



POSITION STATEMENT ON SALMON FARMING IN THE UK AND IRELAND

Executive summary

The IFM is concerned that salmon aquaculture often does not adhere to NASCO principles and that it has a significant impact on endangered wild Atlantic salmon and sea trout populations. We consider it imperative that the environmental impacts of farming Atlantic salmon are addressed before any further expansion of the industry can take place and that the precautionary principle is followed during development of plans for salmon farming systems. These impacts are well understood. The IFM has set these out as a basis for governments, regulators, the salmon farming industry, seafood businesses and consumers to consider solutions.

We wish to see strict adherence to the NASCO principles on salmon aquaculture.

IFM Position

IFM fully endorses the North Atlantic Salmon Conservation Organisation (NASCO) principles from the Williamsburg Resolution of the parties to minimise impacts from aquaculture, introductions, and transfers, and transgenics on the wild salmon populations (and other salmonid and fish stocks). The IFM is an active member of the NASCO accredited NGO group and informed the adoption of these principles. The Resolution and associated guidelines for the containment of farmed salmon (see Appendix 1) is over 10 years old. IFM is concerned that adherence to these principles is not at all widespread and the growing evidence of the impacts of the salmon farming sector in the UK and Ireland on declining wild Atlantic Salmon and sea trout populations. Negligence of these principles in a situation where the main UK Atlantic salmon population has been classified as endangered by the IUCN, is unacceptable.

It is imperative that the environmental impacts of farming Atlantic salmon are addressed before any further expansion of the industry can take place and that the precautionary principle is followed during development of plans for salmon farming systems.

These impacts are well understood and increasingly reported in the media. IFM is concerned with direct impacts on wild Atlantic salmon and sea trout, on aquatic ecology in the vicinity of farms, on the sustainability of feed fish stocks for farmed salmon, and for the welfare of farmed fish. That these impacts are ongoing, as reported to NASCO, suggests that regulations pertaining to the sector are either weak or incomplete, or are poorly enforced, or both.

ICES advises that there is substantial and growing evidence that salmon aquaculture activities can affect wild salmon Atlantic salmon through the impacts of sea lice and farm escapes. The IFM notes with concern:

1. Widespread introgression of farmed salmon genes into wild populations causing depression of fitness, decreased overall productivity, erosion of genetic diversity, and decreased resilience.

2. That this is entirely inconsistent with the Convention on Biological Diversity (CBD) which aims to conserve genetic diversity both within and between species.
3. That there could be as much as a 39% reduction in numbers of salmon returning to a river as a result of sea lice infestations from fish farms.

IFM endorses the key recommendation of the theme-based session of the Council of NASCO in 2016¹ that:

- There should be no increase in sea lice loads or lice induced mortality of wild salmonids attributable to salmon farms,
- 100% of farmed fish are retained in all production facilities.

The IFM is pleased to note that from 1 November 2023 UK ministers will need to have due regard to the [environmental principles policy statement](#) when making policy – including policies related to the management of fisheries and the marine environment. We note that the territorial extent of this instrument is England, Wales and Scotland and territorial application is England and Scotland. We point authorities in Northern Ireland, Wales and Ireland to those and their adoption to shape policy to protect and enhance the environment and specifically in policy regarding salmon farming and salmonid conservation.

IFM fully recognises the value of salmon farming to the UK and Irish economies and wishes to see a viable and sustainable industry. We ask that policy for its development is reviewed in line with the environmental principles policy statement, and that the industry becomes better regulated concomitant with its potential harmful environmental impacts.

The following outlines the key concerns that the IFM has with current production methods which need to be fully understood and mitigated through effective regulation.

- Escapes of farmed salmon and how these interact with wild salmonids.
- Sea lice on both farmed and wild fish (all susceptible species notably sea trout) and the treatment of those including:
 - The reliance on wild caught cleaner fish, notably five wrasse species, that due to poor management, risk being locally overfished and depleted,
 - The current waste associated with the lack of post- harvest use of cleaner fish,
 - Sea lice chemical treatments and the impact they can have on local habitats and species.
- Disease outbreaks on the farmed fish and how they are treated. Antibiotic/ therapeutant use and wider resistance to them as a result needs careful control.
- The cumulative impacts on local ecology of multiple farms in a shared water body.
- Impacts on sensitive habitats and species including within MPAs, in which many salmon farms operate. IFM suggests that the impacts and risks of salmon farming are incompatible with the conservation objectives of protected areas and should not be sited on them.
- Ongoing need to achieve certified sustainable feed sources including both marine and terrestrial ingredients.

¹ <https://nasco.int/conservation/theme-based-special-sessions/>

Our asks of stakeholders

The IFM strongly urges Governments:

- To deliver on the commitments made regarding aquaculture in the NASCO Agreements and resolutions – see below,
- To provide support and incentives for the promotion of new technological and innovative industry solutions in fish farming that show real environmental benefits,
- To consider the cumulative impacts of salmon farming and other marine users during the development of National Marine Plans and ensure aquaculture is spatially managed and fully incorporated into Regional Marine Plans in UK and Ireland.
- To adopt a precautionary approach to assess the direct and indirect impacts salmon farming has on all Priority Marine Features, both inside and outside Marine Protected Areas, and to identify those features (species) most at risk.

The IFM asks Industry regulators:

- To demonstrably commit to the **sustainable** development of the industry,
- To implement and enforce commitments made regarding aquaculture in the NASCO Agreements and resolutions,
- To ensure data relating to the performance of the industry is made publicly available,
- To pursue re-location of salmon farms from unsuitable sites and consider alternative uses for these vacated spaces, including returning to nature.

The IFM asks the salmon farming industry to:

- Work in collaboration with all stakeholders to deliver the objectives of the NASCO agreements and resolutions,
- To continue to invest in research and innovative solutions to improve environmental performance, including commercial trial and subsequent implementation of these solutions that address, mitigate and ultimately avoid the detrimental impacts of current practice,
- Explore further the potential for moving offshore, if supported by sound science that has demonstrated the environmental impacts of offshore production are an improvement on the current inshore operations. Likewise, closed and pump ashore systems,
- Continue to explore and commercially trial innovative ways for waste capture and sea lice management by, inter alia, the adoption of semi-closed and closed production systems.
- Invest in research and commercial trials of innovative feed solutions including, but not limited to algal oil, hemp and insect proteins,
- To work with regulators to provide timely data to inform and improve future decision making.

The IFM asks seafood businesses to:

- Register for Good Fish Guides for Business and get involved with ratings consultations.
- Only source seafood with ratings of 1-3 on these guides.

The IFM asks consumers:

- To use Good Fish Guides choices whenever buying seafood. This includes trying to diversify from the 'Big 5' of: cod, salmon, tuna, haddock and prawns.

Appendix 1.

Council CNL(06)48 Resolution by the Parties to the Convention for the Conservation of Salmon in the North Atlantic Ocean to Minimise Impacts from Aquaculture, Introductions and Transfers, and Transgenics on the Wild Salmon Stocks.

The Williamsburg Resolution (Adopted at the Twentieth Annual Meeting of NASCO in June 2003 and amended at the Twenty-First Annual Meeting of NASCO in June 2004 and at the Twenty-Third Annual Meeting of NASCO in June 2006:

General Measures to Minimise Impacts

1. Siting and Operation of Aquaculture Activities

- 1.1 Salmon aquaculture facilities should only be located where hydrographical, epidemiological, biological and ecological standards can be met. Factors which may be taken into consideration include: availability of water supply and receiving waters for discharge; water quality and exchange; water depth; site protection; separation distances between aquaculture facilities; and distance from salmon rivers.
- 1.2 Consideration should be given to the establishment of “wild salmon protection areas” where salmon aquaculture is restricted or prohibited. Such protection areas may minimise genetic, disease, parasite and environmental impacts.
- 1.3 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 also be considered. Such regions could provide a framework for management of the aquaculture industry and could assist in controlling the spread of fish diseases and parasites.
- 1.4 The separation distance between aquaculture facilities at marine sites should be based on a general assessment of local conditions. Wherever possible, different generations of salmon should be reared in separate locations. As local conditions permit, a fallowing regime should be practised as a means of minimising outbreaks of disease and parasites. Aquaculture production should be adapted to the holding capacity of an individual site and should not exceed density levels based on science and good husbandry practices.
- 1.5 Dead and dying fish should be removed immediately from aquaculture production facilities, taking into account worker safety, and weather and sea state conditions. Mortalities should be disposed of, along with waste materials, in an approved manner. Procedures should be established to address the effective removal and disposal of infectious material. Contingency plans should be established for the disposal of mortalities from emergency situations.
- 1.6 Depending on local regulations and protocols, tagging or marking or inventory tracking systems will be used in order to facilitate the identification of farmed salmon in the wild and their separation from wild fish, to determine the source of escapes and to assess the interactions of escaped farmed salmon with the wild stocks. These systems could be coupled with river monitoring and recapture systems that allow holding and close examination of returning fish in the rivers.

2. Diseases and Parasites

- 2.1 All steps in the aquaculture production process from hatchery to processing plant, including transportation of live fish materials, should be conducted in accordance with appropriate fish health protection practices. 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.

Specified diseases and parasites

2.2 Mapping of the presence of serious diseases and parasites should be used to establish epidemiological zones (either with or without specific pathogens). Management measures within these zones should include monitoring to confirm the disease status of a 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*.

NOTE: These are all listed as Notifiable Diseases in EU Animal Health Law as retained in the UK by regulations and applicable in Ireland. The whole of the UK and Ireland is declared free of these diseases at the current time. Because they are notifiable there is active surveillance for these by the various UK and Ireland authorities. Failure to comply with all current and regulations should result in removal of licence to farm.

- 2.3 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 may be permitted where there is minimal risk of transmission of the specified diseases or parasite.
- 2.4 A list of the prevailing infectious diseases and parasites, and the methods in practice for their control, should be maintained by the appropriate authorities. Unknown diseases and parasites
- 2.5 Procedures should be established 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. These procedures should include the establishment of official surveillance services responsible for the monitoring of the health of both wild and farmed fish. The procedures should also demand the 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.
- 2.6 Even with such procedures, it may not be possible to respond in time to prevent the spread of such a disease or parasitic infection. It is recommended that the Contracting Parties, when establishing or reviewing rules on transfers of fish, consider additional protective measures such as:
- the establishment of zones: the intention of such zones, between which the movement of live salmonid fish and their gametes should be restricted and which might be defined using geographical, climatic or biological criteria, is to limit the spread of parasites and diseases to wild stocks;
 - the movement of salmonids: for disease prevention purposes, the trade in eggs is safer than the trade in live fish. It must, however, be recognised that some serious diseases, such as IPN, BKD and IHN, may be transferred with eggs and ovarian fluid;
 - diseases of wild fish: there is a need to strengthen and amend disease controls to minimise disease transfer between aquaculture activities and wild fish.

Health inspections of donor facilities

2.7 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.

Use of medicines and disinfectants.

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

3. Gene Banks

3.1 Various activities may result in serious adverse impacts on salmon stocks and strains such that the potential exists that a portion of the salmon genome is lost. In order to protect against this possibility, Parties should consider the establishment of gene banks for stocks that are in danger of extirpation. This could provide a source of genetic material for future restoration programmes.

Guidelines on Containment of Farmed Salmon

Section 1: Introduction

- 1.1 The North Atlantic salmon farming industry and the North Atlantic Salmon Conservation Organization (NASCO) have established a Liaison Group. This Liaison Group recognised the importance of conserving and enhancing wild salmon stocks and of supporting a sustainable salmon farming industry and is seeking to establish mutually beneficial working arrangements in order to make recommendations on wild salmon conservation and sustainable farming practices. To this end the Liaison Group has developed guidelines on containment to apply throughout the NASCO Convention area.
- 1.2 Both Parties recognise that a number of guidelines and measures, outlined below, should apply to all salmon aquaculture activities. The Liaison Group should be updated annually on progress on the development of parallel measures in relation to these activities.

Section 2: Objectives

- 2.1 These guidelines are intended to result in the prevention of escapes of farmed salmon in the freshwater and marine environments.

Section 3: Site Selection

- 3.1 Sites shall be selected having regard to the capability of the equipment to withstand the weather and other environmental conditions likely to be experienced at that site;
- 3.2 In the interest of avoiding collision damage, equipment shall comply with the relevant national and international regulations regarding navigation and marking;
- 3.3 Careful consideration shall be given to the siting of land-based facilities, so as to minimise the risk of escapes from these facilities.

Section 4: Equipment and Structures

- 4.1 Nets, cages and mooring systems shall be designed, constructed and deployed to prevent escapes, having proper regard to the prevailing conditions at the site. Mooring systems should have a significant in-built safety margin;
- 4.2 Nets and cages should be marked with an identification number; adequate records of each net and cage in use should be maintained in order to assess its fitness for purpose;
- 4.3 Nets shall be: compatible with the cages with which they will be used; secured to the cage collar so that the collar alone bears the strain; and adequately UV-protected. Net weights shall be installed in such a way as to prevent damage to the nets;

- 4.4 Tank systems shall be designed to contain fish effectively and to minimise the chances of fish escaping. Where the outflow from tanks passes into a settling pond, the outflow from the settling pond should incorporate a screen of suitable size and construction to minimise the chances of fish escaping;
- 4.5 Effective predator deterrence methods shall be implemented as appropriate; these should be upgraded as improved, site-appropriate and cost-effective systems of proven efficacy become available; records of predator attacks that may have caused escapes should be maintained for audit;
- 4.6 Salmon farming systems should be upgraded as improved, site-appropriate and cost effective systems of proven efficacy become available.

Section 5: Management System Operations

- 5.1 Farm management procedures shall ensure supervision by appropriately trained, qualified or experienced personnel. There is a need for constant vigilance during operations that could result in escapes;
- 5.2 Procedures shall be adopted to ensure that escapes are prevented during movement and handling of stocks (e.g. during stocking, counting, grading, transport, transfers, treatment and harvesting of fish), and during net changes and cleaning;
- 5.3 Regular preventative maintenance, inspection and repair procedures shall be adopted in order to prevent escapes;
- 5.4 Stress testing of all nets in use shall be conducted on a regular basis and testing protocols, minimum breaking strengths and thresholds for net replacement should be specified in action plans. Records of the results of the tests shall be retained throughout the period the net is in use;
- 5.5 When it is necessary to tow cages, great care shall be taken to avoid damage to the nets;
- 5.6 Storm preparation procedures shall be developed to minimise the risk of damage from storms detailing the actions to be taken to ensure that the site is made ready; after each storm all nets, cages and mooring systems shall be inspected for damage;
- 5.7 Vessels shall be operated so as to minimise the risk of accidental damage to the equipment;
- 5.8 Where practicable, security systems should be installed so as to deter acts of vandalism and malicious damage.

Section 6: Verification

- 6.1 Management systems should include as a minimum all details of introductions, grading, transfers, treatments, handling or any other incident or occurrence that may have led to an escape. These details shall be recorded and retained for audit. Detailed records should allow estimates of escapes to be made. It is recognised that not all discrepancies will be the result of escapes;
- 6.2 When an event occurs which leads to an escape defined as significant under the action plan, the operator shall advise the appropriate authorities immediately;
- 6.3 A site-specific contingency plan shall be developed for use when an event occurs which may have led to an escape defined as significant under the action plan. The contingency plan shall include details of the method of recapture to be used and the area and timeframe over which a recapture programme would apply. Efforts shall be made to recapture farmed salmon immediately provided that this is practicable and does not adversely affect wild Atlantic salmon populations;
- 6.4 Action plans should require appropriate authorities to take all reasonable efforts to issue permits for facilitating the contingency plans developed for each farm.

Section 7: Development of Action Plans

- 7.1 Each jurisdiction should draw up a national action plan, or regional plans, at the earliest opportunity, based on these guidelines. The action plan is the process through which internationally agreed guidelines on containment would be implemented at national or regional level through existing or new voluntary codes of practice, regulations, or a combination of both;
- 7.2 Each action plan should:
 - 7.2.1 create a systematic basis for minimising escapes so as to achieve a level of escapes that is as close to zero as is practicable;
 - 7.2.2 include a mechanism for reporting information on the level and causes of escapes;
 - 7.2.3 include a mechanism for reporting and monitoring in order to assess compliance and to verify the plan's efficacy;
 - 7.2.4 identify areas for research and development.
- 7.3 The action plan should be based on co-operation between industry and the relevant authorities and should include the allocation of responsibilities under the plan(s) and a timetable for implementation.

Section 8: Reporting to the Liaison Group

- 8.1 Each jurisdiction should advise the Liaison Group annually on progress in implementing its action plan(s).

Section 9: Revision

- 9.1 These guidelines shall be subject to revision, with the agreement of the Liaison Group, to take account of new scientific, technical and other relevant inform.