CNL(94)53

RESOLUTION BY THE PARTIES TO THE CONVENTION FOR THE CONSERVATION OF SALMON IN THE NORTH ATLANTIC OCEAN TO MINIMISE IMPACTS FROM SALMON AQUACULTURE ON THE WILD SALMON STOCKS

The Parties,

NOTING the provisions of the Convention for the Conservation of Salmon in the North Atlantic Ocean of 2 March 1982 (the "Convention"), which seeks to promote the conservation, restoration, enhancement and rational management of salmon stocks;

WELCOMING the achievements in salmon conservation by the Parties to the Convention, within the framework of the Convention, and the role of the North Atlantic Salmon Conservation Organization (the "Organization") therein;

AWARE of the need for cooperation between the Parties in order to maintain and to restore the wild salmon stocks, and promote sustainable conservation and management of such stocks;

RECOGNISING the benefits, including the socio-economic benefits, which have resulted from the development of salmon aquaculture;

BEING CONSCIOUS of the threats to the wild stocks of salmon from different human activities, including possible adverse effects from salmon aquaculture;

DESIRING to minimise the possible adverse impacts of salmon aquaculture on the wild stocks and noting the earlier initiatives taken by the Organization in this respect;

RECOMMEND as follows:

ARTICLE 1

Cooperation between the Parties

The Parties shall cooperate in order to minimise possible adverse effects to the wild salmon stocks from salmon aquaculture.

ARTICLE 2

Measures to minimise genetic and other biological interactions

In accordance with Parts 1 and 2 of the Annex to this Resolution each Party shall take measures, to the full extent practicable, to:

Minimise escapes of farmed salmon.

Minimise the straying of ranched salmon.

Minimise adverse genetic and other biological interactions from enhancement activities.

ARTICLE 3

Measures to minimise the risk of transmission
of diseases and parasites to the wild stocks of salmon

Each Party shall take measures to minimise the risk of transmission to wild salmon stocks of diseases and parasites that may exist in salmon aquaculture and shall to this end establish appropriate measures in accordance with Parts 1 and 3 of the Annex to this Resolution.

ARTICLE 4

Research and development

Each Party that is engaged in salmon aquaculture shall develop practices, including research and development as appropriate, which minimise effects on wild salmon stocks and improve the effectiveness of the measures contained in the Annex to this Resolution.

ARTICLE 5

Exchange of information

Each Party shall provide to the Organization, on an annual basis, information of a scope to be determined by the Council concerning the measures adopted under Articles 2 and 3 and the research and development carried out under Article 4.

The Organization shall request from ICES and other relevant scientific organizations appropriate information on the extent of the intermingling in rivers and at sea between wild salmon and salmon of aquaculture origin.

ARTICLE 6

Definitions

For the purposes of this Resolution:

1. "Salmon aquaculture" is the culture or husbandry of Atlantic salmon and includes salmon farming, salmon ranching and salmon enhancement activities.

2. "Salmon farming" is a production system which involves the rearing of Atlantic salmon in captivity for the duration of their life-cycle until harvested.

3. "Salmon ranching" is the release of reared juvenile Atlantic salmon with the intention of harvesting all of them on their return.

4. "Salmon enhancement" is the augmentation of wild stocks in individual river systems by the release of Atlantic salmon at different stages in their life-cycles.

5. "Wild salmon" are salmon which originate naturally and have not been subjected to aquaculture.

6. "Transfer" is the deliberate or accidental transport of Atlantic salmon within their native or natural range.

ANNEX TO THE RESOLUTION

PART 1

GENERAL MEASURES

§ 1. Sites

Sites for salmon aquaculture shall only be assigned where hydrographical, epidemiological, biological and ecological standards can be met. Factors which may be taken into consideration include: availability of water supply and receiving waters for discharge; water quality and exchange, water depth, site protection, separation distances between aquaculture facilities and distance from salmon rivers. Units should be sited so as to avoid the risk of damage by collision with vessels and should be adequately marked.

§ 2. Operations

Aquaculture units should be managed, taking into account established measures to prevent and control diseases and parasites and by taking precautions to prevent the escape of fish.

§ 3. Transfers

Transfers of salmon shall be conducted so as to minimise the potential for transmission of diseases and parasites, and for genetic and other biological interactions. Mechanisms to control transfers should be introduced where necessary.

PART 2

MEASURES TO MINIMISE GENETIC AND OTHER BIOLOGICAL INTERACTIONS

§ 4. Design standards for aquaculture units

Standards and technical specifications should be established for the design and deployment of marine and freshwater aquaculture units. The design of aquaculture units should be appropriate for the assigned site so as to optimise the containment of fish. The risk of escape of fish from aquaculture units as a result of storm or ice damage should be minimised by using appropriate technology for the prevailing conditions. Aquaculture systems, including anti-predator nets and devices, should be routinely inspected, maintained and upgraded as new technological improvements become available. Regular monitoring and the use of efficient security systems are required.

§ 5. Salmon enhancement

Local stocks, i.e. stocks from the same river, or stocks with similar biological characteristics from a neighbouring river with similar ecological conditions, should be used wherever possible for enhancement purposes. In enhancement programmes consideration should be given to: using broodstocks which are representative of the entire spawning run of the donor stock; using broodstocks which comprise at least 100 fish which should be used in single

paired matings (where the number of one sex is less than 50 the number of the other sex should be increased to achieve 100 broodfish); using broodstocks which are held in captivity for no more than one generation; avoiding selection of fish with favourable attributes; avoiding the use of escaped farmed fish.

§ 6. Salmon ranching

Local stocks, or alternatively local ranching stocks, shall be used for salmon ranching.

Ranched salmon should be harvested at or close to the site of release or in fisheries managed in such a way as to prevent the overharvesting of the wild stocks.

§ 7. Salmon farming

It is desirable to use local broodstocks for salmon farming where practicable.

Efforts should be made for the efficient recapture of escaped farmed salmon provided that these can be conducted without adversely affecting the wild stocks. Each site operation should have a site-specific contingency plan in place in the event of an incident involving a large number of escaped fish.

PART 3

MEASURES TO MINIMISE DISEASE AND PARASITE INTERACTIONS

§ 8. Control and prevention of diseases and parasites

All steps in the aquaculture production process from hatchery to processing plant, including transportation of live fish materials, shall be conducted in accordance with appropriate fish health protection and veterinary controls. This includes attention to the application of appropriate husbandry techniques to minimise the risk of disease in the reared stock. These might include vaccination, use of optimal stocking densities, careful handling, frequent inspection of fish, proper diet and feeding regimes, avoidance of unnecessary disturbance of the fish, detailed health inspections, disinfection of transportation equipment and the use of foot baths at production facilities.

Diseased stock should be treated, or removed, and measures should be taken to ensure that such diseased fish are not released to the wild.

§ 9. Stocking density

Aquaculture production should be adapted to the holding capacity of an individual site and not exceed density levels based on good husbandry practices.

§ 10. Removal of dead or dying fish

Fish which have died and dying fish should be removed immediately from aquaculture production facilities and disposed of, along with waste materials, in an approved manner. Procedures should be established that address the effective removal and disposal of infectious material. Contingency plans should be established for the disposal of mortalities from emergency situations.

§ 11. Adequate separation

The separation distance between aquaculture facilities at marine sites should be based on a general assessment of local conditions.

§ 12. Year-class separation

Wherever possible, different generations of salmon should be reared in separate locations.

§ 13. Fallowing of sites

As local conditions permit, a fallowing regime should be practised wherever possible as a means of minimising outbreaks of disease and parasites.

§ 14. Use of medicines and disinfectants

Medicines and disinfectants to control diseases and parasites must be used with care and in accordance with the manufacturer's instructions and any Codes of Practice, and in compliance with regulatory authorities.

§ 15. Lists of diseases

A list of the prevailing infectious diseases and parasites, and the methods in practice for their control, should be maintained by the appropriate authorities.

PART 4

RESEARCH AND DEVELOPMENT

§ 16. Research, small-scale testing and full-scale implementation should be carried out, as appropriate, in support of this Resolution. Regard should be paid to the following items:

- Wild salmon protection areas

  Wild stocks of salmon may be protected by the establishment of protection areas where salmon aquaculture is restricted or prohibited. Such protection areas may minimise genetic, disease, parasite and environmental impacts.

- Sterile fish

The production of all-female, triploid salmon and other techniques which produce sterile fish could offer protection from genetic impacts. Practical methods have been developed to produce sterile fish; however, further research is needed on production characteristics, disease susceptibility and the marketing aspects of sterile salmon and on the ecological implications of escaped sterile salmon.

- Tagging and marking

Tagging or marking could be used in order to facilitate the identification of farmed salmon in the wild and their separation from wild fish, to determine the source of escapes and to assess the interactions of escaped farmed salmon with the wild stocks. The statistical significance of proposed tagging or marking studies should be assessed prior to implementation. The economic viability of tagging or marking large numbers of salmon produced in aquaculture should be evaluated.

- Aquaculture regions

The designation of aquaculture regions, where all the steps in the production process are carried out and which are separated from similar regions by areas without aquaculture, could prove an effective means of providing a management framework for the aquaculture industry and controlling the spread of fish diseases and parasites.

- Alternative production methods

Land-based production facilities, closed or contained floating facilities, water recirculation and other containment technologies may reduce the current problems of disease and parasite transmission and escapes.

- Local broodstocks

Research on the use of local wild salmon stocks, including hybrids with local and non-local stocks, as the basis for aquaculture broodstock development, should be conducted.

- Genetics

The potential genetic interactions between salmon which have been reared in aquaculture and the wild stocks needs to be better understood. Research designed to improve understanding of these interactions should be encouraged.

- Diseases and parasites

The transmission of diseases and parasites from salmon reared in aquaculture to the wild stocks is an area of considerable concern. Research on methods to prevent and control disease and parasite outbreaks in aquaculture should be encouraged.