



Council

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Guidelines on Containment of Farm Salmon

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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 moorings systems shall be designed, constructed and deployed to prevent escapes, having proper regard to the prevailing conditions at the site. Moorings 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 up-graded 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 information.

