	5535.57	0.50	842600	7125.86	13913.14	-1	-1	NO	NO
4	Ret. W 1SW UK(NI) Bush M	2578	17	0.004451	-2473.57	0.61	842600	-641.31	3195.82	-1	-1	NO	NO
5	Ret. Freshw 1SW UK(NI) Bush	471	36	0.000634	559.00	0.21	842600	275.86	1910.38	-1	-1	NO	NO
							<b>Sum of scores</b>			<b>-5</b>	<b>-3</b>		
												<b>Indicators do not suggest that the PFA forecast is an overestimation.</b>	<b>Indicators do not suggest that the PFA forecast is an underestimation.</b>
<b>Indicators for Southern NEAC MSW PFA</b>						<b>Reassess in year 2012?</b>							
	<b>Insert data from 2011 here</b>	<b>N reg</b>	<b>Slope</b>	<b>Intercept</b>	<b>r<sup>2</sup></b>	<b>Median PFA</b>	<b>12.5%ile</b>	<b>87.5%ile</b>	<b>Outside 75% conf.lim.</b>		<b>Outside 75% conf.lim.</b>		
									<b>below</b>	<b>above</b>	<b>below</b>	<b>above</b>	
1	Ret. W 2SW UK(Sc.) Baddoch NM	40	23	0.000033	2.78	0.46	613000	9.57	37.00	-1	1	NO	YES
2	Ret. W 2SW UK(Sc.) North Esk NM	16215	30	0.003880	4121.60	0.31	613000	3708.32	9291.16	-1	1	NO	YES
3	Ret. W 1SW UK(Sc.) North Esk NM	16832	29	0.006428	8249.22	0.37	613000	8413.37	15965.65	-1	1	NO	YES
4	Ret. W MSW UK(E&W) Itchen NM	223	23	0.000288	-99.96	0.73	613000	10.38	142.47	-1	1	NO	YES
5	Ret. W 1SW UK(E&W) Itchen NM	613	22	0.000411	-5.05	0.26	613000	32.79	460.48	-1	1	NO	YES
6	Ret. W MSW UK(E&W) Frome NM	731	38	0.000727	109.23	0.44	613000	19.68	1090.22	-1	-1	NO	NO
7	Ret. W 1SW UK(E&W) Frome NM	730	38	0.000707	128.83	0.37	613000	27.72	1096.76	-1	-1	NO	NO
8	Catch W MSW Ice Ellidaar NM	11	39	0.000091	-20.32	0.55	613000	-22.79	93.39	-1	-1	NO	NO
9	Ret. Freshw 2SW UK(NI) Bush	178	35	0.000156	41.08	0.24	613000	-5.01	278.28	-1	-1	NO	NO
10	Ret. W 1SW UK(NI) Bush NM	2578	17	0.005636	-831.45	0.67	613000	942.10	4305.27	-1	-1	NO	NO
11	Count MSW UK(E&W) Fowey NM	65	14	0.000477	-200.69	0.65	613000	66.46	116.94	1	-1	YES	NO
							<b>Sum of scores</b>			<b>-9</b>	<b>-1</b>		
												<b>Indicators do not suggest that the PFA forecast is an overestimation.</b>	<b>Indicators do not suggest that the PFA forecast is an overestimation.</b>

## Annex 1 Glossary of acronyms and abbreviations

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**1SW** (*one-sea-winter*) Maiden adult salmon that has spent one winter at sea.

**2SW** (*two-sea-winter*) Maiden adult salmon that has spent two winters at sea.

**ASF** (*Atlantic Salmon Federation*)

**C&R** (*catch-and-release*) Catch-and-release is a practice within recreational fishing intended as a technique of conservation. After capture, the fish are unhooked and returned to the water before experiencing serious exhaustion or injury. Using barbless hooks, it is often possible to release the fish without removing it from the water (a slack line is frequently sufficient).

**CL, i.e.  $S_{lim}$**  (*conservation limit*) Demarcation of undesirable stock levels or levels of fishing activity; the ultimate objective when managing stocks and regulating fisheries will be to ensure that there is a high probability that undesirable levels are avoided.

**DCF** (*Data Collection Framework*)

**DFO** (*Department of Fisheries and Oceans*) DFO and its Special Operating Agency, the Canadian Coast Guard, deliver programmes and services that support sustainable use and development of Canada's waterways and aquatic resources.

**DST** (*data storage tag*)

**EU DCR** (*The EU Data Collection Regulation*) DCR established a community framework for the collection, management, and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy.

**FWI** (*Framework of Indicators*)

**MSY** (*maximum sustainable yield*) The largest average annual catch that may be taken from a stock continuously without affecting the catch of future years; a constant long-term MSY is not a reality in most fisheries, where stock sizes vary with the strength of year classes moving through the fishery.

**MSW** (*multi-sea-winter*) An adult salmon which has spent two or more winters at sea or a repeat spawner.

**MYCA** (*multi-year catch advice*)

**NAC** (*North American Commission*) One of three Commission areas reporting to NASCO. Member countries: Canada and the United States of America.

**NAFO** (*Northwest Atlantic Fisheries Organization*)

**NEAC** (*North-East Atlantic Commission*) One of three Commission areas reporting to NASCO. Member countries: Denmark (for Faroe Islands and Greenland), the European Union, Iceland, Norway, and the Russian Federation.

**PFA** (*pre-fishery abundance*) The numbers of salmon estimated to be alive in the ocean from a particular stock at a specified time.

**PIT** (*passive integrated transponder*) PIT tags use radio frequency identification technology. PIT tags lack an internal power source. They are energized on encountering an electromagnetic field emitted from a transceiver. The tag's unique identity code is programmed into the microchip's nonvolatile memory.

**RVS** (*red vent syndrome*) The condition known as RVS has been noted since 2005, and has been linked to the presence of a nematode worm, *Anisakis simplex*. This is a common parasite of marine fish and is also found in migratory species. The larval nematode stages in fish are

usually found spirally coiled on the mesenteries, internal organs, and less frequently in the somatic muscle of host fish.

**SER** (*spawning escapement reserve*) The CL increased to take account of natural mortality between the recruitment date (1 January) and return to home waters.

**SFA** (*salmon fishing areas*) Areas for which the Department of Fisheries and Oceans (DFO) Canada manages the salmon fisheries.

**SGBICEPS** (*Study Group on the Identification of Biological Characteristics for Use as Predictors of Salmon Abundance*) The ICES Study Group established to complete a review of the available information on the life-history strategies of salmon and changes in the biological characteristics of the fish in relation to key environmental variables.

**S<sub>lim</sub>, i.e. CL** (*conservation limit*) Demarcation of undesirable stock levels or levels of fishing activity; the ultimate objective when managing stocks and regulating fisheries will be to ensure that there is a high probability that the undesirable levels are avoided.

**TAC** (*total allowable catch*) The quantity of fish that can be taken from each stock each year.

**WGC** (*West Greenland Commission*) One of three Commission areas reporting to NASCO. Member countries: Canada, Denmark (for Faroe Islands and Greenland), the European Union, and the United States of America.

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**CNL(12)9**

***Report of the Eleventh Meeting of the International Atlantic Salmon  
Research Board***

***George Hotel, Edinburgh, Scotland, UK  
Monday, 4 June 2012***

**1. Opening of the meeting**

1.1 The Chairman, Mr Raoul Bierach, opened the meeting and welcomed members of the Board, their scientific advisers and representatives of the accredited NGOs to Edinburgh.

1.2 A list of participants is contained in Annex 1.

**2. Adoption of the agenda**

2.1 The Board adopted its agenda, ICR(12)12 (Annex 2) but agreed to consider item 6 when it considers applications for funding under item 3.

**3. Report of the Scientific Advisory Group**

3.1 The Chairman of the Board's Scientific Advisory Group (SAG), Mr Tim Sheehan, presented a report on the Group's meeting, SAG(12)5 (Annex 3). The SAG had:

- reviewed the updated inventory of research;
- reviewed applications for potential funding by the Board;
- reviewed progress in implementing the SALSEA Programme;
- developed recommendations concerning the establishment of a metadatabase of marine salmon survey data and sample collections;
- considered approaches to improving access to, and the usability of, data from the West Greenland sampling programme.

3.2 In reviewing the inventory, the SAG had considered how better use could be made of the inventory following completion of the SALSEA Programme. The SAG recommends that the Board should reconvene the Sub-Group that reported in 2009. This Sub-Group should review recent scientific investigations and summarise the findings that have significant management implications; review the inventory and identify opportunities for collaboration; identify research gaps which may be important for advising on management actions; develop a 'road map' to complete other elements of the SALSEA Programme; and advise on a possible future role for the SAG. The proposed ToRs for the Sub-Group are contained in document SAG(12)3. The SAG believes that participation by managers in the work of the Sub-

Group is needed to ensure that important management issues are addressed. The Board agreed to the ToRs.

- 3.3 The SAG had recommended that the Board endorse or, if funds permit, support the following two projects, described in ICR(12)5, both of which were considered to have scientific merit:
- A proposal for a pilot project to undertake genetic stock of origin identification of European salmon captured at West Greenland;
  - A proposal for genetic stock identification of salmon caught in the Faroes fishery.
- 3.4 The Board agreed to contribute the sum of £6,000 to each of these projects. The Board also recognized that there could be public relations benefits to NASCO from supporting the production of the film ‘Atlantic salmon – lost at sea!’ While the Board’s resources do not permit it to support the film it recommends that the Finance and Administration Committee consider if NASCO could contribute funds to enable the filming to proceed in Greenland in 2012.
- 3.5 The Board agreed to the format for the metadata base contained in document ICR(12)4. This will now be sent to jurisdictions for completion.
- 3.6 The Board thanked the SAG for its work and congratulated Mr. Sheehan on his re-election as Chairman.

#### **4. Report on the NASCO/ICES ‘Salmon Summit’**

- 4.1 The Secretary reported that the ‘Salmon Summit’ had been held in L’Aquarium, La Rochelle, France and was funded by NASCO’s International Atlantic Salmon Research Board (IASRB) and ICES with sponsorship from the Total Foundation and additional support from The French National Agency for Water and Aquatic Environments (ONEMA). It provided a forum for presentation of the findings from the SALSEA Programme and other recent research on salmon at sea. One hundred and twenty-eight scientists and managers from around the North Atlantic, North Pacific and Baltic regions, attended the symposium. There had been very positive feedback on the Summit. There will be two reports arising from the Summit. An issue of the ICES Journal of Marine Science (ICES JMS), containing some of the scientific papers that were accepted following peer review, will be published in November. A second report by the Convenors and the ICES JMS Guest Editor has been produced and focuses on the management implications and copies were made available to members of the Board.
- 4.2 In summary, the Secretary indicated that over the last forty years, increased mortality at sea, linked to a warming climate, has resulted in a dramatic decline in the abundance of Atlantic salmon. Since management options in the ocean are limited the report had concluded that the goal should be to maximise the number of healthy wild salmon that go to sea by focusing actions on impact factors in fresh, estuarine and coastal waters. There will need to be more outreach to politicians and the public and to those industries that are impacting the salmon and its habitat. The large and diverse

community of non-government organizations supporting the species can play a major role. A more detailed report would be presented to the Council.

## **5. Progress Report on the SALSEA Programme and Future Actions**

- 5.1 Progress reports on the various projects under the SALSEA Programme were presented in the report of the SAG. It was noted that the final report to the European Commission on the SALSEA Merge project had been made available on the Board's website together with the presentations and abstracts from the Salmon Summit. The Board recognized that it would assist in publicizing the research being undertaken if the report of the Salmon Summit was made available on both the NASCO and IASRB websites. In this regard the Atlantic Salmon Trust, in conjunction with NASCO, had held a one-day meeting entitled 'Ocean Silver' to highlight the findings from the research and consider the management implications.
- 5.2 It was noted that some samples collected under the SALSEA Programme remain to be analysed if funding becomes available. In this regard, the Board was advised of a new project in Ireland involving a PhD student. The aim is to maximize the use of the samples collected during the marine surveys.

## **6. Finance and administrative issues**

- 6.1 The Secretary indicated that from initial 'seed corn' funding of only £30,000 very substantial funds had been raised that had enabled a multi-million pound programme of research to be implemented. He reported that the year-end accounts indicate a balance of ~£42,000 but because the Board had agreed to a request from the Council for a loan of £25,000, the available funds amount to only £17,000. The Board adopted the 2011 accounts and agreed that the funds remaining (~£5,000) after funding the two projects referred to in paragraph 3.3 above should be held as a reserve.

## **7. Other business**

- 7.1 The Board agreed that it would consider its future working methods at its 2013 meeting in the light of the findings of the Sub-Group, the External Performance Review Panel's recommendations and the outcome of the Working Group established to take these recommendations forward.

## **8. Report of the meeting**

- 8.1 The Board agreed a report of its meeting.

## **9. Date and place of next meeting**

- 9.1 The Board agreed to hold its next meeting in conjunction with the Thirtieth Annual Meeting of NASCO.

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

*List of Participants*

**Canada**

Julia Barrow  
Bud Bird  
Serge Tremblay

**Denmark (in respect of the Faroe Islands and Greenland)**

Elin Mortensen

**European Union**

Marco D'Ambrosio  
Cathal Gallagher  
John McCartney  
Niall Ó Maoiléidigh  
Ted Potter

**Norway**

Raoul Bierach (Chairman)  
Arne Eggereide  
Peder Fiske

**Russian Federation**

Sergey Prusov

**US**

Mary Colligan  
Rory Saunders  
Tim Sheehan

**NGOs**

Dave Meerburg  
Ken Whelan

**ICES**

Gérald Chaput

**Secretariat**

Peter Hutchinson  
Malcolm Windsor

**ICR(12)12**

*Agenda*

1. Opening of the Meeting
2. Adoption of the Agenda
3. Report of the Scientific Advisory Group
4. Report on the NASCO/ICES 'Salmon Summit'
5. Progress Report on the SALSEA Programme and Future Actions
6. Finance and administrative issues
7. Other business
8. Report of the meeting
9. Date and Place of next meeting

**SAG(12)5**

***Report of the Meeting of the Scientific Advisory Group of the  
International Atlantic Salmon Research Board  
George Hotel Edinburgh, Scotland, UK  
Monday, 4 June, 2012***

**1. Opening of the meeting**

- 1.1 The Chairman, Mr Tim Sheehan (US), opened the meeting and welcomed participants to Edinburgh.
- 1.2 A list of participants is contained in Annex 1.

**2. Adoption of the agenda**

- 2.1 The SAG adopted its agenda, SAG(12)2 (Annex 2).

**3. Election of officers**

- 3.1 The SAG re-elected Mr Tim Sheehan as its Chairman for a period of two years and thanked him for his excellent work to date.

**4. Review of the updated inventory of research**

- 4.1 An overview of the updated inventory of research relating to salmon mortality in the sea, ICR(12)3, was presented. For 2012, 39 on-going and 65 completed projects had been included in the inventory with an annual expenditure of approximately £5 million. A summary of findings was not available for all completed projects. During the year some major projects had been completed, including SALSEA Merge, and one new project, *'The ecology of salmon (Salmo salar L.) at sea - environmental factors affecting marine growth, survival and migration of Atlantic salmon'* had been included by the European Union (Ireland) since the 2011 update. The objectives of this project are to investigate the decline in North Atlantic salmon stocks in the past two decades in an ecosystem context and to provide new information for use in forecast models of abundance and size of current stocks.
- 4.2 The SAG agreed that the jurisdictions should be given the opportunity to provide any feedback on the inventory to the Secretariat by the end of June, with a view to the inventory being made available on the Board's website by the end of July. It was also recommended that the Secretariat explore opportunities to make the inventory more visible and attractive on the Board's website and that efforts be made to bring it to the attention of researchers and other interested parties.

- 4.3 In 2009, the SAG had received a report from a Sub-Group established to advise on how information contained in the inventory could be better utilised. The Sub-Group's Terms of Reference were to review the inventory to identify areas where there may be merit in encouraging improved coordination of research and to highlight gaps in the research programme where new work might significantly benefit the Board and might be funded by it. The Sub-Group had highlighted some workshops and study groups that might be considered for funding by the Board and some suggestions for improvements to the inventory had been made. The SAG had agreed that it would be useful to conduct a further review in 2011 but this had not been initiated to date.
- 4.4 The SAG agreed that the inventory provided a very valuable compilation of information on research on salmon at sea but that it could be more fully utilized. It therefore, recommends to the Board that it reconvene the Sub-Group and that it meet inter-sessionally to review the inventory in the light of the findings presented at the Salmon Summit and other information with a view to identifying future research needs and opportunities for enhanced coordination of research. The ToRs for the Sub-Group are contained in document SAG(12)3 (Annex 3).

## **5. Review of Applications for Potential Funding by the Board**

- 5.1 Under the Board's Guidelines for Submitting Proposals for Research, Workshops, Symposia and Other Activities for Support by the IASRB, ICR(09)10, applications seeking either only endorsement by the Board or funding support from the Board may be considered. For projects seeking only endorsement, only a project summary, details of the relevance to the SALSEA Programme, the name of the leading scientist and details of any cooperating organizations are required. For proposals seeking funding, more detailed information is required and this should be submitted to the Secretariat no later than 31 December each year. These proposals are then reviewed by the SAG and its recommendations are made to the Board.
- 5.2 Since the last Annual Meeting, three applications seeking funding from the Board had been received, ICR(12)5. These were as follows:
- A proposal to film at Greenland as part of the Castletown Productions Film entitled 'Atlantic Salmon-Lost at Sea!';
  - A proposal for a pilot project to undertake genetic stock of origin identification of European salmon captured at West Greenland;
  - A proposal for genetic stock identification of salmon caught in the Faroes fishery.
- 5.3 The SAG decided that it could not undertake a scientific evaluation of the film although it recognised that this could have public relations value to the Board and to NASCO. The SAG agreed that the two genetic stock identification projects both have scientific merit. It was noted that the West Greenland project was important because there is currently an internal-use fishery under NASCO regulatory measures and that there has been a marked reduction in the proportion of European origin salmon harvested in the fishery raising concerns about the status of these contributing stocks. The SAG was advised that partial funding had already been obtained to support this project from the Department of Culture and Leisure in Northern Ireland (£16,000) and

from the Atlantic Salmon Trust (£4,000) so a further £10,000 was being sought. The SAG considered that while this project had merit the findings would be unlikely to result in changes in the current management advice. The SAG noted that with regard to the project based on Faroese samples, there is currently no salmon fishery in Faroese waters. The risk framework that has been developed by ICES is currently based on a small amount of information on the origin of salmon tagged at the Faroes 20 years ago. The proposal involved genetic stock identification using archived scale samples that are also 20 years old but are more numerous and should increase the resolution of origin at a finer scale than stock complex currently used in the risk framework developed by ICES. The sum sought was £33,500 although 'seed corn' funding by the Board might enable the remaining funds to be raised from other sources.

- 5.4 The SAG agreed to recommend to the Board that both of these projects should be endorsed and funded or partially funded if resources permit. In this regard, it was noted that the Board currently only had £17,000 available to it until 2013 and 2014 when the loan to the Council will be repaid.

## **6. Progress with Implementing the SALSEA Programme**

### **(a) Report on the 'Salmon Summit'**

- 6.1 The Assistant Secretary reported that in October 2011, NASCO and ICES Co-Convened the 'Salmon Summit', an international symposium entitled 'Salmon at Sea: Scientific Advances and their Implications for Management'. The objectives of the symposium were to:

- review recent advances in our understanding of the migration, distribution and survival of salmon at sea and the factors influencing them;
- consider the management implications of recent advances in understanding of the salmon's marine life;
- identify gaps in current understanding and future research priorities; and
- increase awareness of recent research efforts to improve understanding of salmon at sea and to encourage support for future research.

- 6.2 The 'Salmon Summit' was held in L'Aquarium, La Rochelle, France and was funded by NASCO's International Atlantic Salmon Research Board (IASRB) and ICES, with sponsorship from the Total Foundation and additional support from the French National Agency for Water and Aquatic Environments (ONEMA). It provided a forum for presentation of the findings from the SALSEA Programme and other recent research on salmon at sea. One hundred and twenty-eight scientists and managers from around the North Atlantic, North Pacific and Baltic regions attended the symposium. While the focus was on research on salmon in the North Atlantic, the findings of recent research on Pacific and Baltic salmon were also presented. He indicated that a full report would be presented to the Council but, in summary, the Summit had been very well received. Two reports of the Summit will be produced. Following peer review, 15 of the papers presented in La Rochelle have been accepted for inclusion in a symposium issue of the ICES Journal of Marine Science that will be published in November 2012. A second report, focusing more on the management

implications, has been prepared by the three Convenors and the Guest Editor of the ICES JMS symposium issue. This report will be issued to all delegates at the Summit, to all NASCO delegates and widely distributed.

**(b) Report on the SALSEA-Merge project**

6.3 Professor Ken Whelan reported on the SALSEA-Merge project. The project is now completed and the final report has been submitted to the European Commission. This report is available on the IASRB website. A unique, comprehensive biological and environmental database (SALSEA PGNAPES) was developed to facilitate future analyses and a powerful new molecular assignment protocol had been developed - **Genetically-based Regional Assignment of Atlantic Salmon Protocol (GRAASP) based on a suite of 14 microsatellite loci. This tool is the basis of the research proposals based on samples from West Greenland and Faroes referred to in paragraph 5.2 above. He indicated that a major challenge will be to analyse all the material collected during the SALSEA Merge project and in this regard a new PhD research project has just been initiated (referred to in paragraph 4.1 above). He also referred to the need to find an appropriate repository for the data and samples. ICES had offered to hold the data from the project but will not manage it. Currently the Freshwater Laboratory in Pitlochry holds the genetic data and the Faroe Research Institute the PGNAPES database.**

**(c) SALSEA North America**

6.4 Mr Gérald Chaput reported on SALSEA North America. There had been no new research activity in 2011 but opportunities are being explored for further analyses of the data collected. While there is no overall technical report of the project, information obtained during the marine surveys has been included in a paper which summarises the project's findings that has been accepted for inclusion in the Salmon Summit issue of the ICES Journal of Marine Science.

**(d) Report on SALSEA West Greenland**

6.5 A report on the SALSEA West Greenland programme was presented by Mr Tim Sheehan. In 2011, a total of 430 fresh whole fish were purchased directly from individual fishermen under the enhanced sampling programme (additional to the ongoing, long-term baseline sampling). This was the third and final year of field sampling under SALSEA West Greenland. The enhanced samples will be used to evaluate a wide variety of topics such as age and growth, diet, origin, lipid analysis, stable isotope analysis, parasites, diseases, sea age at maturity as well as genetic aspects and SLICE resistance in sea lice. The samples collected (1,200 in total) are being analysed and a paper involving analysis of stable isotopes from salmon sampled at West Greenland and from several Canadian rivers has been accepted for inclusion in the Salmon Summit issue of the ICES Journal of Marine Science (see 6.8 below).

6.6 The SAG agreed that a priority should be to fully analyse all the data from SALSEA Merge, SALSEA North America and SALSEA West Greenland. In this regard reference was made to the excellent support provided by the Total Foundation. It was suggested that the Board might consider approaching other oil companies with biodiversity foundations if there were specific funding needs in the future.

**(e) Analysis of historical tagging data**

6.7 Since 2007, ICES has held three workshops on analysis of historical tagging data. The reports of all three workshops are available on the ICES and IASRB websites. The Board had supported these workshops by funding the participation of a GIS expert and a hydrographer and this had been extremely useful in facilitating the work. In 2010, a summary of the final Workshop had been presented to the SAG. The Workshop had recommended that all the tag data used by the Workshops should be compiled into a single database available to Workshop participants and held at the ICES Data Centre and that after a period of two years the data should be made freely available. Furthermore, the reports of the three Workshops should be combined into a single ICES Cooperative Research Report to be published in 2012. The analyses initiated by the Workshops will be written up in peer-reviewed papers and two papers reporting on distribution of tag recoveries at West Greenland and the Faroe Islands have been accepted for the Salmon Summit issue of the ICES Journal of Marine Science.

**(f) Progress on stable isotope analysis of West Greenland samples**

6.8 The Board had supported a study to examine any changes in trophic levels of Atlantic salmon through the marine phase of their life-cycle. Mr Gérald Chaput presented a progress report. The aim was to comprehensively sample salmon at different stages of their life-cycle: smolts migrating out of rivers; post-smolts obtained in SALSEA North America; 1SW and 2SW salmon returning to rivers; and 1SW non-maturing salmon at West Greenland. He indicated that as a result of the initial funding provided by the Board, the project had expanded considerably with the employment of a PhD student at the University of Waterloo, Ontario. A paper based on this study has been accepted for inclusion in the Salmon Summit issue of the ICES JMS.

**(g) Reports on sonic telemetry studies**

6.9 Mr David Meerburg reported that the Atlantic Salmon Federation (ASF) has continued to assess estuarine and coastal survival of tagged Atlantic salmon released in rivers of the Gulf of St. Lawrence using acoustic tags. There is now a detector array across the Cabot Strait (37 km north from Cape Breton Island) meaning that each exit from the Gulf of St. Lawrence is now monitored. There are also plans to install a detector array at West Greenland with preparatory work in 2012 with a view to installation in 2013. This year an acoustically tagged kelt was caught at West Greenland.

**(h) Coordination of the SALSEA Programme**

*Report of the IASRB Working Group on Marine Salmon Survey Data and Sample Collection*

- 6.10 Last year, the Board had recognized that recent international initiatives under the SALSEA Programme had generated some extremely valuable databases. These include biological and genetic databases generated under the SALSEA Merge project, and time-series of data and historical tagging information compiled by ICES workshops supported by the Board. The Board had recognized that there is a need to ensure that these databases are securely held, maintained and agreed procedures developed to allow access to the data for further research. In addition, the Board had noted the existence of some historical marine survey samples, such as those generated by the international sampling programme at West Greenland, that represent an invaluable resource dating back some 40 years or more. The need to ensure that these samples are being maintained and agreed procedures developed to allow access to them for further research was recognised.
- 6.11 The Board had, therefore, established a Working Group to work by correspondence. The Working Group's interim report, ICR(11)4 had been presented by its Chairman, Professor Ken Whelan, at the 2011 SAG and IASRB meetings. In summary, the Working Group had recommended that the most important role that the IASRB could play with regard to marine salmon survey data and sample coordination would be to establish a meta-database of existing datasets and sample collections, using the list developed by the Group as a basis. The Board had welcomed the Group's progress and asked that it continue to work by correspondence so as to develop a format for the metadatabase and to populate it, in consultation with the jurisdictions, and to report back on progress at the 2012 meeting of the Board. The Chairman of the Working Group presented a report, ICR(12)4, on progress in developing a metadatabase of salmon survey data and sample collections of relevance to mortality of salmon at sea. The SAG accepted the format proposed for this metadatabase and recommends that the Board now request that jurisdictions be requested to provide relevant information.

*Discussion Document from the Chairman of SAG on Approaches to Improving Access to and the usability of Data from the West Greenland Sampling Programme*

- 6.12 Last year the SAG had recommended to the Board that the Chairman of the SAG develop a discussion document on possible approaches to improving access to, and usability of, the data, access to samples and protocols concerning their possible use, particularly destructive use. The Board had agreed to this proposal. The West Greenland sampling programme was selected because it involved multi-Party collaboration.
- 6.13 Mr Tim Sheehan reported that consultations with DFO staff had indicated that the database that was started 30 or 40 years ago was not in a particularly useable form with the information divided among four databases. There had been personnel changes in DFO and those now responsible are trying to bring the data together but they are not in a common format. Eventually there will be one database of all the

material and the SAG encourages continuation of this work so that the information is available to researchers at the earliest opportunity.

**(i) Other activities**

6.14 No other activities were brought to the attention of the SAG.

**7. Other business**

7.1 There was no other business.

**8. Report of the meeting**

8.1 The SAG agreed a report of its meeting.

**9. Date and place of next meeting**

9.1 The SAG decided to hold its next meeting in conjunction with the Thirtieth Annual Meeting of NASCO.

9.2 In closing the meeting the Chairman thanked the participants for their contributions to the meeting.

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

*4 June, 2012*

*List of Participants*

Julia Barrow

Bud Bird

Gérald Chaput

Peder Fiske

Cathal Gallagher

Peter Hutchinson

Paul Knight

Dave Meerburg

Niall Ó Maoiléidigh

Ted Potter

Sergey Prusov

Elena Samoylova

Tim Sheehan *Chairman*

Ken Whelan

**SAG(12)2**

*Agenda*

1. Opening of the meeting
2. Adoption of the agenda
3. Election of officers
4. Review of the updated inventory of research
5. Review of applications for potential funding by the Board
6. Progress with Implementing the SALSEA Programme
  - (a) Report on the 'Salmon Summit'
  - (b) Report on the SALSEA-Merge project
  - (c) Report on SALSEA North America
  - (d) Report on SALSEA West Greenland
  - (e) Analysis of historical tagging data
  - (f) Progress on stable isotope analysis of West Greenland samples
  - (g) Reports on sonic telemetry studies
  - (h) Coordination of the SALSEA Programme
    - (i) Report of the IASRB Working Group on Marine Salmon Survey Data and Sample Collection
    - (ii) Discussion Document from the Chairman of SAG on Approaches to Improving Access to and the Usability of Data from the West Greenland Sampling Programme
  - (i) Other activities
7. Other business
8. Report of the meeting
9. Date and place of next meeting

### SAG(12)3

#### *Terms of Reference for the Sub-Group on the Future Direction of Research on Marine Survival of Salmon*

##### **Background**

The International Atlantic Salmon Research Board (IASRB) was established by the Council of NASCO, to promote collaboration and cooperation on research into the causes of marine mortality of Atlantic salmon and the opportunities to counteract this mortality (ICR(06)05). The IASRB established a Scientific Advisory Group (SAG) to assist in identifying research gaps and priorities and to develop recommendations for enhanced coordination of existing research, calls for proposals, recommendations for research and other activities that may be supported by the Board.

The first task the IASRB undertook was to develop an inventory of existing research on marine mortality of Atlantic salmon so as to facilitate improved coordination, to identify gaps and to develop priorities; this inventory has been updated annually. The IASRB also commissioned the development of an international programme of cooperative research on salmon at sea, the SALSEA programme. This programme contains a mix of freshwater, estuarine, coastal and offshore elements, ensuring a comprehensive overview of factors which may affect the marine mortality of Atlantic salmon. However, the IASRB agreed that their initial priority should be to support the implementation of the marine survey aspect of SALSEA, because this was where there was greatest need for international collaboration and funding.

With the completion of the SALSEA-Merge, SALSEA North America and SALSEA West Greenland field programmes, it is appropriate for the IASRB and SAG to review and evaluate their roles in supporting NASCO's objective to conserve, restore, enhance and rationally manage Atlantic salmon through international cooperation taking account of the best available scientific information. A Sub-Group will therefore be established to evaluate recent scientific progress and provide guidance for how the SAG can remain an effective and productive body into the future. The recommendations provided by the Sub-Group may also provide a basis for discussions on the future of the IASRB.

##### **Terms of Reference:**

- Review the outcome of recent scientific investigations and summarise the findings which have significant management implications.
- Review the Inventory of Marine Research and identify opportunities for collaboration within the suite of ongoing projects to facilitate progress with identifying the major causes of salmon mortality at sea.

- Based on the inventory and the results of recent scientific studies published in the literature, identify gaps in research efforts and knowledge which may be important for advising on salmon management actions.\*\*
- Review the larger SALSEA project and advise on a “road map” to complete other elements of the research previously identified.
- Arising from these reviews, advise on possible future role of the SAG

\*\* The Sub-Group should focus its gap analysis and subsequent recommendations on applied research requirements for management. If gaps are identified, recommendations to rectify the gap should be provided and evaluated in terms of the feasibility of carrying out the specific research. Additionally, the Sub-Group should evaluate if the gap can be filled from existing programmes, from a new programme based on current technology or if new tools and advances are needed.

The Sub-Group is expected to focus on applied science related topics, but participation of managers is needed to ensure that critical management issues are addressed. Highest priority should be given to issues requiring or benefitting from international collaboration. Where management issues are identified and science needs/solutions are suggested, the Sub-Group should consider how the results are most likely to be integrated into advice and those areas that are likely to have the most immediate effects on management actions. While the Sub-Group should focus on salmon, recent changes in marine ecology, particularly in the pelagic ecosystems, caused by global climate change, should also be considered as information from other scientific disciplines can inform Atlantic salmon science and management.

The Sub-Group will require a 2-3 day working meeting to be facilitated by the NASCO Secretariat (location to be determined). Participation should be between 6-8 people, including scientists, managers and a representative from the NGO community. Representation from both North America and Europe is critical. A significant amount of preparation can be undertaken prior to this working meeting to ensure that the time spent at the meeting is productive. The Sub Group should take account, *inter alia*, of the following documents:

- Original SALSEA research programme
- EU SALSEA Merge proposal and final report
- Salmon Summit proceedings (ICES JMS)
- Salmon Summit Convenors’ report
- Current status of SALSEA projects
- Inventory of Marine Research
- National initiatives
- Current management priorities indicated by Parties
- Original IASRB and SAG Rules of Procedure and ToRs
- 2012 Reports of IASRB and SAG Meetings



**CNL(12)10**

***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 by country, including unreported catches and catch and release, and production of farmed and ranched Atlantic salmon in 2012<sup>1</sup>;
- 1.2 report on significant new or emerging threats to, or opportunities for, salmon conservation and management<sup>2</sup>;
- 1.3 provide a review of examples of successes and failures in wild salmon restoration and rehabilitation and develop a classification of activities which could be recommended under various conditions or threats to the persistence of populations;
- 1.4 advise on the potential threats to Atlantic salmon from exotic salmonids including rainbow trout and brown trout where appropriate;
- 1.5 provide a compilation of tag releases by country in 2012;
- 1.6 identify relevant data deficiencies, monitoring needs and research requirements.

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

- 2.1 describe the key events of the 2012 fisheries<sup>3</sup>;
- 2.2 review and report on the development of age-specific stock conservation limits;
- 2.3 describe the status of the stocks;
- 2.4 further develop a risk-based framework for the provision of catch advice for the Faroese salmon fishery reporting on the implications of selecting different numbers of management units<sup>4</sup>;

*In the event that NASCO informs ICES that the Framework of Indicators (FWI) indicates that reassessment is required:\**

- 2.5 provide catch options or alternative management advice for 2013-2016, 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<sup>5</sup>;
- 2.6 update the Framework of Indicators used to identify any significant change in the previously provided multi-annual management advice.

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

- 3.1 describe the key events of the 2012 fisheries (including the fishery at St Pierre and Miquelon)<sup>3</sup>;
- 3.2 update age-specific stock conservation limits based on new information as available;
- 3.3 describe the status of the stocks;

*In the event that NASCO informs ICES that the Framework of Indicators (FWI) indicates that reassessment is required:\**

- 3.4 provide catch options or alternative management advice for 2013-2016 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<sup>5</sup>;
- 3.5 update the Framework of Indicators used to identify any significant change in the previously provided multi-annual management advice.

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

- 4.1 describe the key events of the 2012 fisheries<sup>3</sup>;
- 4.2 describe the status of the stocks<sup>6</sup>;

*In the event that NASCO informs ICES that the Framework of Indicators (FWI) indicates that reassessment is required:\**

- 4.3 provide catch options or alternative management advice for 2013-2015 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<sup>5</sup>;
- 4.4 update the Framework of Indicators used to identify any significant change in the previously provided multi-annual management advice.

**Notes:**

1. *With regard to question 1.1, for the estimates of unreported catch the information provided should, where possible, indicate the location of the unreported catch in the following categories: in-river; estuarine; and coastal. Numbers of salmon caught and released in recreational fisheries should be provided.*
2. *With regard to question 1.2, ICES is requested to include reports on any significant advances in understanding of the biology of Atlantic salmon that is pertinent to NASCO, including information on any new research into the migration and distribution of salmon at sea and the potential implications of climate change for salmon management.*
3. *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, 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.*
4. *In response to question 2.4, ICES is asked to advise on the limitations for defining management units smaller than the current NEAC stock complexes, the implications of applying probabilities of achieving CLs to separate management units versus the use of simultaneous probabilities and the choice of risk levels for achieving management objectives.*
5. *In response to questions 2.5, 3.4 and 4.3, provide a detailed explanation and critical examination of any changes to the models used to provide catch advice and report on any developments in relation to incorporating environmental variables in these models.*

6. *In response to question 4.2, 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 2.3 and 3.3.*



CNL(12)12

***Report of the Meeting of the  
Working Group on Future Reporting under Implementation Plans and Evaluation  
of These Reports***

1. In 2011, the Council considered the report of the 'Next Steps for NASCO' Review Group. The Group had *inter alia*, recommended that for the next cycle of reporting there should be some streamlining, with greater emphasis on monitoring and evaluation of activities with clearly identifiable, measurable outcomes and timescales. It was further recommended that future Focus Area Reports should be developed around specific themes and that progress on Implementation Plans could be assessed through Annual Reports which would be reviewed. The Council had established a Working Group to develop a framework for such future reporting and evaluation. This Group met in London during 28 – 30 November 2011 under the Chairmanship of Mr Ted Potter (EU) and its report is attached.
2. The Working Group consider that Implementation Plans are the key document in the next cycle of reporting which should provide a simple and transparent approach to report on progress in implementing NASCO's agreements etc. The success of the next reporting cycle will depend on the new Implementation Plans specifying clearly the actions each jurisdiction plans to take over a five-year period, the expected outcomes and the approach to monitoring, including enforcement. These plans should be reviewed. The Group recommends Annual Progress Reports that would also be reviewed, identifying the status of actions within the Implementation Plans with evaluation to assess if the commitments in the plans have been fulfilled and whether progress is being made towards achievement of the objectives.
3. To assist jurisdictions in developing their Implementation Plans and Annual Progress Reports, templates were developed by the Group together with guidance on the format and content of Plans and Reports and on their evaluation. A schedule for submission, review and distribution of these plans and reports is proposed.
4. The Group also recommended a new cycle of Focus Area Reports, developed around specific themes in order to encourage an exchange of information and in-depth consideration of approaches being used to address a particular threat to salmon stocks or challenge to management. In future, they could be called Special Session reports and would not be reviewed. A number of possible topics for Special Session reports are proposed.
5. The Council is asked to consider the report of the Working Group on Future Reporting under Implementation Plans and Evaluation of these Reports and decide on appropriate action.

Secretary  
Edinburgh  
4 April 2012



## WGFR(11)8

### *Report of the Meeting of the Working Group on Future Reporting under Implementation Plans and Evaluation of These Reports*

*NEAFC Headquarters, Berners Street, London, UK  
28 - 30 November 2011*

#### **1. Opening of Meeting**

- 1.1 The Chairman of the Working Group, Mr Ted Potter (European Union) opened the meeting and welcomed participants to London. He thanked the NEAFC Secretariat for hosting the meeting and for the excellent facilities provided. He indicated that apologies had been received from Denmark (in respect of the Faroe Islands and Greenland) and Norway who could not be represented at the meeting. He indicated that the Working Group had been established by the Council, in accordance with the recommendation of the 'Next Steps' Review Group, in order to develop a framework for reporting and evaluation that improves on the process used in the first cycle and assists jurisdictions in implementing NASCO's Resolutions, Agreements and Guidelines. He noted that the Group would need to take account of the deliberations in the Council and the findings of previous Review Groups. A key outcome from the meeting would be a streamlined reporting system with templates to assist jurisdictions in developing their Implementation Plans and reporting on progress and guidelines on their completion and on the review process. He indicated that before it is presented to the Council, the Group's report would be considered by the External Performance Review Panel so that it could provide feedback to the Council. He also reminded the Group that the Council had not yet resolved its future role with regard to aquaculture.
- 1.2 The Secretary noted that the task before the Working Group was important because during the stakeholder consultation meetings the feedback received had indicated that while NASCO had developed good agreements there was a need for better progress with their implementation. Furthermore, Denmark (in respect of the Faroe Islands and Greenland) had suggested that the development of Implementation Plans and reporting and evaluation of progress would provide a mechanism to assess 'fairness and balance' in the measures being taken by Greenland and Faroes and those taken by States of Origin. There had been suggestions at NASCO's 2011 Annual Meeting that the efforts of States of Origin on salmon conservation would be a factor during the negotiation of new measures for the Greenland and Faroes fisheries in 2012. He noted that the challenge for the Working Group would be to find a way to streamline the reporting and evaluation process to ensure that NASCO receives the information it needs without placing an excessive burden on the Parties.
- 1.3 A list of participants is contained in Annex 1.

#### **2. Adoption of Agenda**

- 2.1 The Working Group adopted its agenda, WGFR(11)3 (Annex 2).

#### **3. Consideration of the Terms of Reference**

- 3.1 The Working Group's Terms of Reference are contained in the Report of the Twenty-Eighth Annual Meeting of the Council, CNL(11)43, and are as follows:

- (a) Develop new guidelines for the preparation of Implementation Plans, drawing on document NSTF(06)10 but with greater emphasis on monitoring and evaluation and including criteria for acceptability, and guidelines for the preparation of Annual Reports. These guidelines should describe the content and format of these reports, the timing for submission of these reports, and the timing and process for distribution of these reports;
- (b) Develop a process for the review of Implementation Plans and Annual Reports including the criteria to be used for the reviews, the timing of the reviews, the composition of the Review Groups, and arrangements for reporting on the reviews;
- (c) Develop a schedule for the development and review of Implementation Plans, submission and review of the Annual Reports, and planning for and conduct of theme-based FAR Special Sessions.

3.2 The Working Group reviewed its Terms of Reference and noted that these reflected the Council's initial thinking on future planning and reporting, in the light of the review of the 'Next Steps' process. Thus, the Council had indicated that the Implementation Plans might be the key documents in the second cycle of reporting and that reporting on progress in implementing the actions detailed in these Plans would be through Annual Progress Reports. Both the Implementation Plans and Annual Reports might be subject to critical review. The Group noted that if future reporting is through Annual Progress Reports there would be a need to improve on the current process and ensure there was a focus on the outcomes of the actions detailed in the Implementation Plans. The Group also noted that the Council had indicated that in the second cycle of reporting, the Focus Area Reports might be more themed-based and not subject to review. The Group discussed these proposals and concurred with this general approach.

#### **4. Review of Previous Reporting and Evaluation Procedures**

4.1 The Secretary presented an overview of a document, NS(11)3, which had been tabled at the 'Next Steps' Review Group meeting and which provided a review of the process used for reporting and evaluation of the reports. The Review Group had concluded that the first cycle of reporting under the 'Next Steps' process had created a sound basis for assessing the measures being taken in accordance with NASCO's agreements and had highlighted where additional actions are needed. It had led to a valuable exchange of information among the jurisdictions. However, while the first cycle of reporting had focused on the process, the Review Group had agreed that the next cycle should build on the strong foundation that has been laid and focus on: changes since the last reporting; actions taken and measurable outcomes; and furthering information exchange.

#### **5. Future Preparation of Implementation Plans**

5.1 The 'Next Steps' Review Group had proposed that Implementation Plans would be the key document in the next reporting cycle. In these plans, each jurisdiction would describe the activities and actions it intends to undertake over a five year period and emphasis should be given to clearly identifiable measurable outcomes and timescales and monitoring and evaluation of activities. The 'Next Steps' Review Group had suggested that it would assist the streamlining of future reporting if templates were developed to facilitate the development of consistent plans and reports.

5.2 The Working Group discussed this approach and agreed that it provided a sound way forward. The Group considers that the purpose of Implementation Plans is to provide a simple and transparent approach for reporting on the implementation of NASCO's Resolutions, Agreements and Guidelines. It noted that the success of the next reporting

cycle would depend on new Implementation Plans specifying clearly the actions (i.e. specific tangible activities) each jurisdiction plans to take over a five year period, the expected outcomes (i.e. a measure of success of the action) and the approach to monitoring the effectiveness of the actions, including enforcement. It also agreed that there was a need for Implementation Plans to be presented in a clear and straight-forward manner so that they are easily understood by both managers and stakeholders. To assist jurisdictions in developing their Implementation Plans, the Review Group developed a template, WGFR(11)4 (Annex 3). This template includes sections on: the general status of stocks and their management; details of the threats and management challenges relating to management of fisheries, habitat protection and restoration, and aquaculture and related activities; and the actions to be taken to address these threats and challenges and the expected outcomes.

- 5.3 The Group also developed guidance on the content and format of Implementation Plans and a schedule for their submission and review and this is contained in section 2 of document WGFR(11)5 (Annex 4). This guidance should be made available to the jurisdictions together with the template. Furthermore, as the new Implementation Plans are expected to address issues on which additional actions were recommended in the first cycle of reviews, the Group suggests that the Secretariat be asked to compile these recommendations for each jurisdiction and send them to the jurisdictions at the same time as the template and guidance. The Group also recommends that the next cycle of reporting should commence with the preparation and review of Implementation Plans in 2012/2013 and that these Plans cover the period 2013-2018.
- 5.4 The Group was aware that a concern had been raised by the International Salmon Farmers' Association that the NGOs had been able to circulate aquaculture FARs widely before the industry had seen them. The Aquaculture FAR Review Group had proposed that, for the second cycle, reports should be made available on the NASCO website. The Working Group agrees with this recommendation and has proposed appropriate timing in sections 2.4 and 3.3 of document WGFR(11)5 (Annex 4).

## **6. Evaluation of Implementation Plans**

- 6.1 The Group discussed the arrangements for evaluation of Implementation Plans. The purpose of this evaluation would be to ensure that, as far as possible, the Implementation Plans provide a fair and equitable description of the actions that each jurisdiction plans to take to implement NASCO's Resolutions, Agreements and Guidelines. The Group recommends a two-stage process involving an initial screening by the Secretariat, to ensure that time is not wasted on a full critical review of plans that contain significant omissions, and then an examination by a Review Group to evaluate the quality of the information provided. At either stage, plans may be returned to jurisdictions to address shortcomings.
- 6.2 The Group recommends that the membership of the Review Group should be modified from the first cycle to include one more representative from the Parties. The Review Group would, therefore, comprise:
- one representative from Denmark (in respect of the Faroe Islands and Greenland);
  - three representatives of the other Parties (preferably one from North America and two from Europe);
  - two representatives of the NGOs (preferably one from Europe and one from North America); and
  - one scientific representative from the Standing Scientific Committee.

The Group recommends that members of the Review Group should normally be appointed for a period up to three years to ensure continuity (see also paragraph 8.1 below).

6.3 The Group considered that the review procedures used in the first reporting cycle had been fair and effective and recommends that they be adopted for the next cycle of Implementation Plans.

6.4 The Review Group developed guidance on the evaluation of Implementation Plans that is contained in section 2 of document WGFR(11)5 (Annex 4). The Group discussed whether the report of the Implementation Plan Review Group should be presented to the Council in a Special Session or in plenary. Special Sessions are more informal and allow for interventions by all delegates but the Group concluded that as it is the Parties' responsibility to report to NASCO it would be more appropriate for Heads of Delegations to respond to the assessments of the Implementation Plans. The Group also discussed whether the review should involve a quantitative or qualitative approach and recommends that a three-tier system should be used as follows:

1. 'Satisfactory answers/information';
2. 'Unclear or incomplete answers/information'; and
3. 'Clear omissions or inadequacies in answers/information'.

6.5 After submission, the Secretariat would conduct an initial review and any Implementation Plan considered to contain clear omissions would be returned to the jurisdiction concerned with clear guidance on the additional information required. The purpose of this initial review is to avoid time being wasted by the Review Group on incomplete Plans.

6.6 All Implementation Plans, including re-submitted plans, would then be subject to critical review by the Review Group. Any Implementation Plans having sections scored in categories 2 and 3 would be returned to the jurisdiction for re-drafting with clear guidance on the improvements required. These comments would not be made public. Where the Review Group considered that Implementation Plans still contained sections scored in category 3 after re-submission, these would be highlighted in the Review Group's report to Council. The jurisdictions would then be given the opportunity to respond to the comments during the Council meeting and to update their Implementation Plan after the Council Meeting.

## **7. Future Preparation of Annual Progress Reports**

7.1 The 'Next Steps' Review Group had proposed that jurisdictions should provide an Annual Progress Report identifying the status of actions within their Implementation Plan as well as available data on monitoring the effectiveness of those actions and that these reports should be evaluated to review if the commitments in the plan have been fulfilled and whether progress was being made towards achievement of the stated objectives.

7.2 The Group considers that the primary purposes of the Annual Progress Reports are to provide details of:

- any changes to the management regime for salmon and consequent changes to the Implementation Plan;
- actions that have been taken under the Implementation Plan in the previous year;
- significant changes to the status of stocks, and a report on catches; and
- actions taken in accordance with the provisions of the Convention.

- 7.3 The Group reviewed the current format for the Annual Returns to NASCO and used this as a basis to develop a new template for the Annual Progress Reports, WGFR(11)6 (Annex 5). In particular, it was agreed that the original guidance on completion should be incorporated within the requests for information and new elements were included to allow for progress to be reported on each action in the Implementation Plan, the expected outcome from the action, and the results of monitoring of the effectiveness of the action. With regard to catch statistics, the Group recommends that in future the Council ask that reported and unreported catches be provided to NASCO, not only as totals but also divided between in-river, estuarine and coastal catches as this information will assist in consideration of progress in the management of fisheries.
- 7.4 The Group also developed guidance on the content and format of Annual Progress Reports and a schedule for their submission and review, and this is contained in section 3 of document WGFR(11)5 (Annex 4). To aid completion of the template, the Group recommends that the Secretariat incorporate the actions specified in the Implementation Plans in the Annual Progress Report template for each jurisdiction.
- 7.5 The Group noted that under the Convention, the North American Commission has a broader mandate than the North-East Atlantic and West Greenland Commissions. The reporting under the Convention by Members of the NAC is consequently broader than for the other two Commissions and includes information in relation to by-catch of salmon and alteration of fishing patterns. While the Group is aware that these aspects are included in the request for advice from ICES, it wishes to bring this difference in reporting requirements to the Council's attention.

## **8. Future Evaluation of Annual Progress Reports**

- 8.1 The Working Group recommends that, as with the Implementation Plans, the Annual Progress Reports should be subject to a critical evaluation process but realises that the time available for this will be limited to a period of less than two months, because the catch statistics are not available until March. It is essential, therefore, that reminders are sent out by the Secretariat well before the deadline and that jurisdictions submit their Annual Progress Reports by the proposed deadline of 1 April. A critical evaluation of the progress that has been made on the actions in the Implementation Plan will be conducted by the Review Group appointed by the Council. Where there are shortcomings, the Review Group will develop a list of questions to be sent to the jurisdiction for response at the Annual Meeting. The Group proposes that the reporting to the Council on the outcome of these evaluations be conducted in plenary session and not Special Sessions (see paragraph 6.4 above).
- 8.2 The Review Group developed guidance on the evaluation of Annual Progress Reports which is contained in section 3 of document WGFR(11)5 (Annex 4).

## **9. Planning for Theme-based (previously Focus Area Report) Special Sessions**

- 9.1 The 'Next Steps' Review Group had suggested that there might be a new cycle of Focus Area Reports but that these should be developed around specific themes. For example, during the year when the focus area is habitat protection and restoration the theme might be an exchange of information on fish passage issues with reports solicited from jurisdictions and presented during the Special Session.
- 9.2 The purpose of these Special Sessions is to encourage an exchange of information and more in-depth consideration of the approaches being used to address a particular threat to salmon stocks or challenge to management. The Group considered that, given the very different nature and purpose of these theme-based reports, it would be confusing to

continue to refer to them as Focus Area Reports and agreed to describe them as theme-based Special Session reports.

- 9.3 The Working Group considered that theme-based Special Sessions could be helpful to NASCO. The Group recommends that at the Annual Meeting a year prior to the planned Special Session, the Council should determine the theme of the Special Session and appoint a Steering Committee comprising two representatives from the Parties and one representative from the NGOs, with expertise relating to the theme. The Steering Committee would work with the Secretariat to plan for the Special Session and define its objectives and would invite experts from within the Parties and, where appropriate, from outside the NASCO community to participate in the Special Session. Invited contributors would be asked to provide papers for the Special Session which will be distributed with the mailing of Council papers prior to the Annual Meeting. These contributions would not be subject to evaluation. Contributors would make presentations at the Special Session which would be chaired by a member of the Steering Committee. Following the Annual Meeting, the Steering Committee would prepare a report of the Special Session, synthesising the management implications.
- 9.4 The Group noted that it had been the Council's intention to hold a Special Session on 'Incorporating socio-economic factors in management decisions' at its 2012 Annual Meeting but that this was likely to be postponed until 2013. The Working Group considered that the following topics would be useful subjects for subsequent Special Sessions; the Group's initial priorities are marked (\*):

*Management of Salmon Fisheries*

- Management of mixed-stock fisheries\*;
- Catch and release.

*Habitat Protection and Restoration*

- Managing salmon under a changing climate\*;
- Fish passage at hydro-electric facilities\*;
- Water use and management.

*Aquaculture, Introductions and Transfers and Transgenics*

- Developments in containment technology including closed containment systems\*;
- Integrated sea lice control on fish farms;
- Stock rebuilding programmes including approaches to stocking.

*Others*

- Managing stock diversity;
- Outreach and education programmes.

## **10. Arrangements for Presentation of the Group's Report at the 2012 Special Session**

- 10.1 The Working Group agreed that its report to the Council at the 2012 Annual Meeting should be presented by its Chairman and that the representatives of the Parties and the NGOs on the Group would contribute to the discussion of the Group's findings. The Working Group did not feel that there would be any benefit from presenting its findings in a Special Session since the decisions on the future reporting arrangements would be a matter for the Council to agree.

**11. Any Other Business**

11.1 There was no other business.

**12. Report of the Meeting**

12.1 The Working Group agreed the report of its meeting.

**13. Close of Meeting**

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

***List of Participants***

Mr Jaakko Erkinaro	Finnish Game and Fisheries Research Institute, Finland
Dr Peter Hutchinson	NASCO Secretariat, UK
Mr Ted Potter (Chair)	CEFAS, UK
Mr Chris Poupard	Chairman of NASCO's NGOs, UK
Dr Sergey Prusov	PINRO, Russian Federation
Ms Susan Rocque	Fisheries and Oceans, Canada
Mr Rory Saunders	NOAA Fisheries, US
Ms Sue Scott	Atlantic Salmon Federation, Canada
Dr Malcolm Windsor	NASCO Secretariat, UK

## WGFR(11)3

### *Agenda*

1. Opening of Meeting
2. Adoption of Agenda
3. Consideration of the Terms of Reference
4. Review of Previous Reporting and Evaluation Procedures
5. Future preparation of Implementation Plans (IPs), including:
  - a. content and format
  - b. criteria for acceptability
  - c. preparation of guidelines
6. Future evaluation of Implementation Plans (IPs), including:
  - a. composition of Review Groups
  - b. criteria to be used for reviews
  - c. arrangements for reporting on the review
  - d. schedule for submission, review and distribution of IPs
7. Future preparation of Annual Reports (ARs), including:
  - a. content and format
  - b. criteria for acceptability of ARs
  - c. preparation of guidelines
8. Future evaluation of Annual Reports (ARs), including
  - a. AR review process
  - b. criteria to be used for reviews
  - c. arrangements for reporting on the reviews
  - d. schedule for submission, review and distribution of ARs
9. Planning for theme-based Focus Area Report (FAR) Special Sessions, including:
  - a. potential topics
  - b. content and format of FARs
  - c. schedule for submission of FARs
  - d. conduct of Special Sessions
  - e. reporting on Special Sessions
10. Arrangements for presentation of the Group's report at the 2012 Special Session
11. Any Other Business
12. Report of the Meeting
13. Close of Meeting

## WGFR(11)4

**NASCO Implementation Plan for the period 2013-18**

**The main purpose of this Implementation Plan is to demonstrate what actions are being taken by the jurisdiction to implement NASCO Resolutions, Agreements and Guidelines.**

Questions in the Implementation Plan refer to the following documents:

- *NASCO Guidelines for Management of Salmon Fisheries, CNL(09)43 (referred to as the 'Fisheries Guidelines');*
- *Minimum Standard for Catch Statistics, CNL(93)51 (referred to as the 'Minimum Standard');*
- *NASCO Guidelines for Protection, Restoration and Enhancement of Atlantic Salmon Habitat, CNL(10)51 (referred to as the 'Habitat Guidelines');*
- *Williamsburg Resolution, CNL(06)48; and*
- *Guidance on Best Management Practices to address impacts of sea lice and escaped farmed salmon on wild salmon stocks (SLG(09)5) (referred to as the 'BMP Guidance').*

<b>Party:</b>	
<b>Jurisdiction/Region:</b>	

<b>1. Introduction</b>		
<b>1.1 What are the objectives for the management of wild salmon? (Max 200 words)</b>		
<b>1.2 What reference points (e.g. conservation limits, management targets or other measures of abundance) are used to assess the status of stocks? (Max 200 words)</b> <i>(Reference: Sections 2.4 and 2.5 of the Fisheries Guidelines)</i>		
<b>1.3 To provide a baseline for future comparison, what is the current status of stocks relative to the reference points described in 1.2, and how are threatened and endangered stocks identified?</b>		
Category	Description of category and link to reference points	No. rivers
1		
2		
3		
4		
<i>Insert additional categories as required</i>		
<b>TOTAL:</b>		

Additional comments:	
<b>1.4 How is stock diversity (e.g. genetics, age composition, run-timing, etc.) taken into account in the management of salmon stocks? (Max 200 words)</b>	
<b>1.5 To provide a baseline for future comparison, what is the current and potential quantity of salmon habitat? (Max 200 words)</b> <i>(Reference: Section 3.1 of the Habitat Guidelines)</i>	
<b>1.6 What is the current extent of freshwater and marine salmonid aquaculture?</b>	
Number of marine farms	
Marine production (tonnes)	
Number of freshwater facilities	
Freshwater production (tonnes)	
Append one or more maps showing the location of aquaculture facilities and aquaculture free zones in rivers and the sea.	
<b>1.7 To aid in the interpretation of this Implementation Plan, have complete data on rivers within the jurisdiction been provided for the NASCO rivers database?</b> <i>Yes/no/comments</i>	

<b>2. Fisheries Management:</b>
<b>2.1 What are the objectives for the management of the fisheries for wild salmon? (Max. 200 words)</b>
<b>2.2 What is the decision-making process for fisheries management, including predetermined decisions taken under different stock conditions (e.g. the stock level at which fisheries are closed)? (Max. 200 words)</b> <i>(This can be answered by providing a flow diagram if this is available.)</i> <i>(Reference: Sections 2.1 and 2.7 of the Fisheries Guidelines)</i>
<b>2.3 Are fisheries permitted to operate on salmon stocks that are below their reference point and, if so, how many such fisheries are there and what approach is taken to managing them that still promotes stock rebuilding? (Max 200 words.)</b> <i>(Reference: Section 2.7 of the Fisheries Guidelines)</i>
<b>2.4 Are there any mixed-stock salmon fisheries and, if so, (a) how are these defined, (b) what was the mean catch in these fisheries in the last five years and (c) how are they managed to ensure that all the contributing stocks are meeting their conservation objectives? (Max. 300 words in total)</b> <i>(Reference: Section 2.8 of the Fisheries Guidelines)</i>
(a)
(b)
(c)

<b>2.5 How are socio-economic factors taken into account in making decisions on fisheries management? (Max. 200 words)</b> <i>(Reference: Section 2.9 of the Fisheries Guidelines)</i>	
<b>2.6 What is the current level of unreported catch and what measures are being taken to reduce this? (Max. 200 words)</b> <i>(Reference: Section 2.2 of the Fisheries Guidelines and the Minimum Standard)</i>	
<b>2.7 What are the main threats to wild salmon and challenges for management in relation to fisheries, taking into account the Fisheries Guidelines and the specific issues on which action was recommended for this jurisdiction in the Final Report of the Fisheries Management FAR Review Group, (CNL(09)11)?</b>	
Threat/ challenge F1	
Threat/ challenge F2	
Threat/ challenge F3	
Threat/ challenge F4	

*Copy and paste lines to add further threats/challenges which should be labelled F5, F6, etc.*

<b>2.8 What actions are planned to address each of the above threats and challenges in the five year period to 2018?</b>		
<b>Action F1:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action F2:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action F3:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	

<b>Action F4:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	

*Copy and paste lines to add further actions which should be labelled F5, F6, etc.*

<b>3. Protection and Restoration of Salmon Habitat:</b>	
<b>3.1 How are risks to productive capacity identified and options for restoring degraded or lost salmon habitat prioritised, taking into account the principle of ‘no net loss’ and the need for inventories to provide baseline data? (Max. 200 words)</b> <i>(Reference: Section 3 of the Habitat Guidelines)</i>	
<b>3.2 How are socio-economic factors taken into account in making decisions on salmon habitat management? (Max. 200 words)</b> <i>(Reference: Section 3.9 of the Habitats Guidelines)</i>	
<b>3.3 What are the main threats to wild salmon and challenges for management in relation to estuarine and freshwater habitat taking into account the Habitat Guidelines, and the specific issues on which action was recommended for this jurisdiction in the Final Report of the Habitat Protection, Restoration and Enhancement FAR Review Group, (CNL(10)11)?</b>	
Threat/ challenge H1	
Threat/ challenge H2	
Threat/ challenge H3	
Threat/ challenge H4	

*Copy and paste lines to add further threats/challenges which should be labelled H5, H6, etc.*

**3.4 What actions are planned to address each of the above threats and challenges in the five year period to 2018?**

<b>Action H1:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action H2:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action H3:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action H4:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	

*Copy and paste lines to add further actions which should be labelled H5, H6, etc*

**4. Management of Aquaculture, Introductions and Transfers, and Transgenics:**

**4.1 What is the approach for determining the location of aquaculture facilities in (a) freshwater and (b) marine environments to minimise the risks to wild salmon stocks? (Max. 200 words for each)**

(a)

(b)

<p><b>4.2 What progress can be demonstrated towards the achievement of the international goals for effective sea lice management such that there is no increase in sea lice loads or lice-induced mortality of wild stocks attributable to sea lice? (Max. 200 words)</b> (Reference: BMP Guidance)</p>	
<p> </p>	
<p><b>4.3 What progress can be demonstrated towards the achievement of the international goals for ensuring 100% containment in (a) freshwater and (b) marine aquaculture facilities? (Max. 200 words each)</b> (Reference: BMP Guidance)</p>	
<p>(a)</p>	
<p>(b)</p>	
<p><b>4.4 What progress has been made to implement NASCO guidance on introductions, transfers and stocking? (Max. 200 words)</b> (Reference: Articles 5 and 6 and Annex 4 of the Williamsburg Resolution)</p>	
<p> </p>	
<p><b>4.5 What is the policy/strategy on use of transgenic salmon? (Max. 200 words)</b> (Reference: Article 7 and Annex 5 of the Williamsburg Resolution)</p>	
<p> </p>	
<p><b>4.6 What measures are in place to prevent the introduction or further spread of <i>Gyrodactylus salaris</i>? (Max. 200 words)</b></p>	
<p> </p>	
<p><b>4.7 What are the main threats to wild salmon and challenges for management in relation to aquaculture, introductions and transfers, and transgenics, taking into account the Williamsburg Resolution, the BMP Guidance and specific issues on which action was recommended for this jurisdiction in the Final Report of the Aquaculture FAR Review Group, (CNL(11)11)?</b></p>	
Threat/ Challenge A1	
Threat/ challenge A2	
Threat/ challenge A3	
Threat/ challenge A4	

Copy and paste lines to add further threats/challenges which should be labelled A5, A6, etc.

**4.8 What actions are planned to address each of the above threats and challenges in the five year period to 2018?**

<b>Action A1:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness:	

<b>Action A2:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action A3:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action A4:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	

*Copy and paste lines to add further actions which should be labelled A5, A6, etc*

## WGFR(11)5

*Guidelines for the Preparation and Evaluation of NASCO Implementation Plans and for Reporting on Progress***1. NASCO's Goals and Objectives**

NASCO and its Parties have 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. To this end, NASCO has adopted a number of Resolutions, Agreements and Guidelines which address the Organization's principal areas of concern for the management of salmon stocks. The overall goals for NASCO and its Parties in relation to the three theme areas are summarised below:

- ***Management of salmon fisheries:*** promote the diversity and abundance of salmon stocks and maintain all stocks above their conservation limits.
- ***Protection and restoration of Atlantic salmon habitat:*** maintain and, where possible, increase the current productive capacity of Atlantic salmon habitat.
- ***Management of aquaculture, introductions and transfers and transgenics:*** 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 principal Resolutions, Agreements and Guidelines that relate to these three theme areas are as follows:

- NASCO Guidelines for the Management of Salmon Fisheries, CNL(09)43;
- NASCO Guidelines for the Protection, Restoration and Enhancement of Atlantic Salmon Habitat, CNL(10)51;
- 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, CNL(06)48, the 'Williamsburg Resolution';
- Guidance on Best Management Practices to Address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks, SLG(09)5.

The purpose of Implementation Plans and Annual Progress Reports is to provide a simple and transparent approach for reporting on the implementation of NASCO's Resolutions, Agreements and Guidelines by the jurisdictions.

This document describes the structure and content of the Implementation Plans, the criteria that will be used for their acceptance and review, and the procedures for reporting and evaluating progress through the Annual Progress Reports.

## 2. Implementation Plans

The first Implementation Plans were developed in 2007 and the first cycle of reporting was completed in 2011. During this period, reports on the actions taken under the Implementation Plans were made through detailed Focus Area Reports, which were critically reviewed, and Annual Reports.

Following a comprehensive review of the strengths and weaknesses of the first reporting cycle, it was agreed that Implementation Plans will be the key document in the second reporting cycle but that greater emphasis will be placed on: the actions to be taken over a five year period; clearly identifiable measurable outcomes and timescales; and appropriate monitoring to evaluate the effectiveness of the measures taken. The Implementation Plans will be focused around the three main theme areas.

### 2.1 *Structure, Format and Content of Implementation Plans*

The Implementation Plans will be prepared using the agreed template, WGFR(11)4. It is important that Implementation Plans are presented in a clear and straight-forward manner so that they are easily understood by both managers and stakeholders. It is anticipated that an Implementation Plan would normally:

- apply to all the stocks/fisheries managed within a jurisdiction;
- apply for a period of 5 years (2013-2018), and generally require no annual modification unless circumstances change significantly;
- be clear and concise;
- draw on information contained in the first Implementation Plans;
- be prepared in consultation with NGOs and other relevant stakeholders and industries;
- address the issues on which additional actions were recommended by the FAR Review Groups in the first reporting cycle;
- specify the actions to be taken, the timescales for these actions, the expected outcomes and the approach to monitoring and enforcement so that progress can be subject to critical evaluation.

By way of clarification, **actions**, which are the key element of the Implementation Plans, are specific tangible activities that a Party or jurisdiction intends to undertake during the five year term of the Implementation Plan (i.e. during 2013-2018) to address threats and management challenges. In general, actions are implemented as part of a strategy or plan to achieve a desired goal or vision. A vision may be the elimination of escapes from aquaculture cages; an **action** may be to require containment management systems for all marine cages by 2015. Similarly, a vision may be to reduce exploitation in a mixed-stock fishery and an action may be to reduce the netting effort through a reduction in the open season.

**Measurable outcomes** are a measure of success of the action. If an action is taken by a Party or jurisdiction it should result in a change – this change is the measurable outcome that flows from that action. In the above examples, the measurable outcome of the action of requiring containment management systems could be the demonstration of a reduction in the number of escapees detected in salmon rivers and for the action to reduce the fishing season, the measurable outcome may be reduced catches in the mixed-stock fishery and increased spawning escapement.

### 2.2 *Review of Implementation Plans*

Implementation Plans will be subject to a critical evaluation by a Review Group appointed by the Council. The purpose of the evaluation will be to ensure that, as far as possible, the Implementation Plans provide a fair and equitable account of the actions that each jurisdiction plans to take to implement NASCO's Resolutions, Agreements and Guidelines.

### **2.3 *Composition of the Review Group***

The Implementation Plan Review Group will comprise:

- one representative of Denmark (in respect of the Faroe Islands and Greenland);
- three representatives of the other Parties (preferably one from North America and two from Europe);
- two representatives of the NGOs (preferably one from Europe and one from North America); and
- one scientific representative from the Standing Scientific Committee.

The members of the Review Group will be appointed specifically to represent NASCO not their Party or Organization. To provide continuity, they should normally be appointed to serve for a period of up to three years and will also undertake the evaluation of the Annual Progress Reports. The NASCO Secretariat will coordinate the Review Group's work but will not serve as reviewers. The Review Group will also review the Annual Progress Reports (see paragraph 3.2).

### **2.4 *Initial Assessment of Implementation Plans***

The aim of the initial assessment is to ensure that time is not wasted on a full critical review of Implementation Plans that clearly contain significant omissions. Following submission, the NASCO Secretariat will, therefore, check the Draft Implementation Plans for the following information:

1. Provision of answers to all the questions except where these are indicated to be inappropriate for the jurisdiction;
2. Provision of lists of threats to wild salmon and challenges for management related to the three theme areas, including specific issues for recommended actions identified for the jurisdiction in the reports of the FAR Review Groups;
3. Provision of actions to address the main threats and challenges which include measurable outcome(s), monitoring that will be undertaken to assess the effectiveness of the action and the planned timescale for the action.

Where there are gaps in the Draft Implementation Plans in any of the above areas they will be returned to the jurisdiction for further drafting. In cases of uncertainty, the Secretariat will refer to the Review Group.

Once accepted (i.e. following re-submission, where appropriate), the Implementation Plans will then be made available on the NASCO website to permit equal access to the information to all stakeholders.

### **2.5 *Critical Evaluation of Implementation Plans***

Once accepted the Implementation Plans will be examined by a Review Group which will evaluate the quality of the information provided in the above areas and determine whether this provides a fair and equitable basis for assessing the progress that the jurisdiction will make in implementing NASCO's Resolutions, Agreements and Guidelines. Answers to each question will be assessed as:

1. Satisfactory answers/information.
2. Unclear or incomplete answers/information.
3. Clear omissions or inadequacies in answers/information.

Implementation Plans which include answers in categories 2 and 3 above will be returned to jurisdictions for modification with clear guidance on the way that the Review Group considers that the Implementation Plan should be improved. These assessments will not be made public at this stage.

Re-submitted Implementation Plans will be reassessed by the Review Group to determine whether the areas highlighted have been addressed or a satisfactory explanation of the original content has been provided.

## ***2.6 Reporting to the Annual Meeting***

Where the Review Group considers that there are still clear omissions or inadequacies in the answers/information provided (category 3), these shortcomings will be listed in their report to the Council. The Review Group will present its evaluation of the Implementation Plans to the Annual Meeting of the Council, highlighting examples of good practice within the Plans. The President will lead the discussions with jurisdictions concerning any outstanding questions about their Implementation Plans and those jurisdictions will have an opportunity to revise their Implementation Plans after the Annual Meeting.

## 2.7 Schedules for Submission, Review and Distribution of Implementation Plans

In order for the review process to function effectively, the following schedule is proposed:

Date	Action required
June 2012	NASCO Council finalises arrangements and appoints Review Group. Secretary requests submission of Implementation Plans
31 October 2012	Deadline for submission of Implementation Plans to Secretary
30 November 2012	Feedback to jurisdictions from Secretariat on acceptability of the Implementation Plans
31 December 2012	Deadline for submission of re-drafted Implementation Plans to Secretary
7 January 2013	Implementation Plans distributed to Review Group and uploaded to NASCO website
January/February 2013	Review Group meets and develops its evaluation of the Implementation Plans
1 March 2013	Implementation Plans requiring modification returned to jurisdictions with clear guidance on the Review Group's recommendations for improvements
15 April 2013	Deadline for submission of final Implementation Plans
1 May 2013	Final Implementation Plans and Review Group's assessments uploaded to NASCO website
June 2013	Review Group's report presented to the Council

## 3. Annual Progress Reports

The primary purposes of the Annual Progress Reports are to provide details of:

- any changes to the management regime for salmon and consequent changes to the Implementation Plan;
- actions that have been taken under the Implementation Plan in the previous year;
- significant changes to the status of stocks, and a report on catches; and
- actions taken in accordance with the provisions of the Convention.

### 3.1 Structure, Format and Content of Annual Progress Reports

Each year the jurisdictions should prepare Annual Progress Reports using the agreed reporting template WGFR(11)6. These should provide information on progress against actions in their Implementation Plans relating to management of salmon fisheries (section 2.8), habitat protection and restoration (section 3.4) and aquaculture and related activities (section 4.8) as well as available information on monitoring the effectiveness of those actions and their enforcement. In addition, details of any significant changes to the status of stocks and any changes to the Implementation Plan should be included in the report. Details of actions taken in accordance with the provisions of the Convention are also needed by the Council. To aid completion of the report, the Secretariat will incorporate the actions specified in the Implementation Plan in the template for each jurisdiction.

### **3.2 Critical Review of Annual Progress Reports**

The Annual Progress Reports will be subject to a critical evaluation by a Review Group appointed by the Council (see section 2.3 above). The purpose of the evaluation will be to ensure that jurisdictions have provided a clear account of progress in implementing and evaluating the actions detailed in their Implementation Plans along with the information required under the Convention.

The Review Group will evaluate the Annual Progress Reports, by correspondence, to assess the progress that has been made on each of the actions detailed in the Implementation Plan. Where there are shortcomings, the Review Group will develop a list of questions which will be sent to the jurisdiction. Jurisdictions will be asked to respond to these at the Annual Meeting of the Council.

### **3.3 Schedules for Submission, Review and Distribution of Annual Progress Reports**

In order for the review process to function effectively within a limited time period, the following schedule is proposed:

<b>Date</b>	<b>Action required</b>
5 January	The Secretariat will send the template for Annual Progress Reports to each jurisdiction
1 March	Secretariat to send reminders for completion of Annual Progress Reports
1 April	Deadline for submission of Annual Progress Reports to Secretariat Annual Progress reports made available on the website
1 May	Completion of review by Review Group and provision of list of questions for jurisdictions, where required.
June	Jurisdictions to respond to any questions from the Review Group at Annual Meeting of the Council

## WGFR(11)6

***Annual Progress Report on Actions taken under Implementation Plans for the  
Calendar Year 2014***

The primary purposes of the Annual Progress Reports are to provide details of:

- any changes to the management regime for salmon and consequent changes to the Implementation Plan;
- actions that have been taken under the Implementation Plan in the previous year;
- significant changes to the status of stocks, and a report on catches; and
- actions taken in accordance with the provisions of the Convention

These reports will be reviewed by the Council. Please complete this form and return it to the Secretariat **by 1 April 2014**.

<b>Party:</b>	
<b>Jurisdiction/Region:</b>	

### **1: Changes to the Implementation Plan**

**1.1 Describe any proposed revisions to the Implementation Plan and, where appropriate, provide a revised plan.**

**1.2 Describe any major new initiatives or achievements for salmon conservation and management that you wish to highlight.**

### **2: Stock status and catches.**

**2.1 Provide a description of any significant changes in the status of stocks relative to the reference points described in the Implementation Plan and of any new factors which may significantly affect the abundance of salmon stocks.**

**2.2 Provide the following information on catches:(nominal catch equals reported quantity of salmon caught and retained in tonnes 'round fresh weight' (i.e. weight of whole, ungutted, unfrozen fish) or 'round fresh weight equivalent').**

(a) provisional nominal catch (which may be subject to revision) for 2013 (tonnes)	In-river	Estuarine	Coastal	Total

(b) confirmed nominal catch of salmon for 2012 (tonnes)				
(c) estimated unreported catch for 2013 (tonnes)				
(d) number and percentage of salmon caught and released in recreational fisheries in 2013.				

### 3: Implementation Plan Actions.

#### 3.1 Provide an update on progress against actions relating to the Management of Salmon Fisheries (*section 2.8 of the Implementation Plan*)

<b>Action F1:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action F2:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action F3:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action F4:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	

#### 3.2 Provide an update on progress against actions relating to Habitat Protection and Restoration (*section 3.4 of the Implementation Plan*)

<b>Action H1:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action H2:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	

<b>Action H3:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action H4:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	

<b>3.3 Provide an update on progress against actions relating to Aquaculture, Introductions and Transgenics (section 4.8 of the Implementation Plan)</b>		
<b>Action A1:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action A2:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	

<b>Action A3:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action A4:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	

<b>4: Additional information required under the Convention</b>	
4.1	Details of any laws, regulations and programmes that have been adopted or repealed since the last notification.
4.2	Details of any new commitments concerning the adoption or maintenance in force for specified periods of time of conservation, restoration and other management measures.
4.3	Details of any new actions to prohibit fishing for salmon beyond 12 nautical miles.
4.4	Details of any new actions to invite the attention of States not Party to the Convention to matters relating to the activities of its vessels which could adversely affect salmon stocks subject to the Convention.
4.5	Details of any actions taken to implement regulatory measures under Article 13 of the Convention including imposition of adequate penalties for violations.

<b>North American Commission Members only:</b>
4.6 Details of any new measures to minimise by-catches of salmon originating in the rivers of the other member.
4.7 Details of any alteration to fishing patterns that result 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.

**CNL(12)42**

***NASCO Implementation Plan for the period 2013-18***

*The main purpose of this Implementation Plan is to demonstrate what actions are being taken by the jurisdiction to implement NASCO Resolutions, Agreements and Guidelines.*

*Questions in the Implementation Plan refer to the following documents:*

- *NASCO Guidelines for Management of Salmon Fisheries, CNL(09)43 (referred to as the ‘Fisheries Guidelines’);*
- *Minimum Standard for Catch Statistics, CNL(93)51 (referred to as the ‘Minimum Standard’);*
- *NASCO Guidelines for Protection, Restoration and Enhancement of Atlantic Salmon Habitat, CNL(10)51 (referred to as the ‘Habitat Guidelines’);*
- *Williamsburg Resolution, CNL(06)48; and*
- *Guidance on Best Management Practices to address impacts of sea lice and escaped farmed salmon on wild salmon stocks (SLG(09)5) (referred to as the ‘BMP Guidance’).*

<b>Party:</b>	
<b>Jurisdiction/Region:</b>	

<b>2. Introduction</b>		
<b>1.1</b>	<b>What are the objectives for the management of wild salmon? (Max 200 words)</b>	
<b>1.2</b>	<b>What reference points (e.g. conservation limits, management targets or other measures of abundance) are used to assess the status of stocks? (Max 200 words)</b> <i>(Reference: Sections 2.4 and 2.5 of the Fisheries Guidelines)</i>	
<b>1.3</b>	<b>To provide a baseline for future comparison, what is the current status of stocks relative to the reference points described in 1.2, and how are threatened and endangered stocks identified?</b>	
Category	Description of category and link to reference points	No. rivers
1		
2		
3		
4		
<i>Insert additional categories as required</i>		
<b>TOTAL:</b>		
<b>Additional comments:</b>		

<b>1.4</b>	<b>How is stock diversity (e.g. genetics, age composition, run-timing, etc.) taken into account in the management of salmon stocks? (Max 200 words)</b>
<b>1.5</b>	<b>To provide a baseline for future comparison, what is the current and potential quantity of salmon habitat? (Max 200 words)</b> <i>(Reference: Section 3.1 of the Habitat Guidelines)</i>
<b>1.6</b>	<b>What is the current extent of freshwater and marine salmonid aquaculture?</b>
	Number of marine farms
	Marine production (tonnes)
	Number of freshwater facilities
	Freshwater production (tonnes)
Append one or more maps showing the location of aquaculture facilities and aquaculture free zones in rivers and the sea.	
<b>1.7</b>	<b>To aid in the interpretation of this Implementation Plan, have complete data on rivers within the jurisdiction been provided for the NASCO rivers database? Yes/no/comments</b>

<b>2. Fisheries Management:</b>	
<b>2.1</b>	<b>What are the objectives for the management of the fisheries for wild salmon? (Max. 200 words)</b>
<b>2.2</b>	<b>What is the decision-making process for fisheries management, including predetermined decisions taken under different stock conditions (e.g. the stock level at which fisheries are closed)? (Max. 200 words)</b> <i>(This can be answered by providing a flow diagram if this is available.)</i> <i>(Reference: Sections 2.1 and 2.7 of the Fisheries Guidelines)</i>
<b>2.3</b>	<b>Are fisheries permitted to operate on salmon stocks that are below their reference point and, if so, how many such fisheries are there and what approach is taken to managing them that still promotes stock rebuilding? (Max 200 words.)</b> <i>(Reference: Section 2.7 of the Fisheries Guidelines)</i>
<b>2.4</b>	<b>Are there any mixed-stock salmon fisheries and, if so, (a) how are these defined, (b) what was the mean catch in these fisheries in the last five years and (c) how are they managed to ensure that all the contributing stocks are meeting their conservation objectives? (Max. 300 words in total)</b> <i>(Reference: Section 2.8 of the Fisheries Guidelines)</i>
(a)	
(b)	
(c)	

<b>2.5 How are socio-economic factors taken into account in making decisions on fisheries management?</b> (Max. 200 words) (Reference: Section 2.9 of the Fisheries Guidelines)	
<b>2.6 What is the current level of unreported catch and what measures are being taken to reduce this?</b> (Max. 200 words) (Reference: Section 2.2 of the Fisheries Guidelines and the Minimum Standard)	
<b>2.7 What are the main threats to wild salmon and challenges for management in relation to fisheries, taking into account the Fisheries Guidelines and the specific issues on which action was recommended for this jurisdiction in the Final Report of the Fisheries Management FAR Review Group, (CNL(09)11)?</b>	
Threat/ challenge F1	
Threat/ challenge F2	
Threat/ challenge F3	
Threat/ challenge F4	

*Copy and paste lines to add further threats/challenges which should be labelled F5, F6, etc.*

<b>2.8 What actions are planned to address each of the above threats and challenges in the five year period to 2018?</b>		
<b>Action F1:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action F2:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	

<b>Action F3:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action F4:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	

*Copy and paste lines to add further actions which should be labelled F5, F6, etc.*

### **3. Protection and Restoration of Salmon Habitat:**

**3.1 How are risks to productive capacity identified and options for restoring degraded or lost salmon habitat prioritised, taking into account the principle of ‘no net loss’ and the need for inventories to provide baseline data? (Max. 200 words)**  
*(Reference: Section 3 of the Habitat Guidelines)*

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**3.2 How are socio-economic factors taken into account in making decisions on salmon habitat management? (Max. 200 words)**  
*(Reference: Section 3.9 of the Habitats Guidelines)*

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**3.3 What are the main threats to wild salmon and challenges for management in relation to estuarine and freshwater habitat taking into account the Habitat Guidelines, and the specific issues on which action was recommended for this jurisdiction in the Final Report of the Habitat Protection, Restoration and Enhancement FAR Review Group, (CNL(10)11)?**

Threat/ challenge H1	
Threat/ challenge H2	
Threat/ challenge H3	
Threat/ challenge H4	

*Copy and paste lines to add further threats/challenges which should be labelled H5, H6, etc.*

**3.4 What actions are planned to address each of the above threats and challenges in the five year period to 2018?**

<b>Action H1:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring	

	effectiveness & enforcement:	
<b>Action H2:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action H3:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action H4:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	

*Copy and paste lines to add further actions which should be labelled H5, H6, etc*

<b>4. Management of Aquaculture, Introductions and Transfers, and Transgenics:</b>	
<b>4.1</b>	<b>What is the approach for determining the location of aquaculture facilities in (a) freshwater and (b) marine environments to minimise the risks to wild salmon stocks? (Max. 200 words for each)</b>
(a)	
(b)	

<b>4.2</b>	<b>What progress can be demonstrated towards the achievement of the international goals for effective sea lice management such that there is no increase in sea lice loads or lice-induced mortality of wild stocks attributable to sea lice? (Max. 200 words)</b> <i>(Reference: BMP Guidance)</i>
<b>4.3</b>	<b>What progress can be demonstrated towards the achievement of the international goals for ensuring 100% containment in (a) freshwater and (b) marine aquaculture facilities? (Max. 200 words each)</b> <i>(Reference: BMP Guidance)</i>
(a)	
(b)	
<b>4.4</b>	<b>What progress has been made to implement NASCO guidance on introductions, transfers and stocking? (Max. 200 words)</b> <i>(Reference: Articles 5 and 6 and Annex 4 of the Williamsburg Resolution)</i>
<b>4.5</b>	<b>What is the policy/strategy on use of transgenic salmon? (Max. 200 words)</b> <i>(Reference: Article 7 and Annex 5 of the Williamsburg Resolution)</i>
<b>4.6</b>	<b>What measures are in place to prevent the introduction or further spread of <i>Gyrodactylus salaris</i>? (Max. 200 words)</b>
<b>4.7</b>	<b>What are the main threats to wild salmon and challenges for management in relation to aquaculture, introductions and transfers, and transgenics, taking into account the Williamsburg Resolution, the BMP Guidance and specific issues on which action was recommended for this jurisdiction in the Final Report of the Aquaculture FAR Review Group, (CNL(11)11)?</b>
Threat/ Challenge A1	
Threat/ challenge A2	
Threat/ challenge A3	
Threat/ challenge A4	

*Copy and paste lines to add further threats/challenges which should be labelled A5, A6, etc.*

<b>4.8</b>	<b>What actions are planned to address each of the above threats and challenges in the five year period to 2018?</b>	
<b>Action A1:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness:	

<b>Action A2:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action A3:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	
<b>Action A4:</b>	Description of action:	
	Planned timescale:	
	Expected outcome:	
	Approach for monitoring effectiveness & enforcement:	

*Copy and paste lines to add further actions which should be labelled A5, A6, etc*



CNL(12)43

*Annual Progress Report on Actions taken under Implementation Plans for the Calendar Year 2014*

The primary purposes of the Annual Progress Reports are to provide details of:

- any changes to the management regime for salmon and consequent changes to the Implementation Plan;
- actions that have been taken under the Implementation Plan in the previous year;
- significant changes to the status of stocks, and a report on catches; and
- actions taken in accordance with the provisions of the Convention

These reports will be reviewed by the Council. Please complete this form and return it to the Secretariat **by 1 April 2014**.

<b>Party:</b>	
<b>Jurisdiction/Region:</b>	

<b>1: Changes to the Implementation Plan</b>
<b>1.1 Describe any proposed revisions to the Implementation Plan and, where appropriate, provide a revised plan.</b>
<b>1.2 Describe any major new initiatives or achievements for salmon conservation and management that you wish to highlight.</b>

<b>2: Stock status and catches.</b>				
<b>2.1 Provide a description of any significant changes in the status of stocks relative to the reference points described in the Implementation Plan and of any new factors which may significantly affect the abundance of salmon stocks.</b>				
<b>2.2 Provide the following information on catches:(nominal catch equals reported quantity of salmon caught and retained in tonnes ‘round fresh weight’ (i.e. weight of whole, ungutted, unfrozen fish) or ‘round fresh weight equivalent’).</b>				
(a) provisional nominal catch (which may be subject to revision) for 2013 (tonnes)	In-river	Estuarine	Coastal	Total

(b) confirmed nominal catch of salmon for 2012 (tonnes)				
(c) estimated unreported catch for 2013 (tonnes)				
(d) number and percentage of salmon caught and released in recreational fisheries in 2013.				

### 3: Implementation Plan Actions.

#### 3.1 Provide an update on progress against actions relating to the Management of Salmon Fisheries (*section 2.8 of the Implementation Plan*)

<b>Action F1:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action F2:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action F3:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action F4:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	

<b>3.2 Provide an update on progress against actions relating to Habitat Protection and Restoration (section 3.4 of the Implementation Plan)</b>		
<b>Action H1:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action H2:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action H3:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action H4:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	

<b>3.3 Provide an update on progress against actions relating to Aquaculture, Introductions and Transfers and Transgenics (section 4.8 of the Implementation Plan)</b>		
<b>Action A1:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action A2:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	

<b>Action A3:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	
<b>Action A4:</b>	Description of Action:	
	Expected Outcome:	
	Monitoring/Enforcement Results:	
	Ongoing/completed:	
	Achieved objective?	

<b>4: Additional information required under the Convention</b>	
4.1	Details of any laws, regulations and programmes that have been adopted or repealed since the last notification.
4.2	Details of any new commitments concerning the adoption or maintenance in force for specified periods of time of conservation, restoration and other management measures.
4.3	Details of any new actions to prohibit fishing for salmon beyond 12 nautical miles.
4.5	Details of any new actions to invite the attention of States not Party to the Convention to matters relating to the activities of its vessels which could adversely affect salmon stocks subject to the Convention.
4.5	Details of any actions taken to implement regulatory measures under Article 13 of the Convention including imposition of adequate penalties for violations.
<b>North American Commission Members only:</b>	
4.6	Details of any new measures to minimise by-catches of salmon originating in the rivers of the other member.

4.7 Details of any alteration to fishing patterns that result 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.



CNL(12)44

*Guidelines for the Preparation and Evaluation of NASCO Implementation Plans and for Reporting on Progress*

**1. NASCO's Goals and Objectives**

NASCO and its Parties have 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. To this end, NASCO has adopted a number of Resolutions, Agreements and Guidelines which address the Organization's principal areas of concern for the management of salmon stocks. The overall goals for NASCO and its Parties in relation to the three theme areas are summarised below:

- ***Management of salmon fisheries:*** promote the diversity and abundance of salmon stocks and maintain all stocks above their conservation limits.
- ***Protection and restoration of Atlantic salmon habitat:*** maintain and, where possible, increase the current productive capacity of Atlantic salmon habitat.
- ***Management of aquaculture, introductions and transfers and transgenics:*** 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 principal Resolutions, Agreements and Guidelines that relate to these three theme areas are as follows:

- NASCO Guidelines for the Management of Salmon Fisheries, CNL(09)43;
- NASCO Guidelines for the Protection, Restoration and Enhancement of Atlantic Salmon Habitat, CNL(10)51;
- 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, CNL(06)48, the 'Williamsburg Resolution';
- Guidance on Best Management Practices to Address Impacts of Sea Lice and Escaped Farmed Salmon on Wild Salmon Stocks, SLG(09)5.

The purpose of Implementation Plans and Annual Progress Reports is to provide a simple and transparent approach for reporting on the implementation of NASCO's Resolutions, Agreements and Guidelines by the jurisdictions.

This document describes the structure and content of the Implementation Plans, the criteria that will be used for their acceptance and review, and the procedures for reporting and evaluating progress through the Annual Progress Reports.

**2. Implementation Plans**

The first Implementation Plans were developed in 2007 and the first cycle of reporting was completed in 2011. During this period, reports on the actions taken under the Implementation Plans were made through detailed Focus Area Reports, which were critically reviewed, and Annual Reports.

Following a comprehensive review of the strengths and weaknesses of the first reporting cycle, it was agreed that Implementation Plans will be the key document in the second reporting cycle but

that greater emphasis will be placed on: the actions to be taken over a five year period; clearly identifiable measurable outcomes and timescales; and appropriate monitoring to evaluate the effectiveness of the measures taken. The Implementation Plans will be focused around the three main theme areas.

### **2.1 Structure, Format and Content of Implementation Plans**

The Implementation Plans will be prepared using the agreed template, CNL(12)42. It is important that Implementation Plans are presented in a clear and straight-forward manner so that they are easily understood by both managers and stakeholders. It is anticipated that an Implementation Plan would normally:

- apply to all the stocks/fisheries managed within a jurisdiction;
- apply for a period of 5 years (2013-2018), and generally require no annual modification unless circumstances change significantly;
- be clear and concise;
- draw on information contained in the first Implementation Plans;
- be prepared in consultation with NGOs and other relevant stakeholders and industries;
- address the issues on which additional actions were recommended by the FAR Review Groups in the first reporting cycle;
- specify the actions to be taken, the timescales for these actions, the expected outcomes and the approach to monitoring and enforcement so that progress can be subject to critical evaluation.

By way of clarification, **actions**, which are the key element of the Implementation Plans, are specific tangible activities that a Party or jurisdiction intends to undertake during the five year term of the Implementation Plan (i.e. during 2013-2018) to address threats and management challenges. In general, actions are implemented as part of a strategy or plan to achieve a desired goal or vision. A vision may be the elimination of escapes from aquaculture cages; an **action** may be to require containment management systems for all marine cages by 2015. Similarly, a vision may be to reduce exploitation in a mixed-stock fishery and an action may be to reduce the netting effort through a reduction in the open season.

**Measurable outcomes** are a measure of success of the action. If an action is taken by a Party or jurisdiction it should result in a change – this change is the measurable outcome that flows from that action. In the above examples, the measurable outcome of the action of requiring containment management systems could be the demonstration of a reduction in the number of escapees detected in salmon rivers and for the action to reduce the fishing season, the measurable outcome may be reduced catches in the mixed-stock fishery and increased spawning escapement.

### **2.2 Review of Implementation Plans**

Implementation Plans will be subject to a critical evaluation by a Review Group appointed by the Council. The purpose of the evaluation will be to ensure that, as far as possible, the Implementation Plans provide a fair and equitable account of the actions that each jurisdiction plans to take to implement NASCO's Resolutions, Agreements and Guidelines.

### **2.3 Composition of the Review Group**

The Implementation Plan Review Group will comprise:

- one representative of Denmark (in respect of the Faroe Islands and Greenland);
- three representatives of the other Parties (preferably one from North America and two from Europe);
- two representatives of the NGOs (preferably one from Europe and one from North America); and

- one scientific representative from the Standing Scientific Committee.

The members of the Review Group will be appointed specifically to represent NASCO not their Party or Organization. To provide continuity, they should normally be appointed to serve for a period of up to three years and will also undertake the evaluation of the Annual Progress Reports. The NASCO Secretariat will coordinate the Review Group's work but will not serve as reviewers. The Review Group will also review the Annual Progress Reports (see paragraph 3.2).

#### **2.4 Initial Assessment of Implementation Plans**

The aim of the initial assessment is to ensure that time is not wasted on a full critical review of Implementation Plans that clearly contain significant omissions. Following submission, and if time permits, the NASCO Secretariat will, therefore, check the Draft Implementation Plans for the following information:

1. Provision of answers to all the questions except where these are indicated to be inappropriate for the jurisdiction;
2. Provision of lists of threats to wild salmon and challenges for management related to the three theme areas, including specific issues for recommended actions identified for the jurisdiction in the reports of the FAR Review Groups;
3. Provision of actions to address the main threats and challenges which include measurable outcome(s), monitoring that will be undertaken to assess the effectiveness of the action and the planned timescale for the action.

Where there are gaps in the Draft Implementation Plans in any of the above areas they will be returned to the jurisdiction for further drafting. In cases of uncertainty, the Secretariat will refer to the Review Group.

Once accepted (i.e. following re-submission, where appropriate), the Implementation Plans will then be made available on the NASCO website to permit equal access to the information to all stakeholders.

#### **2.5 Critical Evaluation of Implementation Plans**

Once accepted the Implementation Plans will be examined by a Review Group which will evaluate the quality of the information provided in the above areas and determine whether this provides a fair and equitable basis for assessing the progress that the jurisdiction will make in implementing NASCO's Resolutions, Agreements and Guidelines. Answers to each question will be assessed as:

1. Satisfactory answers/information.
2. Unclear or incomplete answers/information.
3. Clear omissions or inadequacies in answers/information.

Implementation Plans which include answers in categories 2 and 3 above will be returned to jurisdictions for modification with clear guidance on the way that the Review Group considers that the Implementation Plan should be improved. These assessments will not be made public at this stage.

Re-submitted Implementation Plans will be reassessed by the Review Group to determine whether the areas highlighted have been addressed or a satisfactory explanation of the original content has been provided.

## 2.6 Reporting to the Annual Meeting

Where the Review Group considers that there are still clear omissions or inadequacies in the answers/information provided (category 3), these shortcomings will be listed in their report to the Council. The Review Group will present its evaluation of the Implementation Plans to the Annual Meeting of the Council, highlighting examples of good practice within the Plans. The President will lead the discussions with jurisdictions concerning any outstanding questions about their Implementation Plans and those jurisdictions will have an opportunity to revise their Implementation Plans after the Annual Meeting.

## 2.7 Schedules for Submission, Review and Distribution of Implementation Plans

In order for the review process to function effectively, the following schedule is proposed:

Date / deadline	Responsibility	Action required
30 June 2012	Secretary	Requests submission of Implementation Plans
1 February 2013	Parties/ jurisdictions	<u>Deadline</u> for submission of Implementation Plans to Secretary
7 February 2013	Secretary	Distribute Implementation Plans to Review Group Upload IPs to NASCO website
February/March 2013	Review Group	Meets and develops its evaluation of the Implementation Plans
1 April 2013	Secretary	Return Implementation Plans requiring modification to jurisdictions with clear guidance on the Review Group's recommendations for improvements
15 May 2013	Parties/ jurisdictions	<u>Deadline</u> for submission of final Implementation Plans
1 June 2013	Secretary	Upload updated Implementation Plans and Review Group's assessments to NASCO website
Annual Meeting 2013	Review Group	Present report to the Council
1 September 2013	Parties/ jurisdictions	<u>Deadline</u> for submission of Final Implementation Plans to NASCO
30 September 2013	Secretary	Upload Final Implementation plans to NASCO website

## 3. Annual Progress Reports

The primary purposes of the Annual Progress Reports are to provide details of:

- any changes to the management regime for salmon and consequent changes to the Implementation Plan;
- actions that have been taken under the Implementation Plan in the previous year;
- significant changes to the status of stocks, and a report on catches; and
- actions taken in accordance with the provisions of the Convention.

### 3.1 Structure, Format and Content of Annual Progress Reports

Each year the jurisdictions should prepare Annual Progress Reports using the agreed reporting template CNL(12)43. These should provide information on progress against actions in their Implementation Plans relating to management of salmon fisheries (section 2.8), habitat protection and restoration (section 3.4) and aquaculture and related activities (section 4.8) as well as available information on monitoring the effectiveness of those actions and their enforcement. In addition, details of any significant changes to the status of stocks and any changes to the Implementation Plan should be included in the report. Details of actions taken in accordance with the provisions of the Convention are also needed by the Council. To aid completion of the

report, the Secretariat will incorporate the actions specified in the Implementation Plan in the template for each jurisdiction.

### **3.2 Critical Review of Annual Progress Reports**

The Annual Progress Reports will be subject to a critical evaluation by a Review Group appointed by the Council (see section 2.3 above). The purpose of the evaluation will be to ensure that jurisdictions have provided a clear account of progress in implementing and evaluating the actions detailed in their Implementation Plans along with the information required under the Convention.

The Review Group will evaluate the Annual Progress Reports, by correspondence, to assess the progress that has been made on each of the actions detailed in the Implementation Plan. Where there are shortcomings, the Review Group will develop a list of questions which will be sent to the jurisdiction. Jurisdictions will be asked to respond to these at the Annual Meeting of the Council.

### **3.3 Schedules for Submission, Review and Distribution of Annual Progress Reports**

In order for the review process to function effectively within a limited time period, the following schedule is proposed:

<b>Date</b>	<b>Responsibility</b>	<b>Action required</b>
5 January	Secretariat	Send the template for Annual Progress Reports to each jurisdiction
1 March	Secretariat	Send reminders for completion of Annual Progress Reports
1 April	Parties/ jurisdictions	Deadline for submission of Annual Progress Reports to Secretariat
	Secretariat	Annual Progress reports made available on the website
1 May	Review Group	Completion of review and provision of list of questions for jurisdictions, where required.
Annual Meeting	Parties/ jurisdictions	Respond to any questions from the Review Group at Annual Meeting of the Council



CNL(12)14

*Management and Sampling of the St Pierre and Miquelon Salmon Fishery*



PREMIER MINISTRE

**Secrétariat  
Général de la Mer**

Le Secrétaire général adjointe

Paris, le 14 mai 2012

N° 870/SGMER

Affaire suivie par Marie-Sophie DUFAU-RICHET  
01 42 75 66 53  
[marie-sophie.dufau-richet@pm.gouv.fr](mailto:marie-sophie.dufau-richet@pm.gouv.fr)

Le Secrétaire général adjoint de la mer  
To Mrs Mary Colligan  
Chairman of the North Atlantic Salmon Conservation Organization

Objet: next meeting of NASCO  
Joined documents: 2 documents from France on behalf of St Pierre et Miquelon

In view of the next annual meeting of NASCO (Edinburgh, 5-8 June), I have the honour to send you the report of France on behalf of St Pierre-et-Miquelon:

- Administrative information provided by the Pôle maritime (DTAM<sup>1</sup>) in Saint-Pierre et Miquelon
- Scientific information provided by the IFREMER<sup>2</sup> representative in Saint-Pierre, with genetic analyses by Genindexe

In 2011, salmon catches reached 3756 kilograms, of which 47% were professional and 53% recreational. As expected, the number of licenses remained stable (9 professional: equal to 2010; 58 recreational compared to 57 in 2010) with a moderate fishing effort. 60 boats have been controlled this year.

The sampling programme by IFREMER continued, with an increase in the size of the sample (73). Due to organisational constraints, the workshop between French and Canadian scientists on salmon ageing was postponed to September 2012; it will be held in St Pierre. Funding by the Ministry for Overseas was allocated for the Genindexe analyses and the organisation of a workshop to which the St Pierre Territorial Council also contributed. Finally, freshwater studies in the Belle-Rivière will be continued in 2012.

Mrs Mary Colligan  
Chairman of NASCO  
11, Rutland Square  
Edinburgh  
EH1 2AS  
United Kingdom

Patrick CHEVALLEREAU

<sup>1</sup> Direction of Territory, Agriculture and Sea

<sup>2</sup> Institut français de recherche pour l'exploration de la mer: French Research Institute for the Exploration of the Sea





## PREFECT OF SAINT PIERRE AND MIQUELON

*Department for Territories, Food and the Sea*

**Saint-Pierre, 9 May 2012**

*Maritime Centre*

Head of the St Pierre and Miquelon Maritime Centre

To

The Director of Maritime Fisheries and Aquaculture  
3 Place Fontenoy  
75007 Paris

Our Reference: PM/2012

Person responsible: Phillipe Museux  
SRAM.polemaritime.DTAM-975@equipement-agriculture.gouv.fr  
Tel: 05 08 41 15.30 – Fax: 05 08 41 48 34

RE: Report on the 2011 Salmon Fishery

### **Annual report on the Atlantic Salmon Fishery at Saint Pierre and Miquelon 2011 Season**

#### **1. Legislation**

Salmon fishing in the St Pierre and Miquelon archipelago is regulated by decree No 87-182 of 19 March 1987, implemented under the Order of 20 March 1987.

This legislation establishes the following:

- The fishery is under license and subject to an Annual Fishery Plan
- The minimum capture size is 48cm
- Nets must be declared and marked
- The minimum mesh size is 125mm
- The fishery season is restricted to 1 May – 31 July
- It is not permissible to place fishing gear within 300m of a river mouth.
- Restricted fishing effort:
  - 3 x 360m nets for professional fishermen
  - 1 x 180m net for recreational fishermen
  - All catch must be declared (through annual declarations and a fishing log)

60 vessels were inspected under this legislation.

#### **2. Permit allocation**

Fishing permits are allocated to professional fishermen (who may sell their catch) and recreational fishermen (who are not authorised to sell their catch).

The allocation procedure is based on fishery precedence and on compliance with catch declaration obligations throughout the previous season.

The Department for Maritime Affairs deals with permit applications and allocates each permit holder with a specific site to fish for the entire season. The fishery site plan is published by Order of the Prefect.

In 2011, 9 professional permits were issued (as in 2010) and 58 recreational permits were issued (57 were issued in 2009). The total number of permits is relatively stable when compared to the three previous years (64 in 2008, 58 in 2009 and 66 in 2010).

### 3. Salmon Catch

The total 2011 catch stands at:

Professional catch: 1764kg (1002kg in 2010)

Recreational catch: 1992kg (1780kg in 2010). 819 salmon were caught, compared to 819 in 2006, 470 in 2007, 933 in 2008, 748 in 2009 and 768 in 2010

The total weight of the catch was 3756kg (compared to 2782kg in 2010 and 3464kg in 2009) and fishing effort remains modest.

The 819 salmon caught by 58 recreational boats averages around 14 salmon per recreational fisherman. It should also be noted that many boats only fish for a very short period and bring their nets in well before the end of the permitted season, as soon as they consider that their catch is sufficient for them and their immediate circle.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Professional Fishery</b>										
<b>No. of licenses</b>	12	12	13	14	13	13	9	8	9	9
<b>Catch volume</b>	<b>1223</b>	<b>1620</b>	<b>1499</b>	<b>2243</b>	<b>1730</b>	<b>970</b>	<b>1604</b>	<b>1864</b>	<b>1002</b>	<b>1764</b>
<b>Recreational Fishery</b>										
<b>No. of licenses</b>	42	42	42	52	52	53	55	50	57	58
<b>Catch Volume</b>	<b>729</b>	<b>1272</b>	<b>1285</b>	<b>1044</b>	<b>1825</b>	<b>1062</b>	<b>1846</b>	<b>1600</b>	<b>1780</b>	<b>1992</b>
<b>Total catch</b>	1952	2892	2784	3287	3855	2032	3450	3464	2782	3756

There is no export of salmon and all salmon caught are consumed by the local market. Most salmon caught are retained for personal consumption, while only a few are sold to restaurants or individuals through a local fishmonger.

It should be noted that there is no fishing for salmon in the archipelago's rivers.

Philippe Museux  
Head of the Maritime Centre

Ifremer Office  
BP 4240  
97500  
Saint-Pierre and Miquelon

Goragner Herlé, Ifremer Saint Pierre and Miquelon

....  
May 2012- Délégation SPM-12/01

## Report on biological observations made on the Atlantic salmon (*Salmo salar*) catch during the 2011 fishery at St Pierre & Miquelon



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### **9 – Scale study**

### **10 – Parasite study**

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Cover photo: Salmon biometry

(copyright: Ifremer Herlé Goragner)

## **Introduction:**

Sampling of the 2011 Atlantic salmon catch at St Pierre & Miquelon was carried out in response to a request from the Délégation Générale à l'Outre-Mer, and in order to provide NASCO with recent information on the catch at St Pierre & Miquelon. Sampling had been suspended during 2009 due to the absence of an IFREMER agent.

The sampling carried out by IFREMER enables biometric monitoring to be undertaken, the weight and length of the fish to be recorded and tissue samples to be taken in order to determine the origin of the catch. Scale samples are also taken in order to determine the age of the fish.

## **1 – Legislation applicable to the St Pierre and Miquelon Salmon Fishery**

The salmon fishery at St Pierre & Miquelon is operated under the management and fish resource conservation measures which are contained in the Order of 20 March 1987, implemented under the decree No 87 – 182 of March 1987.

Article 11. Fishing for Atlantic salmon (*Salmo salar*) in the archipelago's waters is forbidden each year between 1 January and 30 April, and from 1 August to 31 December.

With regard to the location of fishing sites, priority will be given to professional fishermen who will be granted 2 sites per boat. One site per recreational fishing boat will be granted.

Where there is competition between two or more fishermen for one site, the Head of the St Pierre & Miquelon Maritime Affairs Office will make a draw. The draw will be held in the presence of the interested parties. The competing parties will then fish the site in rotation.

Article 12. The total length of authorised salmon fishing nets will not exceed one thousand and eighty metres for professional fishermen and one hundred and eighty metres for recreational fishermen.

Each individual net for use by professional fishermen will not exceed three hundred and sixty metres.

It is forbidden to place any part of a net within 360m of the mouth of any water-course in which salmon may spawn (Belle Rivière and Dolisie), or within 200m of any part of another net.

Where a net becomes displaced, the permit holder has 48 hours to reposition the net correctly. Nets must not be left unattended for more than 5 consecutive days.

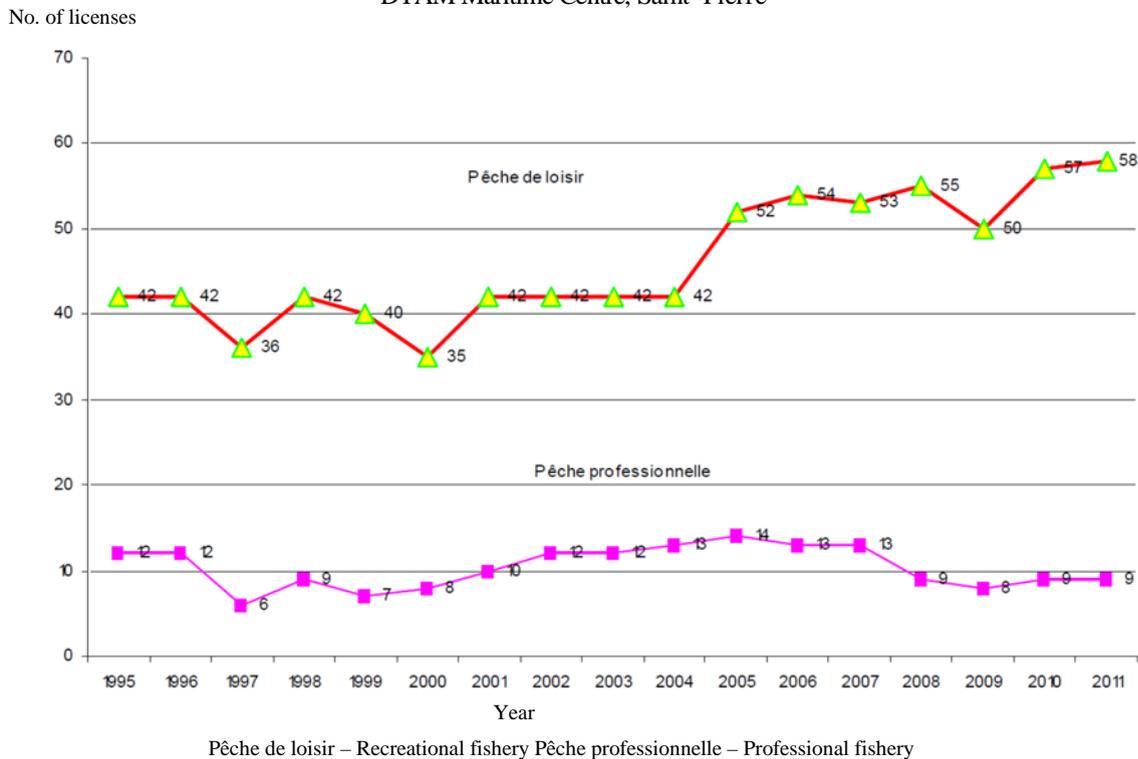
Article 13. Salmon fishermen must register their catch on their fishing log immediately after bringing said catch on board their boat.

This fishing log must be made available on request and should be sent to the Maritime Affairs Office before 1 September each year.

## 2 – Permit Allocation

In 2011, 9 professional permits were allocated, which is the same as in 2010. 58 recreational permits were issued in 2011, which is one more than in 2010. Figure 1 below shows the changes in permit allocation for both types of fishing since 1995

Fig 1- The number of Atlantic salmon fishing permits issued between 1995 and 2011 at St Pierre & Miquelon. Source : DTAM Maritime Centre, Saint -Pierre



It should be noted that despite the increase in the total number of permits issued since 2007, fishing effort (taken as the maximum authorised length of nets) has fallen by 14.5% between 2007 and 2011 (23,580m in 2007 compared to 20,160m in 2011). This is essentially due to the fact that fewer professional fishermen have exercised their right to place 1080m of net, while recreational fishermen are only permitted to place 180m of net.

## 3 – The location of fishing sites

The majority of fishing sites are located close to St Pierre, to the South-East of the island and are mainly used by recreational fishermen.

Nets may be placed at the following sites:

Cap Noir, Ile aux Chasseurs, Les Flacous, 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 Gélín, Basse des Grappins, 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 (see Annex 1 for a map of the main fishing areas around the Archipelago).

#### 4 – Fishing gear

The fishing gear used generally consists of 3 or 4 nets joined together. Made in Canada, they are tied with a 60/100mm diameter polyamide monofilament thread. The thread is bottle-green in colour for nets with a stretched mesh size of 5 inches (125mm). It should be noted that all the nets used cannot be strictly identical.

The maximum authorised net length is 3 x 360m for professionals and 180m for recreational fishermen.

#### 5– Sampling of the 2011 landings

Sampling was carried out on 9 occasions during the fishing season from the end of May to mid-July.

A total of 73 gutted salmon were measured and weighed according to protocol.

Adipose fin samples were taken for genetic analysis, and scale samples were taken in order to determine the age of 73 individual fish.

Sampling is traditionally carried out at local fishmongers, who inform IFREMER as soon as 10 or more salmon are supplied to the establishment.

	2003	2004	2005	2006	2007	2008	2010	2011
Number of Samplings	12	11	8	19	1	2	9	9
Date of the first sampling	4 June	5 June	6 June	6 June	14 June	9 June	10 June	31 May
Date of the last sampling	6 July	29 June	23 June	4 July	14 June	16 June	7 July	7 July
Total weight sampled(kg)	872	837	718	926	49	218	163	314
Number sampled	340	355	310	391	12	68	57	73
Number weighed	340	355	310	391	12	68	57	73

Table 1 – Sampling operations carried out at St Pierre & Miquelon between 2003 and 2011. NB No sampling was carried out in 2009.

#### 6 – Salmon catch in 2011

According to the catch declared to DTAM, the total catch in 2011 was 3,757kg of whole fish, an increase of 975kg compared to 2010. The coefficient conversion used to obtain the gross weight figure is 1.15.

Professional catch accounted for 47% of the total catch, while the recreational catch accounted for 53%.

In 2010, professional catch accounted for 36% and recreational catch 64% of the total catch.

Figure 2 shows the landings by fishing type since 1990.

Fig 2: Atlantic salmon catch at St Pierre and Miquelon between 1990 and 2010.  
Source: Maritime Affairs, Saint Pierre

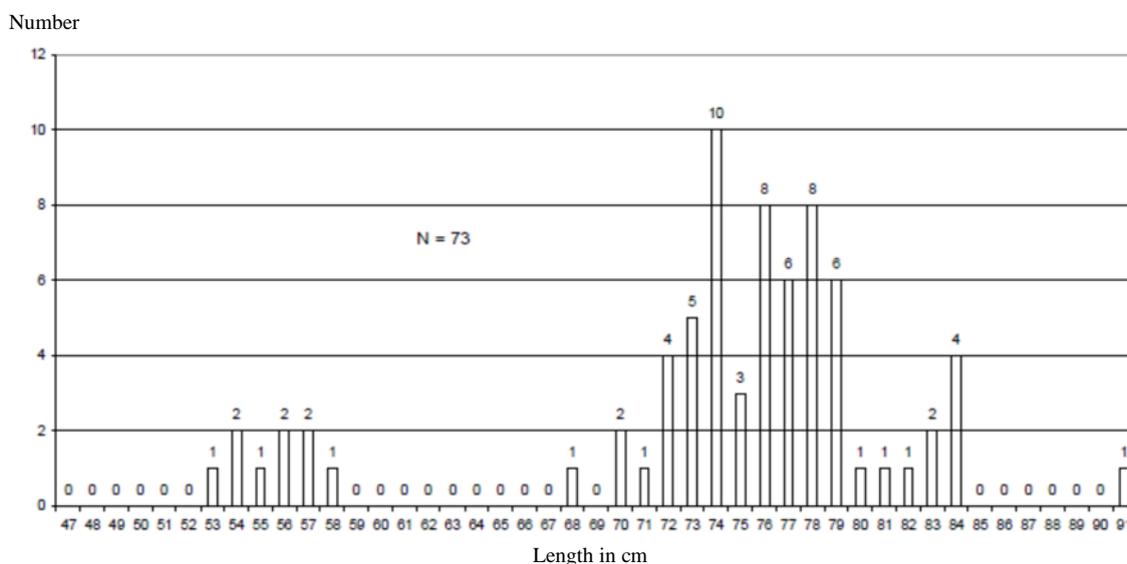


Pêche de loisir – Recreational fishery Pêche professionnelle – Professional fishery



Photo 2: measuring salmon in the workshop (copyright Ifremer)

Fig.3: Size composition of Atlantic salmon sampled at St Pierre & Miquelon in 2011



The majority of salmon measured in 2011 were over 70cm long. The smallest observed was 53cm and the longest was 91cm.

The average gutted weight was 4,300g. The minimum recorded was 1,460g and the maximum was 6,970g. It should be noted that 8 recreational fishermen and 1 professional fisherman declared no catch.

The average weight of salmon in the recreational catch was 2,430g (819 individual fish with a total gross weight of 1993kg). It is not possible to provide this figure for the professional catch as there is insufficient information available.

## 7 – Water Temperature

As the office did not have the correct equipment during the sampling period, water temperature readings were not taken.

However, an approximation can be made by looking at the data continually recorded at a station in Miquelon harbour. The temperatures recorded there were similar to those recorded in previous years.

## 8 – Genetic study

73 adipose fin samples were taken from the salmon sampled in 2011 for genetic identification using their DNA imprint. Comparing the profiles using a genetic database allowed the origin of each fish to be determined. This work was carried out by the Genindexe Laboratory in La Rochelle (the full results of the analysis are contained in Annex 2).

2 profiles (or 2.7%) indicated that the fish were of US origin, while the other 71 profiles (97.3%) were considered to be of Canadian origin.

A previous genetic study of 25 fish, carried out in 2004, showed that the salmon sampled at that time were mainly of Canadian origin.

## 9 – Scale Study

73 scale samples were taken in order to determine the age composition of the salmon. These samples were sent to IFREMER's National Sclerochronology Centre in Boulogne sur Mer which will carry out the analysis. An intercalibration workshop, in collaboration with a DFO laboratory in Canada, will be held in September, in order to better determine the age of the sampled salmon.

## 10–Parasite study

Ectoparasites were present in 5 of the 73 fish sampled. These are likely to be sea lice, an external copepod parasite, potentially the *Lepeophtheirus salmonis* species (see photo below).



Photo 3: A salmon with ectoparasites (Copyright : Ifremer Herlé Goragner)

## 11– Conclusion

2011 seems to have been a better season than in 2010 in terms of catch.

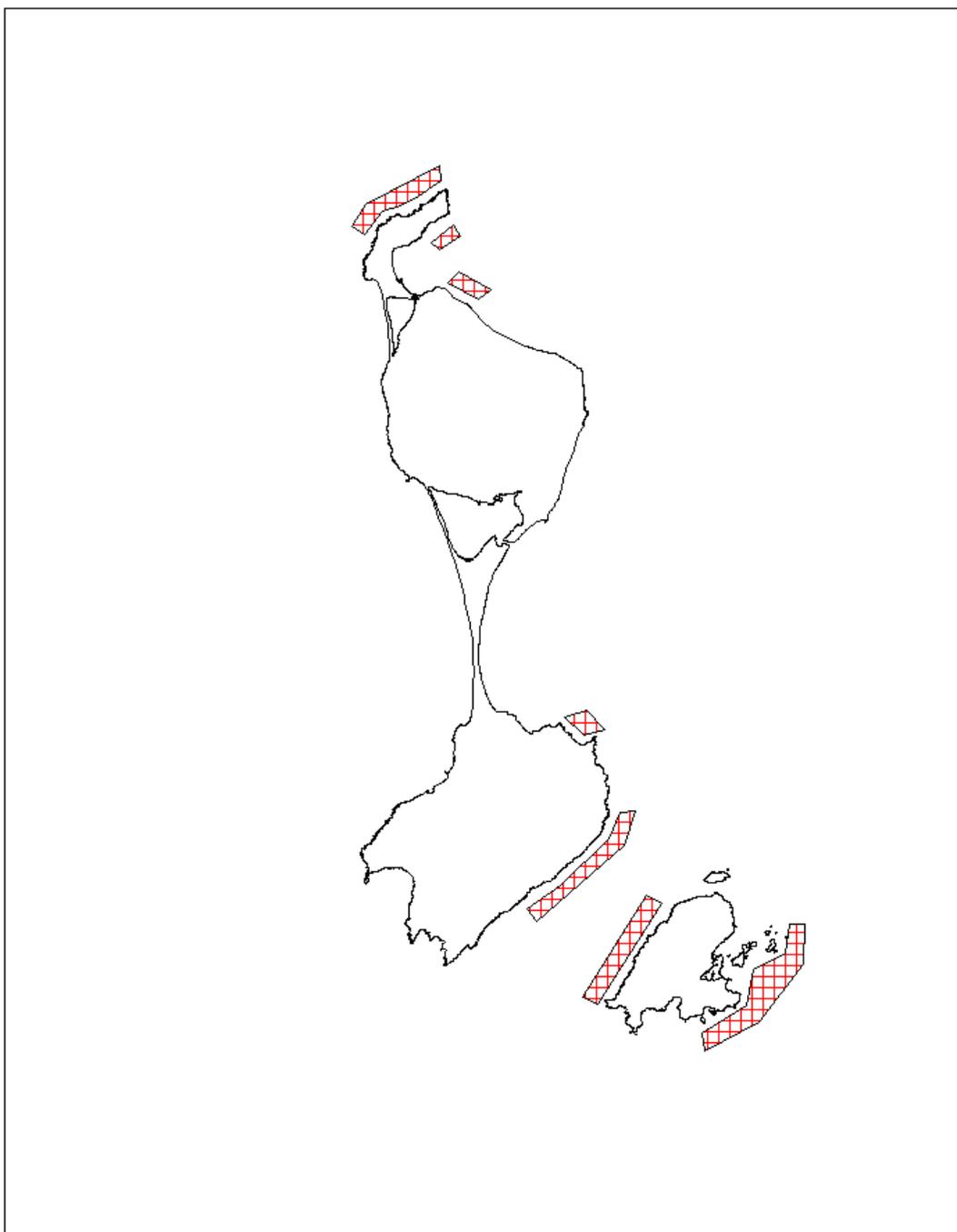
On average, recreational fishermen caught 14 salmon each, weighing 2.43kg.

The genetic study shows that the majority of salmon caught were of Canadian origin.

It will be of interest to continue this genetic study, especially on those salmon caught around the island of Miquelon. Salmon caught at Miquelon could be of Newfoundland origin.

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## SALMON FISHING AREAS AT SAINT-PIERRE AND MIQUELON



Annex 1: Location of the main fishing areas at St Pierre and Miquelon during the 2011 season.

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Annex 2: Report of the Laboratoire d'Analyses Génétiques Genindexe Analysis

## ANALYSIS REPORT

### Description of the Request

Date of request: September 2011

Nature of Sample: 73 *Salmo salar* adipose fin samples

Test requested: Genetic identification by DNA imprint and comparison to genetic database for population assignment.

---

GENINDEXE  
6, rue des Sports  
17000 La Rochelle

Téléphone : 33(0)5 46 30 69 66  
Fax : 33(0)5 46 30 69 68  
E-mail : [contact@genindexe.com](mailto:contact@genindexe.com)  
<http://www.genindexe.com>

## Methodology

The samples were received in the laboratory.

Each sample was identified using a unique internal code between SSA2800 and SSA2872.

The genetic material for each sample was then extracted and purified according to the laboratory's current methods.

The genetic profiles of the individuals were created using the following SALSEA microsatellite markers:

- Ssa14
- Ssa197
- Ssa202
- Ssa289
- SsaD144
- SsaD157
- SsaD486
- SsaF43
- Sssp1605
- Sssp2201
- Sssp2210
- Sssp2213
- Sssp2215
- SsspG7
- SsosL85

In each series of genetic amplification, the following controls were introduced in addition to the DNA extracts from the individuals to be analysed:

- Negative PCR control (blank PCR)
- Extraction control
- Positive PCR control (DNA taken from an individual whose genotype is known and has been standardised)

The profiles obtained will be compared to those in the database in order to assign the population. The profiles will be compared to the following populations:

USA: Maine, Narraguagus  
USA: Maine, Penobscot  
Canada: New Brunswick, Tobique  
Canada: Quebec, Ste Marguerite Canada: Quebec, Ste Anne  
Canada: Quebec, Malbaie  
Iceland: Sudurland, Nupsa  
Iceland: Vesturland, Langa  
Iceland: Nordurland, Laxa i Adaldal  
Scotland: Don Scotland: Almond Scotland: Coulin England: Dart  
Wales: Dee  
France: Allier  
France: Sée  
Russia: Neva  
Russia: Ponoï  
Russia: Pulonga Russia: Varzuga Finland: Simojoki  
Finland: Tornionjoku Norway: Komag Norway: Repparfjord  
Norway: Figgjo  
Norway: Pechora Norway: Saltdaselva Sweden: Atran  
Denmark: Skejrn  
Spain: Stella  
Spain: Narcea  
Ireland: Boyne  
Ireland: Blackwater  
Ireland: Dawros

### **Results of the Analyses**

The samples were genotyped according to 16 markers. The positive control showed a complete and true profile. The negative controls gave no signals.

The profiles obtained are shown in Table 1 below.

	Ssa14	Ssa14	Ssa171	Ssa171	Ssa197	Ssa197	Ssa202	Ssa202	Ssa289	Ssa289	SsaD144	SsaD144	SsaD157	SsaD157	SsaD486	SsaD486	SsaF43	SsaF43	SSep1605	SSep1605	SSep2201	SSep2201	SSep2210	SSep2210	SSspG7	SSspG7	SsaL85	SsaL85	SSep2213	SSep2213	SSep2215	SSep2215
SSA-2800	141	145	242	242	155	183	278	306	118	118	213	257	366	382	171	175	125	125	232	252	308	284	112	112	183	211	195	195	178	218	167	179
SSA-2801	141	145	214	256	187	211	258	286	118	124	209	225	350	366	175	187	127	117	248	248	324	336	112	112	175	179	179	193	194	202	159	179
SSA-2802	141	145	214	244	155	183	258	286	118	124	221	237	334	334	171	175	127	127	232	252	312	328	112	124	183	211	195	195	178	218	117	159
SSA-2803	141	141	238	264	163	187	278	278	118	118	181	213	346	374	171	183	127	127	234	234	288	312	136	136	203	211	187	191	190	202	155	175
SSA-2804	141	145	242	242	175	187	302	306	118	118	237	257	366	390	171	175	111	123	228	228	320	352	112	132	183	183	187	199	182	182	159	171
SSA-2805	141	145	234	264	171	175	278	294	118	118	165	225	342	358	175	187	117	117	238	254	316	348	124	132	183	183	181	187	178	186	179	183
SSA-2806	145	145	246	260	187	211	258	262	118	118	237	225	358	394	171	171	123	123	236	240	312	332	112	120	175	203	179	193	182	186	163	187
SSA-2807	145	145	244	258	187	211	306	310	118	118	173	229	394	358	171	187	123	127	236	238	312	332	112	124	175	203	169	179	182	186	163	187
SSA-2808	141	145	234	242	171	171	286	302	118	118	233	237	362	378	171	187	105	105	232	236	320	374	112	112	187	211	185	187	186	194	159	183
SSA-2809	141	145	232	238	175	179	274	286	118	118	221	257	366	414	171	183	117	123	238	238	300	344	112	136	179	179	179	193	186	190	163	167
SSA-2810	145	145	246	246	175	187	258	306	118	118	241	255	362	406	171	171	117	117	234	238	368	296	112	132	191	195	179	179	190	198	163	163
SSA-2811	141	141	234	238	187	207	270	302	118	124	153	221	334	378	175	191	111	131	246	258	324	378	112	128	163	191	197	197	182	206	159	171
SSA-2812	145	145	260	268	171	179	286	310	118	124	153	217	358	362	175	175	117	117	234	248	332	378	132	136	207	211	183	195	170	194	147	155
SSA-2813	145	145	238	238	179	191	286	314	118	118	241	221	342	354	175	187	117	117	252	260	296	300	112	112	191	195	183	183	174	190	155	159
SSA-2814	145	145	242	260	179	183	298	306	118	118	205	237	338	346	171	187	117	121	246	254	312	328	136	136	207	211	193	193	198	202	159	171
SSA-2815	145	145	246	260	171	199	298	302	118	118	149	189	350	378	175	175	135	135	236	238	296	312	112	112	203	203	191	199	182	190	147	179
SSA-2816	141	145	258	260	183	195	302	322	118	118	189	221	350	366	175	187	117	117	238	252	300	312	112	156	203	219	179	187	186	186	147	163
SSA-2817	141	145	246	258	175	175	294	314	118	118	225	237	322	358	179	191	117	123	238	252	292	288	112	136	183	203	191	193	182	182	163	171
SSA-2818	141	145	234	234	171	195	274	310	118	118	181	245	326	342	171	187	117	117	236	236	328	368	112	124	199	203	179	195	190	202	167	183
SSA-2819	145	145	246	246	167	175	274	294	124	124	213	245	342	378	171	179	117	123	234	264	304	316	112	136	183	191	191	191	198	198	163	167
SSA-2820	145	145	234	258	159	175	298	310	124	128	209	221	378	394	175	187	117	119	234	252	280	328	132	136	167	175	181	181	194	210	163	175
SSA-2821	145	145	230	264	171	179	298	314	118	118	181	221	338	358	171	175	117	117	238	242	312	316	112	136	183	199	179	181	190	190	163	163
SSA-2822	141	141	234	234	179	183	274	310	118	124	193	225	366	410	171	175	117	117	242	246	348	370	112	136	179	199	181	191	186	186	155	171
SSA-2823	141	145	246	250	167	175	258	286	118	118	209	209	362	378	171	191	117	117	238	260	320	328	112	112	175	199	181	191	202	210	163	163
SSA-2824	141	145	230	234	175	183	306	314	118	118	249	253	342	354	187	187	117	117	230	254	292	332	112	136	179	179	181	187	190	194	159	171
SSA-2825	145	145	234	238	159	187	262	298	118	124	193	217	358	414	175	175	127	129	232	232	296	324	112	112	167	203	179	187	190	190	167	167

	Ssa14	Ssa14	Ssa171	Ssa171	Ssa197	Ssa197	Ssa202	Ssa202	Ssa289	Ssa289	SsaD144	SsaD144	SsaD157	SsaD157	SsaD486	SsaD486	SsaF43	SsaF43	SSsp1606	SSsp1606	SSsp2201	SSsp2201	SSsp2210	SSsp2210	SSsp2210	SSsp2210	SSspG7	SSspG7	SsacL85	SsacL85	SSsp2213	SSsp2213	SSsp2215	SSsp2215
SSA-2826	145	145	238	242	175	175	294	298	118	122	197	237	326	342	175	195	117	117	230	236	320	332	112	136	199	211	193	195	182	190	159	159		
SSA-2827	145	145	234	246	167	175	302	302	118	118	217	245	346	362	171	175	117	123	238	246	320	336	124	132	179	187	197	197	190	190	167	195		
SSA-2828	141	145	222	238	167	175	298	318	118	118	193	205	370	374	171	187	117	131	234	238	336	336	112	164	175	179	189	191	148	154	167	175		
SSA-2829	145	145	234	274	171	183	290	306	118	122	185	245	366	382	179	187	131	131	246	254	324	332	132	136	183	195	199	199	182	186	163	171		
SSA-2830	141	145	238	246	171	191	302	302	118	118	189	225	342	346	171	175	117	123	248	252	312	324	112	136	175	211	179	191	186	190	159	163		
SSA-2831	145	145	234	246	171	187	282	302	118	124	205	245	318	330	175	187	117	123	230	230	280	296	112	136	167	183	181	195	178	198	147	183		
SSA-2832	141	145	234	238	159	171	298	302	118	122	157	217	342	354	187	195	117	119	250	264	344	364	136	156	183	183	179	181	148	198	171	179		
SSA-2833	141	145	234	238	187	215	298	302	118	118	193	213	334	370	171	175	111	123	234	246	328	340	132	136	171	207	181	181	148	190	163	175		
SSA-2834	141	145	222	242	175	211	282	298	118	124	193	225	354	358	171	171	113	117	230	268	328	378	112	112	183	187	191	195	186	194	167	175		
SSA-2835	145	145	234	238	187	199	290	294	118	122	217	225	362	414	175	187	117	123	238	242	332	344	112	136	175	183	179	185	198	202	155	167		
SSA-2836	141	145	242	246	183	203	274	294	118	118	245	217	358	366	187	191	117	123	230	254	304	352	112	124	183	183	191	199	186	186	151	167		
SSA-2837	141	145	238	242	163	203	302	314	118	118	257	249	354	378	175	179	123	123	252	254	308	332	112	136	167	203	181	185	178	194	167	171		
SSA-2838	145	145	234	254	171	191	302	302	118	118	197	225	354	366	171	175	111	111	234	234	312	324	112	114	175	211	181	185	186	194	159	163		
SSA-2839	141	145	234	272	171	175	250	290	118	128	209	237	346	354	171	171	117	127	230	252	284	308	124	132	203	203	179	193	190	202	163	171		
SSA-2840	145	145	222	250	175	183	306	314	118	118	237	253	354	366	187	187	123	123	234	234	292	332	112	120	171	179	181	193	170	194	163	167		
SSA-2841	145	145	234	238	159	187	262	298	118	124	193	217	358	414	175	175	127	129	230	236	296	324	112	120	167	203	179	187	190	190	167	167		
SSA-2842	145	145	234	250	175	175	294	298	118	118	197	237	326	342	175	195	117	117	238	246	320	332	112	136	167	195	193	195	182	190	159	159		
SSA-2843	145	145	234	246	167	175	302	302	118	118	245	217	346	362	171	175	117	123	234	238	320	336	124	132	179	187	197	197	182	186	167	195		
SSA-2844	141	145	222	234	167	175	298	318	118	118	193	205	370	374	171	187	117	131	246	254	336	336	112	164	175	179	189	191	148	154	167	175		
SSA-2845	145	145	234	274	171	183	290	306	118	122	185	245	366	382	179	187	131	131	244	260	324	332	132	136	183	195	181	199	182	186	163	171		
SSA-2846	141	145	230	250	179	203	278	306	118	118	237	221	346	358	175	187	117	123	230	230	296	272	136	144	167	179	179	181	190	194	163	179		
SSA-2847	145	145	234	246	171	187	306	306	118	124	205	209	318	330	175	187	117	123	230	252	280	296	112	136	171	179	181	195	178	198	147	183		
SSA-2848	145	145	226	242	175	191	278	290	118	118	213	233	370	394	175	187	117	123	238	238	332	336	112	136	183	207	179	199	182	210	133	155		
SSA-2849	141	145	234	238	175	227	282	302	122	124	197	257	374	378	171	175	125	125	236	236	296	312	112	136	187	199	183	197	182	190	155	175		
SSA-2850	145	145	240	250	171	179	294	306	118	118	221	221	346	394	175	175	127	127	232	264	312	320	112	136	167	195	179	191	170	198	147	175		
SSA-2851	145	145	248	248	171	175	294	302	118	118	213	249	330	330	171	175	117	117	238	254	292	292	112	120	127	183	191	199	194	198	159	175		

	Ssa14	Ssa14	Ssa171	Ssa171	Ssa197	Ssa197	Ssa202	Ssa202	Ssa289	Ssa289	SsaD144	SsaD144	SsaD157	SsaD157	SsaD486	SsaD486	Ssaf43	Ssaf43	SSsp1606	SSsp1606	SSsp2201	SSsp2201	SSsp2210	SSsp2210	SSspG7	SSspG7	SsaosL85	SsaosL85	SSsp2213	SSsp2213	SSsp2215	SSsp2215
SSA-2852	141	145	238	238	171	183	294	302	118	128	193	213	354	374	171	187	117	117	230	238	300	304	112	124	167	179	181	191	194	198	163	171
SSA-2853	145	145	234	238	171	191	302	310	118	118	221	241	354	378	175	187	117	117	230	250	344	344	124	124	195	195	181	181	182	182	163	167
SSA-2854	141	145	234	248	171	175	302	310	118	118	217	237	370	370	175	175	117	123	230	238	324	348	124	124	179	179	183	195	174	186	159	171
SSA-2855	145	145	230	234	183	219	274	278	118	124	161	221	358	410	171	183	117	117	228	248	312	340	112	112	171	179	181	183	174	186	159	171
SSA-2856	141	145	240	240	171	195	274	282	118	124	125	233	310	354	171	179	127	127	230	246	284	284	112	144	191	207	197	199	190	198	133	163
SSA-2857	145	145	230	214	183	187	278	308	118	122	181	217	322	350	175	187	123	123	242	260	272	296	124	124	167	179	193	193	178	198	133	183
SSA-2858	145	145	246	266	179	203	234	302	118	118	121	161	358	370	171	179	111	117	234	238	280	290	112	112	179	187	185	199	162	162	163	167
SSA-2859	143	145	238	260	171	175	294	302	118	118	201	225	326	342	171	175	119	127	234	252	292	292	112	112	127	183	179	199	190	198	159	163
SSA-2860	145	145	246	268	171	175	302	302	118	118	197	245	334	362	171	175	117	117	228	236	300	304	112	120	167	179	179	181	194	206	159	175
SSA-2861	145	145	244	268	167	195	302	310	118	118	225	217	322	326	171	179	117	123	230	250	328	328	112	112	215	219	193	199	190	198	159	179
SSA-2862	141	145	254	230	175	183	290	294	118	118	197	257	334	342	175	187	131	131	230	254	312	336	112	136	183	199	189	197	194	198	167	171
SSA-2863	145	145	234	254	199	223	282	286	118	118	177	193	382	402	171	175	117	123	250	250	316	320	124	136	167	167	179	179	182	190	171	179
SSA-2864	141	141	254	254	167	215	298	298	118	124	161	161	330	406	171	175	115	115	230	246	312	316	112	112	183	187	179	179	186	186	171	171
SSA-2865	141	145	238	238	171	195	274	282	118	122	177	189	310	354	171	179	111	117	228	228	284	352	112	144	191	207	183	183	170	170	133	163
SSA-2866	145	145	234	234	171	199	294	308	122	122	181	217	322	378	171	175	123	129	242	246	312	320	124	124	179	187	183	195	178	198	133	183
SSA-2867	145	145	244	264	179	203	290	298	118	118	189	237	338	350	175	175	111	117	236	236	308	308	112	112	179	195	189	191	182	198	163	167
SSA-2868	141	141	222	222	179	179	302	302	118	118	185	185	358	394	175	175	115	115	234	260	276	312	124	136	215	219	183	197	186	186	171	171
SSA-2869	141	145	218	234	167	195	302	310	118	118	185	185	342	346	171	179	131	131	228	248	328	328	112	136	203	203	183	195	186	186	159	163
SSA-2870	145	145	242	268	167	195	302	310	118	118	217	225	322	326	171	179	117	123	228	228	328	328	112	112	215	219	193	195	190	198	159	179
SSA-2871	141	145	214	230	163	167	298	298	118	118	161	185	346	374	175	187	123	117	234	250	276	312	112	112	183	199	179	181	178	206	167	171
SSA-2872	141	141	230	230	167	215	294	302	118	124	177	193	342	350	171	175	119	127	228	228	312	316	140	140	183	187	181	181	182	182	167	179
SSA-2873	141	141	252	252	167	215	290	298	118	124	201	241	370	370	171	175	111	111	238	258	312	336	112	112	183	187	179	199	182	182	159	171

Table 1: Genotypes obtained from the 51 adipose fin samples. The figure 0 means that the sample could not be interpreted using the given markers.

## Conclusions

Genetic profiles of individual fish were created, analysed and compared to our genetic database.

Table 2: Genetic assignment test results

CODE INTERNE	INDIVIDU	ASSIGNATION
SSA-2800	1	CAN-STE-MARGUERITE
SSA-2801	2	CAN-STE-MARGUERITE
SSA-2802	3	CAN-STE-MARGUERITE
SSA-2803	4	CAN-STE-MARGUERITE
SSA-2804	5	CAN-STE-ANNE
SSA-2805	6	CAN-STJEAN
SSA-2806	7	CAN-STJEAN
SSA-2807	8	CAN-STE-ANNE
SSA-2808	9	CAN-STE-ANNE
SSA-2809	10	CAN-STE-ANNE
SSA-2810	11	CAN-STE-MARGUERITE
SSA-2811	12	CAN-STE-ANNE
SSA-2812	13	CAN-STE-ANNE
SSA-2813	14	CAN-STE-ANNE
SSA-2814	15	CAN-STJEAN
SSA-2815	16	CAN-STE-ANNE
SSA-2816	17	CAN-STE-ANNE
SSA-2817	18	CAN-TRINITE
SSA-2818	19	CAN-STE-ANNE
SSA-2819	20	CAN-STE-MARGUERITE
SSA-2820	21	CAN-TRINITE
SSA-2821	22	CAN-TRINITE
SSA-2822	23	CAN-STE-ANNE
SSA-2823	24	CAN-STE-ANNE
SSA-2824	25	CAN-TRINITE
SSA-2825	26	CAN-TRINITE
SSA-2826	27	CAN-STE-ANNE
SSA-2827	28	CAN-STE-MARGUERITE
SSA-2828	29	CAN-STE-ANNE
SSA-2829	30	CAN-STE-ANNE
SSA-2830	31	CAN-STE-MARGUERITE
SSA-2831	32	CAN-STE-MARGUERITE
SSA-2832	33	CAN-STE-MARGUERITE
SSA-2833	34	CAN-STE-MARGUERITE
SSA-2834	35	CAN-STE-ANNE
SSA-2835	36	CAN-STJEAN
SSA-2836	37	CAN-STJEAN
SSA-2837	38	CAN-STE-ANNE
SSA-2838	39	CAN-STE-ANNE
SSA-2839	40	CAN-STE-ANNE
SSA-2840	41	CAN-STE-MARGUERITE

Table 2 (contd)

CODE INTERNE	INDIVIDU	ASSIGNATION
SSA-2841	42	CAN-STJEAN
SSA-2842	43	CAN-STE-ANNE
SSA-2843	44	CAN-TRINITE
SSA-2844	45	CAN-STE-ANNE
SSA-2845	46	CAN-STJEAN
SSA-2846	47	CAN-STE-ANNE
SSA-2847	48	CAN-TRINITE
SSA-2848	49	CAN-STJEAN
SSA-2849	50	CAN-STE-ANNE
SSA-2850	51	CAN-STE-ANNE
SSA-2851	52	CAN-STE-ANNE
SSA-2852	53	CAN-STE-ANNE
SSA-2853	54	CAN-STE-ANNE
SSA-2854	55	CAN-STE-ANNE
SSA-2855	56	CAN-STE-ANNE
SSA-2856	57	CAN-STE-ANNE
SSA-2857	58	USA-NARRAGUAGUS
SSA-2858	59	CAN-STE-ANNE
SSA-2859	60	CAN-STE-MARGUERITE
SSA-2860	61	CAN-STJEAN
SSA-2861	62	CAN-STE-ANNE
SSA-2862	63	CAN-STJEAN
SSA-2863	64	CAN-STE-ANNE
SSA-2864	65	CAN-STE-MARGUERITE
SSA-2865	66	CAN-STE-ANNE
SSA-2866	67	CAN-STE-ANNE
SSA-2867	68	CAN-STE-ANNE
SSA-2868	69	USA-NARRAGUAGUS
SSA-2869	70	CAN-STE-ANNE
SSA-2870	71	CAN-STE-ANNE
SSA-2871	72	CAN-TRINITE
SSA-2872	73	CAN-STJEAN

Code interne – internal code    individu – individual    Assignation - assignment

The profile comparisons indicate that the majority of fish analysed are similar to Canadian populations. Table 2 shows the assignation test results of the 73 fish analysed.

La Rochelle, 30 November 2011



Dr Corinne CHERBONNEL Docteur in Genetics

**CNL(12)45**

***Press Release***

North Atlantic Salmon Conservation Organization (NASCO)  
Twenty-Ninth Annual Meeting, Edinburgh, Scotland  
5–8 June 2012

**International Conference Concludes  
with Call for More Action to Conserve Wild Atlantic Salmon**

International experts today concluded discussions on the condition of wild Atlantic salmon stocks and agreed on new steps to support recovery. Scientific information provided to the North Atlantic Salmon Conservation Organization (NASCO) during its 29<sup>th</sup> annual meeting this week indicated that salmon stocks across the North Atlantic remain at historically low levels, although small improvements were noted for some stocks. Taking on board scientific advice, NASCO negotiators worked together to hammer out two new agreements this week that will limit harvests of wild Atlantic salmon on their feeding grounds for the next three years. In Greenland, only a small internal use fishery, estimated to be about 20 tonnes, will be allowed. For the Faroe Islands, the agreement not to fish will be continued. Both governments stressed that they were committed to doing their part in the recovery of wild Atlantic salmon while claiming their historical rights to fish.

Newly re-elected President of NASCO, Mary Colligan, stressed: “The cooperation and collaboration of Greenland and the Faroe Islands in agreeing to actions to that will support the recovery of salmon across the Atlantic is to be commended. Similar actions have been taken by other countries in controlling their homewater fisheries. Still, more needs to be done to secure the future of wild Atlantic salmon.”

In support of management actions, countries also agreed to continue scientific cooperation to enhance the understanding of salmon stocks. According to the NASCO supported Salmon at Sea (SALSEA) research program, the largest internationally coordinated Atlantic salmon research program ever conducted ([www.salmonatsea.com](http://www.salmonatsea.com)), a major stress on Atlantic salmon is a changing climate. At its recent meeting, NASCO considered the management implications of this work. The importance of addressing all the impact factors in fresh, estuarine, and coastal waters, including degraded freshwater habitats, barriers to migration, over-exploitation, and salmon farming was acknowledged. Such actions are critical to protect the genetic diversity of wild Atlantic salmon and maximize its potential to adapt. NASCO supported additional analysis of data collected under SALSEA as well as the instigation of new research to continue to advance human knowledge of wild Atlantic salmon and improve its conservation and management.

In order to continue to meet the various challenges facing wild Atlantic salmon, NASCO took a positive step in 2011 by appointing a panel of independent experts to assess its fitness for the future and to make recommendations that could facilitate its work. The results of this

evaluation were presented this week. While the review found that NASCO is a strong organization overall, the panel of experts made several recommendations aimed at enhancing the work of the organization, including suggesting that NASCO explore whether and how to make some of its decisions binding. In light of the report, NASCO decided immediately to improve reporting requirements, which will increase transparency and accountability of NASCO members in implementing agreements on wild Atlantic salmon stock management, habitat protection, and aquaculture and related activities. Furthermore, NASCO agreed to initiate a process in 2012 to consider steps that might be needed to meet current and future challenges to the effective conservation and management of wild Atlantic salmon.

The President said: “This is an historic moment for our organization. NASCO was the first regional fisheries management organization to begin a performance review process—back in 2004. Now that the report of the external performance review is here, the second stage of this process can begin in earnest. This is a big challenge for the organization, and I am proud to be part of ensuring NASCO is fully prepared to meet the challenges of the future.”

In other news, long time Secretary of NASCO, Dr. Malcolm Windsor OBE (Order of the British Empire), retired following the 2012 NASCO annual meeting. Dr. Windsor’s dedication and commitment to the organization and to the conservation and management of wild Atlantic salmon were warmly acknowledged. The position of Secretary will be filled temporarily by the current assistant Secretary Dr. Peter Hutchinson, and an open and transparent recruitment process to find a new Secretary will take place over the course of 2013.

The 30<sup>th</sup> Annual meeting of NASCO will be held in Ireland, June 4-7, 2013.

#### **Notes for Editors:**

NASCO is an intergovernmental organization formed by a treaty in 1984 and is based in Edinburgh, Scotland. Its objectives are the conservation, restoration and rational management of wild Atlantic salmon stocks, which do not recognise national boundaries. It is the only intergovernmental organisation with this mandate which it implements through international consultation, negotiation and co-operation.

The Parties to the Convention are: Canada, Denmark (in respect of the Faroe Islands and Greenland), European Union (representing its 27 Member States), Norway, Russia and USA. There are 35 non-government observers accredited to the Organization.

The 2012 meeting included over 101 scientists, policy makers and representatives of 14 nations as well as 4 Inter-Governmental Organisations and 18 Non-Governmental Organisations, who met to discuss the present status of wild Atlantic salmon and to consider management issues.

For further information contact:

Dr. Peter Hutchinson

NASCO

tel +44 (0)131 228 2551 email [hq@nasco.int](mailto:hq@nasco.int)

[www.nasco.int](http://www.nasco.int)

*Valedictory Remarks By Secretary At Closure  
Of 2012 Annual Meeting*

Dear Friends

We are told that our human species has walked this planet for about 160,000 years. But civilisation is very much younger, about 6,000 years. By civilisation we mean humans gathering together, at first in small groupings, cooperating and producing food surpluses so that not everyone had to be engaged in agriculture, gathering, hunting and fishing leaving room for people to specialise in something else like making shoes or being doctors, poets, musicians or scientists. In other words civilisation is about cooperation between diverse groups to improve what they do leaving room for specialisation.

NASCO is all about cooperation too but between nations and cultures with a single aim. But we are a very recent flowering, if I can use that term, of civilisation, a mere twenty five years or so old. Has our cooperation, our little civilisation, worked? Perhaps, like western civilisation, we are also so new that it is too early to say. But what we can say is that we grew in a period of scarcity, it would have been much easier if we had emerged in a time of plenty. But nevertheless we did not duck the major decisions to conserve the species. We did not make the mistakes made elsewhere in fisheries. We did not, like the Easter Islanders, those who built the monolithic statues, and depended on canoes to get anywhere, cut down the last tree.

Ladies and Gentlemen, I came to Edinburgh to work for a non-existent international organization in February 1984 on a six month contract. Somehow I am still here 28 years later. What happened? What can I say to you all in a short time about these 28 years? What do I think we should be proud of? What could we do better?

Let's start with the birth of NASCO; it was not an easy birth. The North Atlantic was a criss-cross of interceptions of one country's fish by another country. The catch at Greenland was up to 2,500 tonnes, Faroe Islands around 1,000 tonnes and there were many mixed stock commercial fisheries elsewhere. There would be no fish to return to spawn if we kept that up. Clearly the Law of the Sea had not resolved what to do about salmon. Indeed it said that these issues should be dealt with by new Regional Organizations. So NASCO was born and by a quirk of fate had its first annual meeting right here in this hotel.

The early meetings were totally dominated by negotiations for regulatory measures and the atmosphere was very bad. But despite that we made progress particularly when we began to get more predictive advice from our scientists. Thereafter the news on abundance became worse and worse but by then the relationship between the parties was improving, they were beginning to understand each other. Commercial fisheries have been closed in Canada, Ireland, Scotland, England, Norway, Russia and elsewhere The Faroe Islands and Greenland have accepted very low or zero quotas while this state of affairs persists. It certainly does not mean that they have sacrificed their right to fish, but we all realise that the fish were not there and we all hope that abundance is growing, (there are some signs of that), and that the Faroe

Islands and Greenland will have their rightful share. I think most of us felt that if we could solve those problems the salmon would return to their former abundance. But they didn't and they haven't. It became clear that the problem is very complex and that we needed to cooperate not just on the conservation measure agreed internationally but on the conservation measures taken domestically by each jurisdiction. In that regard it is very good news that at this Annual Meeting we have not only agreed three year measures in both Greenland and the Faroe Islands but new means to submit and review Implementation plans for conservation measures by all the parties. I must say I am delighted that we have achieved this as well as pass a Performance Review with great support for what we have been doing.

So we looked at ourselves in some depth and greatly broadened the focus of our work to include habitat, aquaculture, introductions and transfers and even transgenics. We have greatly increased our transparency so as to draw on the expertise of our NGO communities and here I would like to pay a tribute to our NGO Chair, Chris Poupard. This is his last meeting as NGO Chair and we owe him a very big thank you for the way that he has unified the NGOs and provided the necessary outside view and challenge to the Parties.

NASCO has evolved over the years into a very inclusive and transparent organisation, with good relations between the parties and the NGOs even if they do not always agree. That leads to an ability to work together so much more effectively. With trust and good spirits you can achieve much.

This is a very good tale to tell, we should all be proud of it, I certainly am proud of you. But, wait, something is missing. The end of this story should be that we all did the right things, we all made sacrifices, we all put our heads on the block, we all learnt to accept criticisms for another, we all learnt valuable lessons, our NGO friends became part of the organization, we learnt too from their experience and their viewpoints, all conservation measures that could be taken were taken ..... and then the North Atlantic salmon came back to its former abundance, maybe four or five times its present abundance, we had sustainable use of it whether for recreation or commercial fisheries..... and everyone lived happily ever after.

Well, as you know, I made that last bit up. The salmon has not come back and we face what seems to be very low abundance for a long time. Even then we have not thrown our hands in the air, we have not stood still but, against all the odds, funded and launched the SALSEA programme which is a unique venture for us an international intergovernmental body. We have raised very significant amounts of funding from public and private sources and carried out a major project that has never before been attempted to find out more about what is happening to our salmon at sea.

So when I look at this record, and I know I am biased, I feel intensely proud of what has been carried out over the years in this forum by people who did not know each other often did not share the same language, or culture, had very different perspectives on what a salmon was for and who might have easily fallen into mistrust and lack of the will to work together. We know that this sort of failure is not uncommon in international affairs. We have indeed been fortunate in our people and in our spirit.

We will need those qualities for the challenges ahead. It is indeed a shame that Mother Nature has not been working with us. She has not been in the best of moods and it is not just in the sea where we are losing species, losing abundance and losing diversity. Humans dominate this planet so mightily that whether it is the sea, the land or the atmosphere we breathe we affect them all. And the fact that we are the top predator and that there are, at least in my view, already far too many of us on this planet means that we face very difficult issues on how we interact with all the other species who cannot fight back. We in this room happen to be in charge of one of them, but one with a strong presence in human imagination.

If I can return to the NASCO microcosm,

We do know how to work together,  
We do know how to ask the right questions,  
We do know how to obtain the best science,  
We do know how to trust each other,  
We do know how to accept criticism and how to learn from each other.

We know how to do the right things because we have done them.

There will be many challenges ahead, warming oceans, sea lice and genetic impacts from salmon aquaculture, transgenics, mixed stock fisheries, by-catch, *Gyrodactylus*, and no doubt some which we have not even dreamt of. But we have to use the cooperative skills that we have developed over a quarter of a century to conserve, and restore the wild Atlantic salmon on the northern half of our planet.

Here I want to again pay tribute not just to all of you and to your predecessors but to my colleagues in the Secretariat. Whatever I have been able to do, without such support it would have been the less. I would single out my dear colleague and friend Peter Hutchinson because we have worked together for 25 years. Ladies and gentlemen, I could not imagine a better colleague. We have worked to the edge of fatigue, we have thought through everything that could go wrong and everything that has gone wrong. He has been unswerving in his work for me and for us all. I am extremely proud to have worked so long with him. He is the Best! In the Secretariat every one of the staff has been devoted and I owe them all a heavy debt.

We also have a marvellous non-human asset, our Headquarters property, which I bought for you in 1986 and which became the third biggest contributor to our budget. We own a historic property valued at many times the amount we paid for it and delivering an annual income thereby reducing contributions

What could we do better? Just be brave!

Always do what is right for the salmon and try to keep above national politics and keep office politics out of it.

Show passion and enthusiasm. I feel that there is not enough passion shown at the table to drive and inspire our aims, there used to be more. There is too often silence at the central table when there should be enthusiasm. Today, I find that there is often a more bureaucratic approach focussing on details or side issues rather than the major aims. They can only fire you when you get back!

Structurally in NASCO, I would like to see the EU jurisdictions sitting at the central table representing themselves and defending themselves. I think it is a huge, an almost impossible, burden on the EU to represent all these interests and they could still lead the Regulatory Measure negotiations, which they are good at, but would not have to take the blame when the jurisdictions do not measure up. Ladies and gentlemen, the salmon has brought all of us together and what we have all done is unique and marvellous and would not have been done otherwise. I am always amazed to see groups of people at NASCO all working together in a very short time to achieve something which they probably may not have achieved at home, the catalyst, the synergy that we have as an international team is astonishing.

So I pass on the baton to the next generation. There will be challenges that we never dreamt of, there will be new faces, there will be new problems but we know that they can be overcome, because that is what we do. One day the salmon will respond. I would urge everyone here to show passion and strong spirits towards our work. Our species is a marvel. It brings jobs and wealth often to areas where they are difficult to find, it is a species prized by people who will never see one or catch one. It grows up in places with little food and often freezing waters. It finds its way across trackless seas to its feeding grounds. Years later it finds its way back to precisely where it came from. Our salmon surmounts all these huge obstacles with energy, vigour, strength and determination.

I ask you in turn to do the same for them. Thank you.

Malcolm Windsor  
Edinburgh  
8 June 2012

**CNL(12)00**

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CNL(12)19	Presentation of the ICES advice to the Council
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CNL(12)21	Annual Report - Norway
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CNL(12)23	Annual Report – USA
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