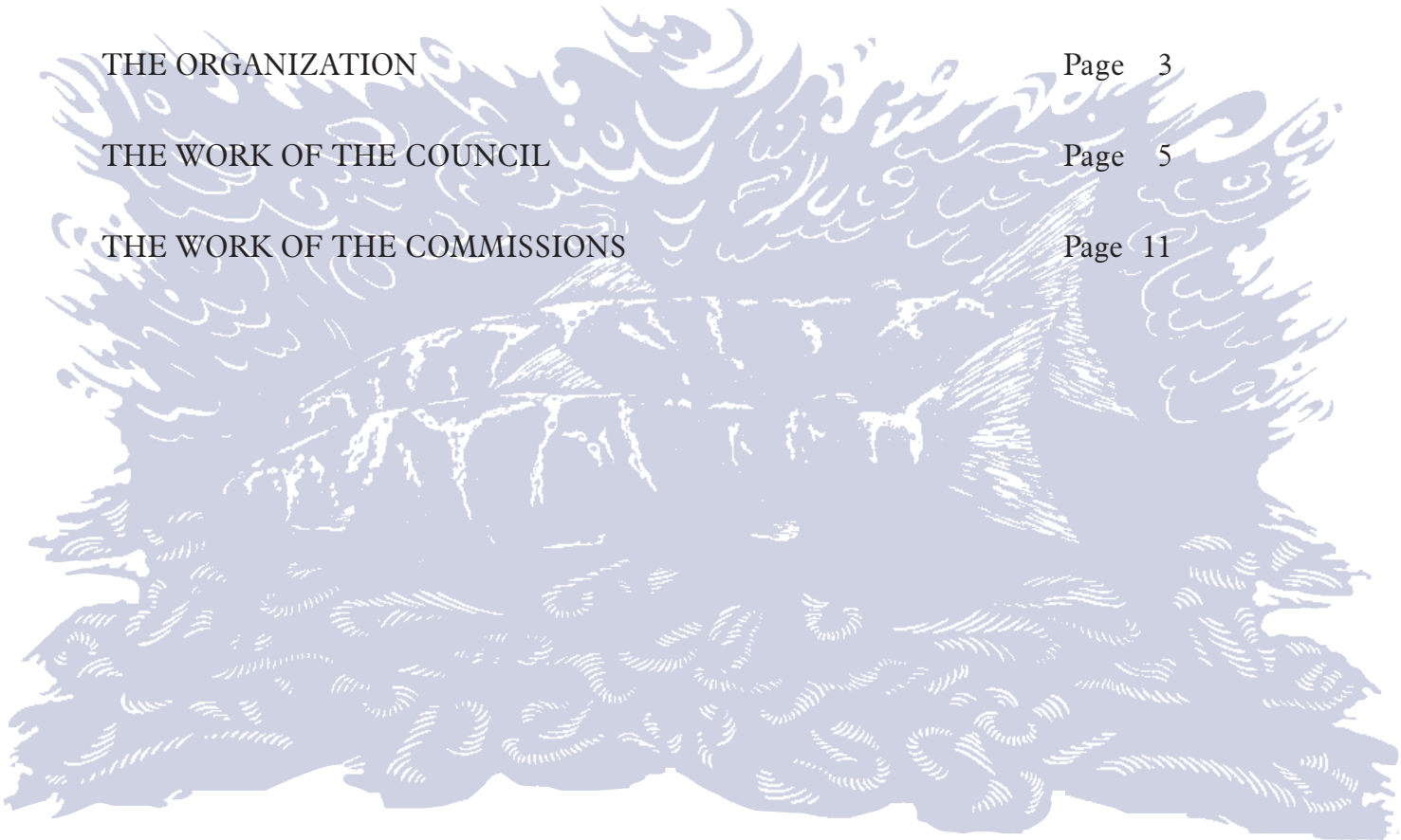
# Report on the Activities of the North Atlantic Salmon Conservation Organization

# 1995 - 1997

**CONTENTS**





Despite the sacrifices that have been made both nationally and internationally in recent years there continues to be concern about the abundance of salmon stocks. Part of the decline in catches has been due to conservation measures which deliberately restrict catches but the decline has been greater than would have been anticipated as a result of these management measures alone. During this period of low abundance it is vital that human actions are not allowed to exacerbate what appears to be a poor environmental situation that may be linked to natural causes. The Organization must quickly respond to existing threats and to new threats as they emerge.

Adverse impacts on salmon stocks are not new but new risks to the stocks emerge on a regular basis, some with great rapidity. For example, a new development which faced the Organization in 1995 was the availability to the salmon farming industry of transgenic salmon with greatly enhanced growth rates (4-6 times compared to salmon which have not been genetically modified). The Council has reviewed the threats which these salmon might pose to the wild stocks and has developed internationally acceptable guidelines designed to control the risks. The Council has also continued to review annually the measures taken by the Parties to safeguard the wild stocks from impacts of salmon farming, an industry which now produces almost 150 times the harvest of wild stocks. The Organization, in conjunction with ICES, held a major international symposium in 1997 to consider the scientific and management implications of aquaculture for the wild stocks. The Organization intends to develop its cooperation with the industry to try to ensure that aquaculture development proceeds without damage to the wild stocks.

Another example of particular concern, which has emerged in recent years, is the damage to the wild stocks caused by introductions and transfers. The risks have been highlighted by the parasite *Gyrodactylus salaris* in the North-East Atlantic area, which has caused very high levels of mortality of juvenile salmon in some rivers in Norway to the extent that the stocks in these rivers are threatened with extinction. Measures have been developed in both the North-East Atlantic and the North American Commissions with the aim of safeguarding the wild stocks from the genetic, disease and parasite and ecological impacts of poorly planned fish movements.

Concern has been expressed about the impacts of growing populations of the predators of salmon, such as fish-eating birds and seals, and also about the effect of harvesting some of the prey species of Atlantic salmon, such as sandeels, in industrial fisheries. These issues were given a thorough airing in a Special Session held in 1996. This is a difficult area with many overtones and the management implications arising from this session were considered by the Council at its Fourteenth Annual Meeting.

During the period covered by this report NASCO has continued to broaden its competence to address new issues as they arise. It is clear from the database on salmon rivers, which NASCO has established, that about 13%(approximately 240 rivers) of the 1900 salmon rivers in the North Atlantic area are considered to be threatened with loss and 6.5% (120 rivers) have been lost to salmon production. The challenge facing NASCO and its Contracting Parties is to rebuild the stocks which are threatened and to restore those which have been lost. The measures taken by the Organization, detailed in this report, highlight the commitment of the Parties to the conservation, restoration, enhancement and rational management of this valuable and highly prized resource.

# OFFICERS

## COUNCIL

| | | |
|---|---|---|
| President | Mr Børre Pettersen (Norway) | *to June 1996* |
| | Mr Einar Lemche (Denmark (in respect of the Faroe Islands and Greenland)) | *from June 1996* |
| Vice-President | Mr David Meerburg (Canada) | *to June 1996* |
| | Mr Ole Tougaard (European Union) | *from June 1996* |

## NORTH AMERICAN COMMISSION

| | | |
|---|---|---|
| Chairman | Mr Jean-Paul Duguay (Canada) | *to June 1996* |
| | Dr Ray B Owen, Jr (USA) | *from June 1996* |
| Vice-Chairman | Dr Ray B Owen, Jr (USA) | *to June 1996* |
| | Mr Pierre Tremblay (Canada) | *from June 1996* |
| Rapporteur | Ms Kimberly Blankenbeker (USA) | *to June 1996* |
| | Mr Ken Jones (Canada) | *from June 1996* |

## WEST GREENLAND COMMISSION

| | | |
|---|---|---|
| Chairman | Mr Ernesto Penas (European Union) | *to June 1996* |
| | Mr Robert Jones (USA) | *from June 1996* |
| Vice-Chairman | Mr Robert Jones (USA) | *to June 1996* |
| | Mr Andrew Thomson (European Union) | *from June 1996* |
| Rapporteur | Mr David Dunkley (European Union) | *from June 1993* |

## NORTH-EAST ATLANTIC COMMISSION

| | | |
|---|---|---|
| Chairman | Mr Pekka Niskanen (European Union) | *from June 1994* |
| Vice-Chairman | Mr Ernesto Penas (European Union) | *to June 1996* |
| | Dr Alexander Zelentsov (Russia) | *from June 1996* |
| Rapporteur | Mr Per Ivar Bergan (Norway) | *to June 1996* |
| | Mr Dagfinn Gausen (Norway) | *from June 1996* |

## FINANCE AND ADMINISTRATION COMMITTEE

| | | |
|---|---|---|
| Chairman | Mr Eero Niemela (European Union) | *from June 1994* |
| Vice-Chairman | Mr Stetson Tinkham (USA) | *to June 1997* |
| | Dr Jean-Pierre Plé | *from June 1997* |

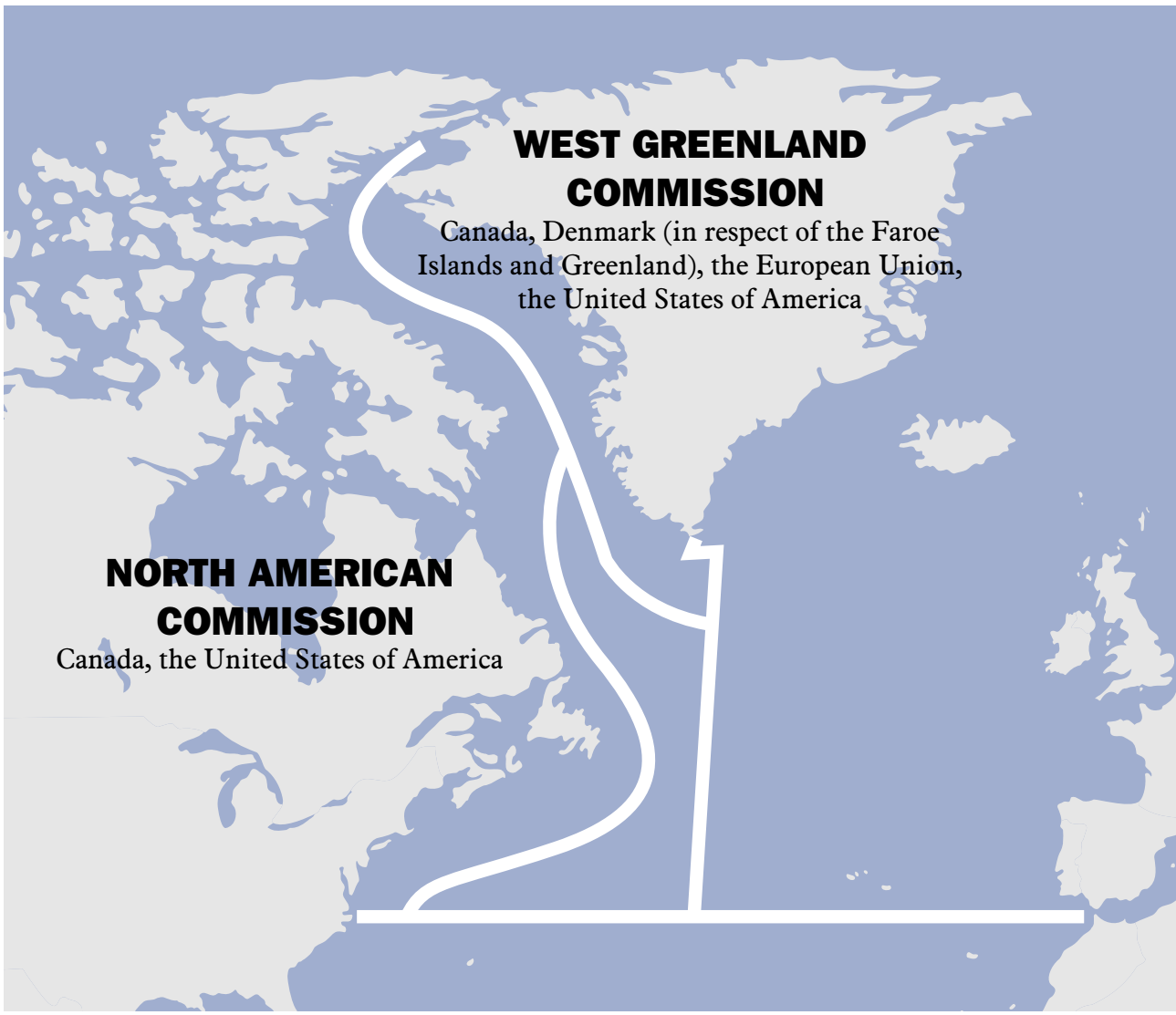
## SECRETARIAT

| | |
|---|---|
| Secretary | Dr Malcolm Windsor |
| Assistant Secretary | Dr Peter Hutchinson |

The North Atlantic Salmon Conservation Organization (NASCO) was established in 1984 under the Convention for the Conservation of Salmon in the North Atlantic Ocean. The objective of the Organization is to contribute through consultation and cooperation to the conservation, restoration, enhancement and rational management of salmon stocks taking into account the best scientific evidence available to it.

NASCO consists of a Council, three regional Commissions and a Secretariat. The Council is made up of representatives of all the Parties to the Convention, ie Canada, Denmark (in respect of the Faroe Islands and Greenland), the European Union, Iceland, Norway, the Russian Federation and the United States of America. Finland and Sweden became members of the European Union on 1 January 1995 and with effect from 31

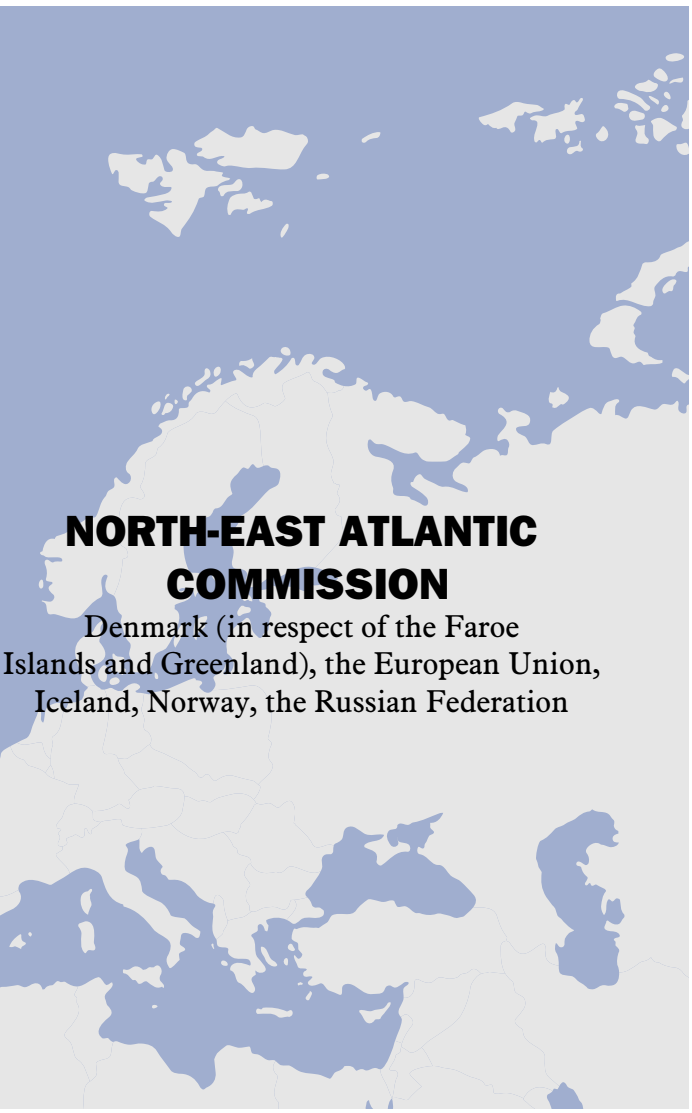
**Map of the Convention area showing the membership of the regional Commissions**




*Note:*
*In the North American Commission the European Union has the right to submit and vote on proposals for regulatory measures concerning salmon stocks originating in the territories referred to in Article 18 of the Convention.*

*In the North-East Atlantic Commission Canada and the United States of America each has the right to submit and vote on proposals for regulatory measures concerning salmon stocks originating in the rivers of Canada or the United States of America, respectively, and occurring off East Greenland.*

December 1995 their membership of NASCO has been through the European Union. The main functions of the Council are to provide a forum for the study, analysis and exchange of information and for consultation and cooperation on salmon stocks; to coordinate the activities of the Commissions and to make recommendations on scientific research. Its decisions are taken in the main by three-quarters majority. The functions of the regional Commissions - the North American Commission, the North-East Atlantic Commission and the West Greenland Commission - are to provide fora for consultation and cooperation among the members on salmon questions, to propose regulatory measures for fishing in the fishery zones of members for salmon originating in the rivers of other Parties and to make recommendations to the Council on scientific research. The Commissions have restricted membership and decisions require unanimous agreement.



## NORTH-EAST ATLANTIC COMMISSION

Denmark (in respect of the Faroe Islands and Greenland), the European Union, Iceland, Norway, the Russian Federation

The following organizations have observer status to NASCO:

American Fisheries Society

Association of Icelandic Angling Clubs

Association Internationale de Défense du Saumon Atlantique

Association of Scottish District Salmon Fishery Boards

Atlantic Salmon Federation, Canada

Atlantic Salmon Federation, USA

Atlantic Salmon Trust

European Anglers Alliance

Federation of Irish Salmon and Sea-Trout Anglers

Fédération Québécoise pour le Saumon Atlantique

Finnish Sport Fishermens Association

Icelandic Federation of River Owners

Institute of Fisheries Management

International Friends of Wild Salmon

National Anglers Representative Association

Norges Bondelag (Norwegian Farmers Union)

Norges Jeger og Fiskerforbund (Norwegian Association of Hunters and Anglers)

Norske Lakseelver (Norwegian Salmon Rivers)

Salmon Net Fishing Association of Scotland

Salmon and Trout Association

Sami Parlamenta

Scottish Anglers National Association

Ulster Angling Federation Limited

World Wide Fund for Nature (Norway)

### The Future Issues for NASCO

To mark the Organization's Tenth Anniversary, the Council decided that it would be appropriate and valuable to have a forward look at the future issues which might be faced in achieving the objectives of the Convention. These issues were reviewed and the Council considered a priority list and the need for action on each item. While the Council is already addressing a wide range of issues, new threats to the wellbeing of wild salmon stocks arise with surprising speed. For example, when the Organization was established in 1984 few would have anticipated that five years later vessels registered in South America would be fishing for salmon in the North Atlantic. When the Council first began to consider the future issues it was reported that the whole issue of transgenic salmon was an issue that would present itself some time into the future. Six months later transgenic fish were being reared experimentally in aquaculture. Even in the short term the Organization has had to re-focus on quite new issues. At the same time it has identified a number of longer term questions. The new issues, additional to the present work described in this report, which have been identified as requiring further consideration, include:

- increased cooperation between the Parties on freshwater issues such as pollution and habitat damage which cause great losses of salmon;
- how to adopt the Precautionary Approach to NASCO's work in order to safeguard wild salmon stocks;
- the Organization's working methods including its relations with non-government and inter-government organizations;
- global warming and its possible impact on salmon distribution;
- the role NASCO could play in educating the young on salmon conservation and management issues.

The Council agreed that all of the issues identified should serve as a basis for the future work of the Organization and that these should be regularly reviewed to ensure that the Organization keeps pace with changes.

### Fishing for Salmon in International Waters

Under the Convention for the Conservation of Salmon in the North Atlantic Ocean, fishing for salmon beyond areas of fisheries jurisdiction is prohibited. During the winter of 1989/90, however, reports were received that some salmon long-lining vessels which had registered in non-NASCO States were fishing for salmon in the area of international waters to the north of the Faroe Islands. Diplomatic activity taken by the Organization in response to this activity appeared to have had effect and there was a marked reduction in the number of sightings. In 1992, in response to a small number of continuing sightings a Protocol open for signature by non-Contracting Parties was adopted. The diplomatic efforts of the Parties and the Organization have resulted in actions by the States concerned to address the problem and there have been no sightings of vessels fishing for salmon in international waters since 1994. However, the fishery mainly takes place at times of the year when there is 24 hours of darkness and there are very few surveillance flights over the area of international waters at this time. Those that do take place cover only a small part of the area of international waters. It is possible therefore that the problem could go undetected. During 1993 a meeting of coastguard/fishery protection agencies and NASCO was held and recommendations on areas for international collaboration aimed at improving the surveillance information were identified. In accordance with these recommendations a three-phase salmon surveillance project was conducted in 1995/96 and the results of this project were reviewed at a second meeting of NASCO and coastguard/fishery protection agencies held in 1997. At this meeting it became clear that there has been a major change

in the area because of the enormous growth in fishing for pelagic species. Concern has been expressed that even if a small percentage of the catch in these fisheries was post-smolts, the losses of salmon could be significant. The Council encouraged the Parties to explore options for obtaining information on the level of by-catches of salmon and agreed a number of measures to try to assess the level of by-catches of salmon in consultation with ICES. The meeting of coast-guard/fishery protection agencies also considered ways of improving the surveillance information. The Council considered, but did not pursue, a proposal to conduct a pilot project to assess the utility of radar satellite data for the detection of salmon fishing by non-Contracting Parties in international waters. The Norwegian coastguards will be evaluating this technology and NASCO Council will assess its value in the light of the Norwegian experience.

### Research Fishing for Salmon

Under Article 2 of the Convention, fishing for salmon is prohibited beyond 12 nautical miles from the baselines except at West Greenland (where it is permitted to fish for salmon up to 40 nautical miles from the baselines) and in the North-East Atlantic Commission area where fishing within the area of fisheries jurisdiction of the Faroe Islands is permitted. However, there is, and has in the past been, interest by the Parties in research fishing for salmon both in international waters and within areas of fisheries jurisdiction. However, the Council recognised that any change to the provisions of Article 2 so as to permit research fishing would need careful consideration in the light of non-Contracting Parties fishing for salmon in international waters. It was agreed that research fishing would therefore need to be under carefully controlled conditions and in 1996 the Council unanimously adopted a Resolution detailing the conditions under which Scientific Research Fishing may be conducted. Prior to the adoption of this Resolution the Council had approved proposals to conduct scientific research fishing by Canada, Norway and the EU (Scotland). Further research fishing was approved by the Council in 1997 and these ongoing programmes should provide valuable information on the marine phase of salmon of value to the management of the resource.

### Use of the Precautionary Approach by NASCO

In recent years the Precautionary Approach has been enshrined in many international agreements. The Council considered its possible use by NASCO. This approach is based on the principle that the absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.

The anadromous life-cycle of the Atlantic salmon means that it is exposed to a wide range of pressures both in the marine and freshwater environments and the genetic structure and small size of many salmon populations mean that the resource is particularly vulnerable. Many of the pressures on it are poorly understood but their effects may be effectively irreversible. In these circumstances, adoption of a Precautionary Approach would seem to be appropriate. The Council, therefore, agreed to establish a Working Group to advise inter alia on application of the Precautionary Approach to: the management of North Atlantic salmon fisheries; the formulation of management advice and associated scientific research; and the area of introductions and transfers, including aquaculture impacts and possible use of transgenic fish. This Working Group will report back to the Council at its Fifteenth Annual Meeting in 1998, when a Special Session on the Precautionary Approach will be held.

### Impacts of Aquaculture on the Wild Stocks

In 1994, the Council adopted a Resolution introducing measures designed to minimise genetic and other biological interactions and the

risk of transmission of diseases and parasites to the wild stocks. This Resolution encourages the development of practices, including research and development, to minimise all adverse impacts and sets up monitoring of the actions taken by the Parties through an annual review process. It is the Council's intention that there should be full implementation of the Resolution by the Fifteenth Annual Meeting in 1998 and to achieve this aim further measures would be needed. In this regard, the Council agreed to hold an inter-sessional meeting to consider further the implementation of the Oslo Resolution in the light of the symposium referred to below.



In order to assist the Council in developing appropriate management measures a symposium entitled "The interactions between salmon culture and wild stocks of Atlantic salmon: the scientific and management issues", organised in conjunction with ICES, was held in Bath, England during 18-22 April 1997 and was attended by approximately 170 delegates from 18 countries. The symposium had the following objectives:

- to review the results of research on the interactions between salmon culture and wild stocks of Atlantic salmon;
- to examine the practical implications of such interactions for stock management;
- to identify gaps in current knowledge and to establish future research priorities.

The latest scientific evidence presented at the symposium suggested that the abundance of cultured salmon in the wild is large and has resulted in a mixing of fish from different populations to an extent never seen before. Spawning between cultured fish will displace wild fish and inter-breeding between wild and farmed salmon will certainly lead to genetic changes in wild populations. Some experts felt that loss of local adaptations and displacement of wild fish could lead to the collapse of wild populations. There are also serious adverse impacts from diseases and parasites. Additional measures are, therefore, needed to improve the containment of farmed salmon either through improvements to

physical security or, more effectively, through the use of sterile salmon in farming. There were repeated references to the use of sterility as a way of protecting the wild stocks. A recurring theme at the meeting was the need for enhanced cooperation between the salmon farming industry and those involved in the management of the wild stocks, so as to safeguard the wild stocks. This threat to wild stocks is perhaps a classic case where the precautionary approach is appropriate, since there are real grounds for concern about genetic damage, a scientific resolution of the question is not yet ready, and the damage, if it is occurring, is irreversible. This issue was referred to the new Working Group on the Precautionary Approach described above.

In order to retain and strengthen the good relationship which has been established with the salmon farming industry, the Council also agreed to establish a Liaison Group to "provide the international forum for liaison between the salmon farming industry and managers of the wild Atlantic salmon stocks on issues of mutual interest, and to make recommendations for action". The Group will hold its first meeting in 1998.

### Transgenic Salmon

During 1995 a company based in North America began licensing its transgenic technology to the salmon farming industry with a claim that the transgenic fish would grow 4-6 times faster than "standard" fish. One fish farm in Scotland began to rear these fish experimentally in 1995. Transgenic salmon are salmon into which genes have been introduced from another organism, which may or may not be of the same species. While transgenic organisms may offer potential environmental benefits their use also raises important questions related to ecological consequences, product safety and consumer acceptance. The need to ensure the containment of transgenic salmon so as to avoid interactions with the wild stocks has been stressed by scientists, including those involved in the production of transgenic salmon. The North-East Atlantic Commission of NASCO agreed that transgenic salmon could pose a major threat since there would inevitably be an interaction of some kind with the wild stocks and with the environment since the use of transgenic salmonids in farming based on existing technologies would invariably result in escape to the wild. Wider agreement concerning the whole North Atlantic area on this issue was urged. The Council reviewed the risks to the wild stocks from transgenic salmon. At the Bath Symposium, all Parties represented, including salmon farming industry representatives, had recognised that transgenic salmon pose severe risks to the wild stocks. The Council expressed concerns about these risks and adopted Guidelines for Action on Transgenic Salmon. These guidelines recommend that the Parties take all possible actions to ensure that the use of transgenic salmon in any part of the NASCO Convention area is confined to secure, self-contained land-based facilities. The Council also agreed that the issue should be referred to the new Liaison Group established with the salmon farming industry, and to the Working Group on the Precautionary Approach, to consider the risks and conservation benefits from transgenic salmon.

### The Atlantic Salmon as Predator and Prey

In recent years concern has been expressed about the impacts of rapidly expanding populations of predators of Atlantic salmon, particularly seals and fish-eating birds. For example, Canadian populations of the grey seal, *Halichoerus grypus*, have been increasing at 13% and 8% per year off Nova Scotia and in the Gulf of St Lawrence respectively. However, it is often difficult to determine the effect of predators. Concern has also been expressed that the harvest of some of the prey species of salmon, such as sandeels (*Ammodytes spp*), in industrial fisheries may result in food shortages for salmon during its oceanic phase. At the request of a number of NASCO's observers from non-government organizations these issues

were considered by the Council in a Special Session devoted to the Atlantic Salmon as Predator and Prey. Presentations were made on "The predators of Atlantic salmon and their impact on salmon stocks", "The public perception of predator control programmes", "The prey of the Atlantic salmon" and "The impact of industrial fisheries on the prey of the salmon". The management and other implications arising from the Special Session were considered by the Council.

### Catch and Release

In recent years there has been growing interest in catch and release, both voluntary and mandatory, in response to declining stock levels, or components of the stocks, in a number of North Atlantic countries. The Council had previously reviewed the scientific information concerning the effectiveness of catch and release and it had been recognised that to be of benefit as a management measure it is important that stress and physical damage to fish intended for release are avoided and that where catch and release is practised, guidelines could therefore be of benefit. Guidelines for use at the discretion of the Parties or of interested organizations were adopted by the Council.

### Salmon Tagging

All of the Parties to NASCO tag salmon in order to obtain valuable information on the migrations and exploitation of the stocks. The Council reviewed information on tagging programmes conducted by the Parties. In order to encourage the return of external tags the Council had established a Tag Return Incentive Scheme. This Scheme has resulted in improvements in tag reporting rates by fishermen and has given valuable publicity to the work of the Organization.

### Salmon Rivers Database

The Council has established a database of salmon rivers flowing into the Convention area which contains details of approximately 1900 rivers, including an indication of the status of the stocks. Of these, approximately 76% are categorised as being 'not threatened with loss'. However, a total of approximately 7.5% of rivers fall into the category 'lost and maintained' and 12.6% are considered to be 'threatened with loss'.

### Observer Status to NASCO

The Council decided that, as attendance by Non-Government Organizations (NGOs) at its meetings had been of mutual benefit, it would continue, until further notice, with the present arrangement of allowing their attendance at both Council and Commission meetings with statements being permitted during Special Sessions of the Council and also at the Opening Session. NGOs may also circulate information to delegates about their work or their views. Inter-governmental organizations are also granted observer status at NASCO meetings. The Council decided that representatives of the media could also attend its meetings and agreed criteria governing their attendance.

### Minimum Standard for Catch Statistics

The Council has been concerned about the lack of comparability in the catch statistics of the Parties. In order to address this problem a Minimum Standard for Catch Statistics had been adopted which was phased in so that all Parties had achieved the standard by the 1995 fishing seasons. This minimum standard requires that the statistics include catches from all components of the salmon fisheries and returns to ranching units, are differentiated into sea age class or into grilse and multi-sea-winter components and differentiate whenever possible between wild fish and fish which have escaped from fish farms. The minimum standard also encourages measures to reduce the level of non-catch fishing mortality, in particular unreported catch. The Council is undertaking a review intended to enhance the level of reported catches and refine the estimates of unreported catches, for consideration at its 1998 meeting.

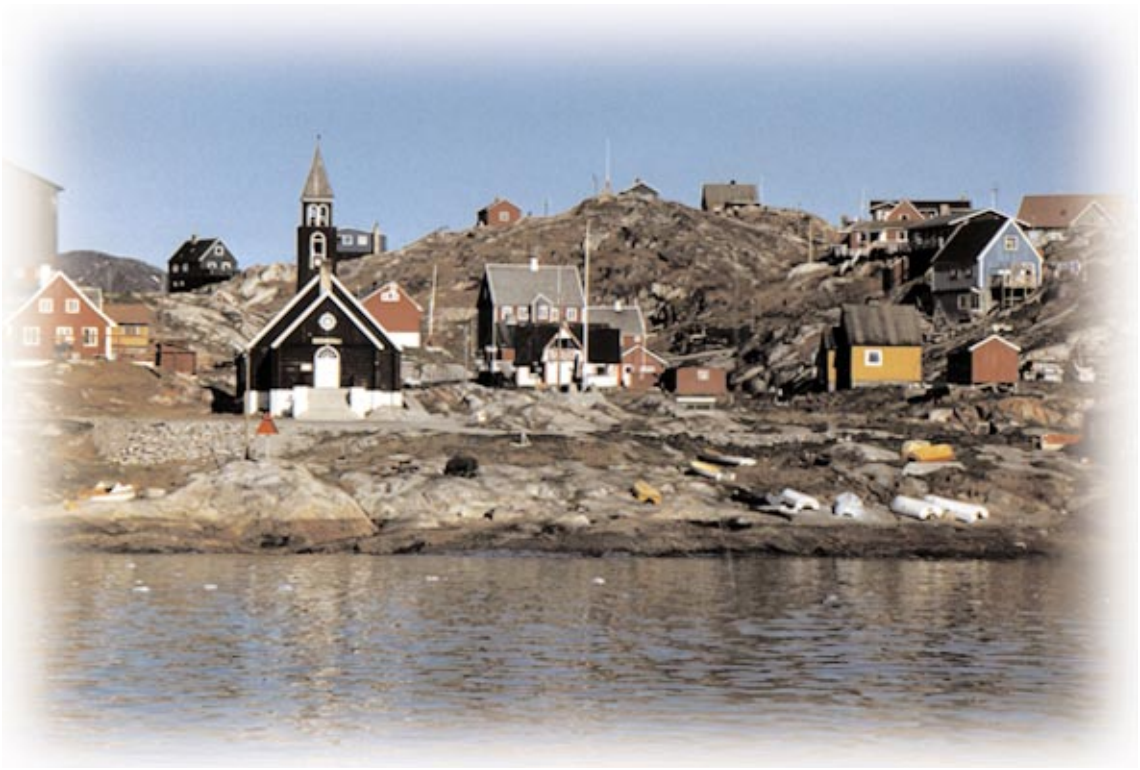
### Election of Officers

The Council decided to permit eligibility for election as an office bearer to any member of a delegation who has the approval of the representatives of that delegation. In this way contributions to the work of the Organization could be made from as wide a source of experience as practicable. In 1996 the Council elected Mr Einar Lemche (Denmark (in respect of the Faroe Islands and Greenland)) to be its President and Mr Ole Tougaard (European Union) to be its Vice-President.

### Other Issues

Progress reports were considered by the Council on analysis of catch statistics; the laws, regulations and programmes database; and development of guidelines on stocking. The Council received information from the Parties on the measures they had taken in accordance with Articles 14 and 15 of the Convention. The Council agreed that it would interpret Article 13 of the Convention in such a way that if there is an objection to an emergency regulatory measure this objection cannot subsequently be withdrawn with the effect that the measure is revitalised. The Council also considered the official catch statistic returns by the Parties and asked the Secretary to consult with the Parties to seek clarification of the reasons for the differences in the statistics provided by ICES and the official statistics provided to NASCO.





*NASCO held its Fourteenth Annual Meeting in Ilulissat, Greenland (10 - 12 June 1997). During the period covered by this report, Annual Meetings were also held in Glasgow, Scotland (12 - 16 June 1995) and Gothenburg, Sweden (10 - 14 June 1996).*

## WEST GREENLAND COMMISSION

### Establishment of Regulatory Measures

In 1993 the Commission had adopted a regulatory measure which established a mechanism for setting catch quotas for the years 1993-1997. This measure recognised that a quota should be determined annually based on the best scientific advice; that a quota should adjust up or down relative to the best scientific advice and that a quota agreement should commit the Parties for a significant period and not be subject to changes in its fundamental parameters unless agreed by the Parties. Under this regulatory measure quotas are based on the following scientific advice, without prejudice to new advice from ICES:

- The ICES advice on the pre-fishery abundance of potential 2SW salmon of North American origin (and European origin if available);
- The ICES advice on the target spawning escapement reserve of potential 2SW salmon necessary to achieve target spawning escapement, or a different proportion of this reserve as agreed to by the Parties;
- Any surplus above this target spawning escapement reserve or the proportion agreed to, may be available for harvest by the Parties;
- Allocation of the surplus shall be based on the average for the period 1986-1990 of the harvest share of potential 2SW salmon of North American origin caught at West Greenland (40%) or a different share if agreed upon by the Parties;
- Any other parameters used by the Parties shall be as advised by ICES.

Catch quotas for the West Greenland fishery of 213, 159 and 77 tonnes in 1993, 1994 and 1995 respectively were established under this regulatory measure. In 1996 the Parties were unable to agree on a catch quota for the West Greenland fishery but agreed to work towards the development of revisions to the agreement. At its 1997 meeting the Commission agreed on an addendum to the 1993 Agreement to apply to the 1997 fishery, together with some additional issues relating to the 1993 and to future agreements. Under the addendum the quota allocated to the West Greenland fishery is the higher of the Calculated Quota (based on the pre-fishery abundance forecast at a 50% probability level) and the Reserve Quota (based on an allocation of 6% of the forecast pre-fishery abundance level). A Reserve Quota of 57 tonnes, inclusive of subsistence, home sales and other sources of catch, was agreed for the West Greenland fishery for 1997. The Commission also agreed to exchange information on salmon conservation measures taken by each of the Contracting Parties and that this would facilitate discussion of a future quota-setting agreement.

### Election of Officers

In 1995 the Commission elected Mr Ernesto Penas (EU) as Chairman and Mr Robert Jones (USA) as Vice-Chairman. In 1996, Mr Robert Jones (USA) was elected as Chairman and Mr Andrew Thomson (EU) was elected as Vice-Chairman.

## NORTH-EAST ATLANTIC COMMISSION

### Regulatory Measures

In each of the years covered by this report, the Commission agreed regulatory measures for the Faroese fishery. Under these measures the total nominal catch was set at 470, 425 and 380 tonnes for the calendar years 1996, 1997 and 1998 respectively. In each year additional measures required that areas with salmon below 60cm in length be closed to fishing at short notice and that the season be limited to 150 days between 1 January - 30 April and 1 November - 31 December. Further, the number of boats licensed to fish for salmon was reduced from 13 in 1996 to 12 in 1997 and 1998 and the total allowable number of fishing days was reduced from 1200 in 1996 and in 1997 to 1080 in 1998.

In each year the representative of Denmark (in respect of the Faroe Islands and Greenland)

indicated that if fishing licences were issued the Faroese Home Government would allocate less than the total quota. Thus 390, 360 and 330 tonnes would be allocated in 1996, 1997 and 1998 respectively. In addition, in 1997 and 1998 the fishing effort would be reduced by 7 days in April and 7 days in December and the total number of fishing days would be restricted to 1150 days in 1997 and 1045 days in 1998. The Commission was advised at its 1997 meeting that it is the Faroese Home Government's intention to work towards adapting the size of their quota to reflect the historical share of the catches in the Commission area.

### Scientific Research Fishing

The Commission received a report on a research fishing project conducted to the North-West of the Hebrides and in the Northern Norwegian Sea during 1995 by Norwegian scientists. Catches of up to 23 post-smolts had been made during 30-minute surface trawls. This represented a break-through in sampling post-smolts at sea. The results indicated high growth rates. Age analysis of the post-smolts in the northern areas suggested that a relatively high proportion of the fish in this area had originated from southern European rivers. Small numbers of adult salmon, many of which were fish farm escapees, were also caught.

### Environmental Quality of Salmon Rivers

The Commission had previously been advised of an alarming decline in the abundance of salmon populations in Swedish West Coast Rivers. Investigation had been undertaken and the parasite *Gyrodactylus salaris* had been found. This parasite, which originates in the Baltic, has caused severe damage in Norwegian rivers and threatens Atlantic salmon populations in other North-East Atlantic countries. The Norwegian authorities, who have considerable experience in the treatment of rivers infected with the parasite, had offered to cooperate with the Swedish authorities to control the parasite and prevent its spread and the Commission was advised that, following meetings of scientists and administrators from Norway and Sweden, considerable progress had been made.

### Introductions and Transfers

There is growing interest in movements of salmonid fish for aquaculture, and for restoration or enhancement of populations. The risks of these stock movements have been highlighted by the damage caused in parts of the North-East Atlantic Commission area by the parasite *Gyrodactylus salaris*. In 1997, following preparatory work by Working Groups on Introductions and Transfers which had identified the need for measures stronger than those in force, the Commission adopted a Resolution to Protect Wild Salmon Stocks from Introductions and Transfers. This Resolution includes the following guidelines:

- Movements into the Commission area of live Atlantic salmon and their eggs which have originated from outside the Commission area should not be permitted;
- Any Party proposing the release of transgenic salmonids to the environment, including their use in aquaculture, should formally consult NASCO before proceeding with the proposal. When conducting any risk assessment, the threat to the wild stocks should be recognised and there should be a strong presumption against any activity which would risk the introduction of trangenic salmonids to the wild;
- Mapping of the presence of serious diseases and parasites should be used to establish epidemiological zones. Management measures within these zones should include monitoring to confirm the disease status of the zone and eradication. These zones should be established for at least the following diseases: *Viral Haemorrhagic Septicaemia* (VHS), *Infectious Haematopoietic Necrosis* (IHN), *Infectious Salmon Anaemia* (ISA) and the parasite *Gyrodactylus salaris*. Movements of live salmonids and their eggs from a zone where any of the specified diseases is present

to a zone free of these diseases should not be permitted. However, movements of salmonid eggs should be permitted where there is no risk of transmission of the specified diseases or parasite;

- Procedures for the early identification and detection of, and rapid response to, an outbreak of any new disease or parasitic infection likely to affect Atlantic salmon should be strengthened, inter alia by rapid introduction of restrictions on the movement of salmonids in the case of an outbreak of a disease or parasitic infection until the status of the disease or parasitic infection is known;
- The Contracting Parties, when establishing or reviewing rules on transfers of fish, shall consider additional protective measures such as:
  (a) the establishment of zones between which the movement of live salmonid fish and their gametes should be restricted;
  (b) movements of eggs rather than live fish;
  (c) strengthened disease controls to take account of the special situation of wild fish;
- Movements of live salmonids and their eggs from hatcheries to areas containing Atlantic salmon stocks, or to facilities where there is a risk of transmission of infection to such areas, should only take place from facilities where regular inspections have not detected significant diseases and parasites;
- No non-indigenous fish should be introduced into a river containing Atlantic salmon without a thorough evaluation of the potential adverse impacts on the Atlantic salmon population(s) which indicates that there are no risks of adverse ecological interactions. Introductions of non-indigenous anadromous salmonids into the Commission area should not be permitted;
- For the purpose of developing management measures concerning introductions and transfers, rivers in the North-East Atlantic

Commission area should be classified as: rivers with no self-sustaining salmon stock; rivers in which there is a self-sustaining salmon stock and rivers in which there is a self-sustaining salmon stock which is considered to be in a pristine condition or which is considered to be of particular value. In developing management measures appropriate to each class of river it is recognised that local conditions are a very significant factor in determining which measures are appropriate. A number of factors were identified which should be taken into account for each class of river;

- It is recommended that steps be taken by the Parties to limit the risks from unintentional introductions inter alia in ships' ballast water, with the use of containers for transport of fish, as a result of release of live bait or on fishing equipment.

Recognising the possible conflicts with international trade agreements, the Commission agreed to liaise with the World Trade Organization and other relevant organizations dealing with international agreements such as the Biodiversity Convention with a view to arranging a consultative meeting during 1997 to which all members of the Commission would be invited.

### Election of Officers

In 1996 Mr Pekka Niskanen (EU) was re-elected as Chairman and Dr Alexander Zelentsov (Russia) was elected as Vice-Chairman.

## NORTH AMERICAN COMMISSION

### Regulatory Measures

The Commission reviewed the Canadian and US salmon management measures. In 1996 the representative of the USA tabled a proposal for a regulatory measure for the mixed stock fishery in the North American Commission area which proposed the closure of the marine commercial fishery for salmon in Labrador Areas 1 and 2 in 1996 and 1997. The Commission was unable to agree to this proposal.

At the Commission's 1997 meeting the representative of Canada tabled a presentation on Canadian Conservation Actions for Atlantic Salmon, which included a summary of a Long-Term Strategy for Rebuilding Labrador's Salmon Stocks and the 1997 Labrador Management Plan. The representative of the USA noted that even though there may be less than 50 US salmon intercepted off Labrador, this was greater than the population remaining in some salmon rivers in the US. He stated that there needs to be a full discussion of regulatory measures within the Commission. He expressed appreciation for the positive actions taken by Canada to minimise its interception fishery and indicated that he wished to continue to have the opportunity to review and discuss Canadian management action in future. The representative of Canada indicated that this would be the case.

### Introductions and Transfers

The Commission received reports from its Scientific Working Group on Salmonid Introductions and Transfers. Reported introductions and transfers were evaluated against the NAC Protocols which had been developed to minimise the risk of introduction and spread of infectious diseases and agents; to prevent the reduction in genetic diversity and prevent the introduction of non-adaptive genes to wild salmon populations; and to minimise the other impacts of introductions and transfers. The Commission had previously agreed that the members of the Commission would take steps to implement the provisions of the revised Protocols in their respective domestic laws, regulations or policies. In 1995 the Commission was advised that the US Fish and Wildlife Service and the National Marine Fisheries Service were proposing to list as threatened under the Endangered Species Act populations of salmon in seven Maine rivers. Formal enactments of the Protocols by the United

States had been delayed as they were being discussed in the context of the proposed listing. The use of the Protocols was, however, being encouraged by the appropriate agencies. In 1996 the Commission asked the Scientific Working Group to develop a timetable for consolidation of all the Protocols into one and reduce any ambiguity. The revised Protocols will be tabled for adoption at the 1998 meeting. At its 1997 meeting the representatives of Canada and the US agreed to meet with representatives of the aquaculture industry to harmonize compliance with the Protocols, including development of a strategy to discontinue the use of the European "Landcatch" strain of salmon in the Commission area.

### St Pierre et Miquelon Fisheries

The Commission reviewed the catch statistics for the salmon fisheries at St Pierre et Miquelon. The catch in 1994 of 3.4 tonnes was the highest in the period of record dating back to 1987. Catches of approximately 0.84 tonnes in 1995 and 1.57 tonnes in 1996 were reported. At the Commission's 1995 meeting, the representative of the USA raised the question of membership of France (in respect of St Pierre et Miquelon) in other international fisheries fora and suggested the possibility of encouraging such membership of NASCO. The representative of Canada referred to the Canada-France Fisheries Agreement (proces-Verbal) of 1995 under which reference is made to the responsibility of both France and Canada to comply with salmon conservation measures adopted by NASCO. It was agreed that there would be no increase in the catch of salmon originating in other countries' rivers without the consent of the other country. The representative of Canada suggested that the agreement should make it unnecessary for membership by France in NASCO. At the Commission's 1997 meeting the representative of Canada, who serves as Canada's representative on the Advisory Group for the Canada-France Fisheries Agreement, agreed to explore the reasons for the increased catches of salmon in 1996 in St Pierre et Miquelon fisheries at the Group's next bilateral meeting. He indicated that the high returns of grilse in 1996 may have been a factor.