



Agenda item 5.8(c)
For information

Council

CNL(01)26

Returns Made Under the Oslo Resolution

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1. The 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 "Oslo Resolution") was adopted by the Council in 1994. Under Article 5 of the Resolution each Party is required to provide to the Organization, on an annual basis, information of a scope to be determined by the Council concerning measures adopted under Article 2 (measures to minimise genetic and other biological interactions), Article 3 (measures to minimise the risk of transmission of diseases and parasites to the wild stocks of salmon) and on research and development (Article 4). A format for the return of information was agreed in 1995 and the first returns (covering the calendar year 1995) were presented to the Council at its 1996 Annual Meeting.

2. In 1998 the Council adopted a revised, more detailed format for the returns by the Parties under the Oslo Resolution so as to ensure that the Organization has available to it comprehensive information concerning the measures in force when deciding if additional measures to those contained in the Oslo Resolution may be necessary. The request for the return of information for the calendar year 2000 was circulated on 3 January 2001. The returns are attached. Last year the Council had agreed that it wished only to be advised of new measures, and this has resulted in a considerably shortened report. Measures reported in earlier years have not been reported here but the information returned to the Organization in these and all earlier returns has been incorporated in a database and the information is now available to the Parties if requested. The entries in the database indicate, where appropriate, that while a Party may not have reported any new measures in a particular year, previously reported measures still apply. It should be noted that not all forms of aquaculture are practised by all Parties. Greenland has no aquaculture at all. At the time of preparation of this paper, no return of information for 2000 was available for a number of EU Member States with salmon interests (France, Spain, Portugal).

Secretary
Edinburgh
28 May 2001

1. General Measures

1.1 Sites

1.1.1 Sites only to be assigned for aquaculture where hydrographical, epidemiological, biological and ecological standards can be met

Canada

Federal siting guidelines exist and are used; existing guidelines have been upgraded in New Brunswick and have been adopted (Bay of Fundy Site Allocation and Administrative Policy). Provincial authorities in Nova Scotia and New Brunswick have the authority to approve and issue leases for aquaculture.

No new measures reported by the other Parties.

1.2 Operations

1.2.1 Management of aquaculture units to prevent and control diseases and parasites

Norway

A national action-plan regarding sea-lice was established in 1997 and is revised every year. A new regulation concerning sea-lice entered into force during 2000.

No new measures reported by the other Parties.

1.2.2 Management of aquaculture units to prevent escape of fish

USA

The aquaculture industry has received funding to conduct a third party audit of the existing voluntary code of containment. That audit will provide information on the extent of compliance with the code and also the effectiveness of components in the code.

No new measures reported by the other Parties.

2. Measures To Minimise Genetic And Other Biological Interactions

2.1 Design standards for aquaculture units

2.1.1 *Establishment of standards and technical specifications for the design and deployment of aquaculture units (marine and freshwater)*

European Union

UK (Scotland)

Fish farming in Scotland is conducted in accordance with 'A Code of Practice to Avoid and Minimise the Impact of ISA', published in August 2000. This is a voluntary code. Its implementation is monitored by the Government's Fish Health Inspectors and industry quality assurance schemes. Finance under the ISA - restart scheme is conditional on the Code's implementation. Insurers and retail multiple buyers also press for implementation.

No new measures reported by the other Parties or the other EU Member States.

2.1.3 *Regular routine inspection and maintenance of aquaculture systems and upgrading of equipment as new technological improvements become available*

Canada

Good management practice; under provincial jurisdiction and done regularly by industry. In Newfoundland, by routine inspection of equipment in the water by DFA (tensile strength of aquaculture nets and ROV inspection of cage moorings). Upgrading of equipment as new technological improvements become available not legislated for; individuals do as circumstances dictate and permit; Containment Code of Practice would require upgrading to new standards (as cages replaced).

No new measures reported by the other Parties.

2.2 Salmon enhancement

2.2.1 *Use of local stocks wherever possible*

European Union

Denmark

In seven stream systems local stocks are used. In one stream system foreign stock is used. Denmark has salmon releases in 8 out of 9 potential stream systems.

Ireland

Mixing of stocks from different rivers still occurs but is actively discouraged.

USA

A river-specific stocking program has been implemented for the endangered salmon populations in the state of Maine.

No new measures reported by the other Parties or the other EU Member States.

2.2.2 *Implementation of criteria for broodstock selection and management*

European Union

Denmark

Standard procedure including genetic analysis.

No new measures reported by the other Parties or the other EU Member States.

2.3 Salmon ranching

2.3.1 *Use of local stocks or alternatively local ranching stocks*

European Union

Ireland

Generally only local stocks used. Mixing of stocks from different rivers still occurs but is actively discouraged.

Sweden

Compensatory releases of reared smolts occur in three salmon rivers. Local stocks are used for these releases.

No new measures reported by the other Parties or the other EU Member States.

2.3.2 *Harvesting of ranched fish at or close to release site or in fisheries managed in a way that prevents over-harvesting of wild stocks*

European Union

Sweden

Harvest of fish from compensatory releases concentrated at river mouth or in river.

No new measures reported by the other Parties or the other EU Member States.

2.4 Salmon farming

2.4.1 Use of local broodstocks where practicable

USA

Through consultations conducted under the Endangered Species Act, the National Marine Fisheries Service and the U.S. Fish and Wildlife Service have recommended against the use of non-North American strain Atlantic salmon in commercial culture. This recommendation has not yet been fully implemented.

No new measures reported by the other Parties.

2.4.2 Efforts to recapture escaped farmed salmon

European Union

Sweden

Scanning of ascending salmon spawners occurs in several rivers. Salmon of foreign origin are not allowed to enter the river.

USA

In the fall of 2000, a boat ran into a cage and caused an escape. Efforts were made to contain the fish and recapture those still in the area.

No new measures reported by the other Parties or the other EU Member States.

2.4.3 Establishment of site-specific contingency plan in the event of large escapes

Canada

Recovery plans required and improved procedures being developed; human safety first priority. Newfoundland has adopted a Code of Practice that includes containment measures and recapture protocols.

USA

As part of the consultation under the Endangered Species Act, the National Marine Fisheries Service and the U.S. Fish and Wildlife Service have recommended that all sites develop a loss control plan that would include a contingency plan in the event of large escapes.

No new measures reported by the other Parties.

3. Measures To Minimise Disease And Parasite Interactions

3.1 Control and prevention of diseases and parasites

3.1.1 Aquaculture production process conducted in accordance with appropriate fish health protection and veterinary controls, including the application of appropriate husbandry techniques to minimise risk of diseases

European Union

Ireland

All farms in Ireland are inspected regularly under EU Directives 91/67/EEC and 2001/183/EC. Movement of fish between sites is authorised by permit and is only allowed between sites of similar health status or from a farm with a higher health status to a lower health status. Fish must be clinically healthy prior to movement. Under the terms of each Aquaculture Licence issued in Ireland, all “abnormal mortalities” must be reported to the Marine Institute/Department. of the Marine and Natural Resources within 24 hours of their occurrence. Appropriate stocking densities are maintained through the observation by the industry of a voluntary Code of Practice. Single generation sites and fallowing are cornerstones of the type of aquaculture which is currently practised in Ireland.

Russian Federation

Sporadic veterinary inspections of juvenile Atlantic salmon at hatcheries.

No new measures reported by the other Parties or the other EU Member States.

3.1.2 Treatment or removal of diseased stock and measures to ensure diseased fish are not released to the wild

European Union

Ireland

All farms in Ireland are under the care of a veterinary practitioner. He/she is responsible for the treatment of diseased stock in conjunction with the farm biologist/manager. Mortalities are removed from cages regularly and disposed of in an appropriate manner.

No new measures reported by the other Parties or the other EU Member States.

3.2 Stocking density

3.2.1 *Aquaculture production adapted to the site's holding capacity and stocking density should not exceed levels based on good husbandry practices*

European Union

Ireland

Experience has shown that high stocking densities do not result in increased profits. For this reason, the Irish industry has been moving progressively towards the use of lower stocking densities for the last number of years. The current trend is towards the use of large off-shore cages which are lightly stocked and which are located at high-energy sites.

No new measures reported by the other Parties or the other EU Member States.

3.3 Removal of dead or dying fish

3.3.1 *Removal of dead/dying fish and disposal along with waste materials in an approved manner*

Canada

Good management practice; disposal practices by federal and provincial regulation. The Newfoundland industry has adopted a policy of incineration of all Bay d'Espoir salmonid mortalities in commercially-approved incinerators on a daily basis.

European Union

Ireland

Routine mortalities are removed regularly by divers. These fish are generally placed in a skip/disposal bin where they are limed. Most sites have contracts with Waste Disposal companies which bury the fish at local landfill sites, under permit from the County Council.

No new measures reported by the other Parties or the other EU Member States.

3.3.2 *Establishment of procedures for effective removal and disposal of infectious material*

European Union

Ireland

All farms within the EU are governed by the Animal Waste Directive (90/667/EEC). This allows for discrimination between "low risk waste" and "high risk waste". Low

risk material may be treated as outlined above (or by burning) whilst high risk material must be disposed of at an approved Rendering Plant.

No new measures reported by the other Parties or the other EU Member States.

3.3.3 *Establishment of contingency plans for disposal of mortalities from emergency situations*

European Union

Ireland

All farms in Ireland are required by the Department of the Marine and Natural Resources, to have an "Emergency Plan". This plan is submitted to the Department of the Marine and Natural Resources with each Aquaculture License Application. The plan itself is then examined by an expert Committee and additional information/clarification may be requested.

No new measures reported by the other Parties or the other EU Member States.

3.4 Adequate separation

3.4.1 *Separation of aquaculture facilities on the basis of a general assessment of local conditions*

European Union

Ireland

The distance between facilities is decided by an expert Committee comprising engineers, biologists, fish health experts, oceanographers and administrators. Each application is assessed individually based on site characteristics, production plan, type of cages to be used, history of the site etc.

No new measures reported by the other Parties or the other EU Member States.

3.5 Year-class separation

3.5.1 *Rearing of different generations in separate locations where possible*

European Union

Ireland

The principle of year class separation is a cornerstone of the type of aquaculture currently practised in Ireland.

UK (Scotland)

Effort is being made by the Tripartite Working Group to facilitate Area Management Agreements.

Iceland

Consistent with Icelandic policy.

USA

This policy has been adopted by much of the U.S. industry.

No new measures reported by the other Parties or the other EU Member States.

3.6 Fallowing of sites

3.6.1 *Use of a fallowing regime wherever possible*

European Union

Ireland

The principle of fallowing is employed on all sites in the country. The trend toward the use of larger off-shore smolt sites will allow for synchronous fallowing of inshore on-growing sites for significant periods of time.

No new measures reported by the other Parties or the other EU Member States.

3.7 Use of medicines and disinfectants

3.7.1 *Careful use of medicines and disinfectants in accordance with manufacturers' instructions, Codes of Practice and in compliance with regulatory authorities*

European Union

Ireland

All medication employed on farms in Ireland is prescribed by the veterinarian retained by the farm. It is that veterinarian's duty to ensure that each treatment is carried out according to the manufacturers' instructions. All farms in Ireland are inspected under EU Directive 96/23/EC, which requires that a representative sample of all fish being placed on the market must be assayed for the presence of certain veterinary products. This Directive has been in place for the past three years and has worked well in increasing the industry's awareness about the type of products that they use from time to time.

No new measures reported by the other Parties or the other EU Member States.

3.8 Lists of diseases

3.8.1 Lists of prevailing infectious diseases and parasites and methods for control to be maintained by appropriate authorities

European Union

Ireland

All farms in the country are examined under EU Directives 91/67/EEC and 2001/183/EU. Surveillance is carried out for all the diseases listed in these Directives. However, all unexplained mortality is also investigated by the Official Services. This ensures that the Marine Institute/the Department of the Marine and Natural Resources are aware, not only of the status of the country with respect to the diseases listed in the EU Directives, but also of any new diseases which may emerge from time to time.

No new measures reported by the other Parties or the other EU Member States.

4. Research And Development

4.1 Research, small-scale testing and full-scale implementation of:

4.1.1 Wild salmon protection areas

European Union

Denmark

In several fjords and eastern part of the Wadden Sea.

USA

The listing of Atlantic salmon under the Endangered Species Act elevates the importance of protecting these populations and their habitat.

No new measures reported by the other Parties or the other EU Member States.

4.1.2 Sterile salmon

Canada

Research in progress; findings are variable but indications are that the technique is feasible; all-female line of rainbow trout (steelhead) conditionally approved for use in Newfoundland demonstrated growth superior to previous triploid trout. Marketable steelhead trout could be produced in one summer in Bay d'Espoir marine cages from ~100g fish. Work with triploid Atlantic salmon from Washington State resulted in performance superior to all diploid Atlantic salmon in Bay d'Espoir aquaculture.

No new measures reported by the other Parties.

4.1.3 *Tagging and marking*

USA

A workshop was held in March 2001 to present information on available marking techniques for potential application to the U.S. aquaculture industry. The industry, under a federal grant, will be conducting field trials with three marking techniques.

No new measures reported by the other Parties.

4.1.4 *Designation of aquaculture regions*

European Union

Ireland

Full-scale implementation of specific aquaculture regions by the Department of the Marine and Natural Resources.

Norway

Implementation of a system of aquaculture regions (regionalisation) as a measure for disease control is complicated due to the EEA.

No new measures reported by the other Parties or the other EU Member States.

4.1.5 *Alternative production methods (land-based, closed or contained floating facilities and other containment technologies)*

European Union

Ireland

Limited research by various academic institutes and commercial companies.

No new measures reported by the other Parties or the other EU Member States.

4.1.6 *Use of local broodstocks*

European Union

Ireland

Limited research based on ranched/enhancement stocks directed by the Marine Institute of Ireland.

No new measures reported by the other Parties or the other EU Member States.

4.1.7 *Understanding of genetic interactions*

European Union

Ireland

Research and small-scale testing of hybrids (EU funding) directed by the Marine Institute.

Sweden

A study of the number of straying salmon in salmon rivers has been initiated.

No new measures reported by the other Parties or the other EU Member States.

4.1.8 *Prevention and control of disease and parasites*

European Union

UK (England and Wales)

Range of governmental funded research programmes.

Sweden

A more comprehensive monitoring programme for *Gyrodactylus salaris* will be implemented in salmon rivers.

No new measures reported by the other Parties or the other EU Member States.

No new measures were reported by any Party in relation to the following elements of the Oslo Resolution:

- 1.1.2 Siting of units to avoid risk of damage by collision
- 1.1.3 Adequate marking of aquaculture units
- 1.3.1 Transfers conducted so as to minimise potential for disease/parasite transmission and for genetic and other biological interactions
- 1.3.2 Introduction of mechanisms to control transfers where necessary
- 2.1.2 Optimisation of containment of fish through use of appropriate technology for prevailing conditions
- 2.1.4 Regular monitoring and use of efficient security systems