

Agenda item 7.3(b)
For decision

Council

CNL(06)19

***Report of a Meeting between the International Salmon Farmers' Association
(ISFA) and representatives of the NASCO Secretariat***

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1. In accordance with the decision of Heads of Delegations, a meeting between representatives of the International Salmon Farmers' Association and the NASCO Secretariat was held in Brussels on 9 May. The report of the meeting is attached. The group made progress on a number of issues, as follows.

Follow-up to the Trondheim and Bergen meetings

2. The group recommends that at the next Liaison Group meeting the topics raised at the Trondheim Workshop, i.e. area management initiatives, use of sterile salmon in farming, and restoration programmes, be further discussed. In particular it was felt that it would be useful if each country provided information on area management initiatives to see if guiding principles might be developed. ISFA agreed to consult each country. NASCO representatives agreed to develop a discussion document on how the salmon farming industry might be able to contribute to restoration programmes. It was further agreed that each country should bring forward to the next Liaison Group meeting ideas and thoughts on the way forward on measures to minimise genetic impacts and details of any research on sterile salmon. It was also agreed that the Liaison Group might focus on approaches to the treatment and control of sea lice. The group also felt that a further joint workshop might be held in 2009 and that possible topics should be identified from the SALCOOP project recommendations.

The Williamsburg Resolution

3. After considerable debate and some concerns from industry about the process by which the Williamsburg Resolution was developed, the industry can now accept the document subject to some relatively minor changes which are detailed in document CNL(06)18.

Reporting on escapes

4. There was a large increase in reported escapes in 2005; more than 1.5 million fish were reported to have escaped in Scotland and Norway alone, and these figures are minimum estimates. The group felt it might be useful to discuss approaches to ensuring cage security at the next Liaison Group meeting since there were four confirmed acts of vandalism in Canada in 2005 that resulted in approximately 150,000 farmed fish being released to the wild.

NGO participation

5. The industry is now willing to admit an NGO representative to the Liaison Group meetings, provided that this is a representative from WWF(US), given that organization's role in the salmon aquaculture dialogue meetings. NASCO representatives proposed that the Chairman of NASCO's accredited NGOs would be the appropriate person, accompanied by the representative of WWF.

Date and venue of the next Liaison Group meeting

6. It is proposed that this be held immediately prior to the Boston Seafood Show (which takes place during 11-13 March 2007) and that one and a half days be allocated.
7. The meeting allowed for a useful exchange in planning the next steps for the Liaison Group. There was a good atmosphere of cooperation and the industry representatives have indicated a willingness to assist NASCO in seeking funding for the SALSEA programme. The Council is asked to consider the report of the meeting and agree to the recommendations made, or take other action as appropriate.

Secretary
Edinburgh
19 May, 2006

SLG(06)2

***Report of a Meeting between the International Salmon Farmers' Association (ISFA) and representatives of the NASCO Secretariat
Brussels Hilton City Hotel, Brussels, Belgium
9 May, 2006***

1. Introduction

- 1.1 Dr Malcolm Windsor (Secretary of NASCO) opened the meeting. He conveyed greetings from the Liaison Group Chairman, Ms Mary Colligan (USA), and indicated that while NASCO would have liked to have held a full Liaison Group meeting, there had, in effect, been two meetings in the last twelve months (the Liaison Group meeting in May 2005 and the Trondheim Workshop in August 2005). He indicated that representatives of the salmon farming industries in Scotland and Russia (which are not ISFA members) had been invited to participate in the meeting, but were unable to be represented. He thanked FHL Aquaculture (Norway) for generously providing the meeting facilities.
- 1.2 Mr James Ryan (President of ISFA) indicated that the industry regretted that it had not been possible to hold a full Liaison Group meeting in North America but he shared the view expressed by Dr Windsor that there had been two very useful meetings in 2005. He advised the Group that at the ISFA meeting on 8 May, Mr Knut Hjelt (FHL Aquaculture, Norway) had been appointed as Secretary of ISFA.
- 1.3 ISFA was represented at the meeting by Mr James Ryan (President of ISFA), Ms Nell Halse (Canada) and Mr Richie Flynn (Ireland). NASCO was represented by Drs Malcolm Windsor and Peter Hutchinson of the Secretariat.
- 1.4 The Group agreed its agenda (Annex 1) and asked that Malcolm Windsor chair the meeting and Peter Hutchinson serve as Rapporteur.

2 Follow-up actions emerging from the Trondheim and Bergen meetings

- 2.1 Brief reports were presented on the Trondheim Workshop, 'Wild and Farmed Salmon – Working Together', held in August 2005, and the ICES/NASCO Bergen Symposium, 'Interactions between aquaculture and wild stocks of Atlantic salmon and other diadromous fish species: Science and Management, Challenges and Solutions', held in October 2005. Both events had attracted around 100 participants and the feedback had been extremely positive. The report of the Trondheim Workshop should be available at the end of May and it was agreed that a print run of 600 copies should be adequate. It will include all twelve of the invited presentations, the Session Chairmen's summaries and the final summing-up. Those papers presented to the Bergen symposium, which pass peer review, will be included in a special issue of the ICES Journal of Marine Science being edited by Peter Hutchinson. There will also be a Report of the Symposium by the Co-Conveners, Malcolm Windsor and Lars Hansen, focusing more on the management aspects.

Dr Windsor indicated that while he had been encouraged by the progress being made in relation to sea lice management on farms, he remained concerned about the continuing escape of farm fish at levels that are high relative to wild fish abundance. He recognized that the industry has made considerable progress in reducing escapes, but the new information presented in Bergen indicated that the consequences of repeated intrusions of farmed fish into spawning populations of wild salmon may be irreversible. He also welcomed the statements from the industry representatives in Bergen that they seek to cooperate with wild fish interests in minimizing adverse impacts.

- 2.2 There were three themes at the Trondheim Workshop: area management initiatives, the use of sterile salmon in farming, and restoration programmes. The group believes that there would be benefits from further discussion of these three topics at the next Liaison Group meeting. With regard to area management initiatives, it was felt that it might be useful for each country to provide information on area management initiatives with a view to exploring if guiding principles could be developed by the Liaison Group. The ISFA representatives agreed to consult each Party on this issue and to develop a discussion document for consideration by the Liaison Group. It was recognised that NASCO had developed a Plan of Action for habitat protection and restoration, and guidelines on stock rebuilding programmes and on stocking Atlantic salmon. While all three documents are of relevance to restoration programmes, the group agreed that there might also be benefits from the Liaison Group developing some guiding principles as to how the salmon farming industry might be able to contribute to restoration programmes. The NASCO Secretariat agreed to develop a discussion document on this topic.
- 2.3 The group also discussed the issue of using sterile fish in farming. It is clear from the information presented in Trondheim that while sterile fish would effectively eliminate genetic interactions with wild fish, the industry has concerns about their poorer performance in the sea, the frequency of deformities and adverse consumer reaction to sterile fish. Furthermore, the industry representatives suggested that as farmed salmon become increasingly domesticated, their ability to survive in the wild may decline further. It was noted that a recent EU regulation defines sterile salmon as an alien species, which would have implications for their use by salmon farmers in EU Member States. The group decided that it would be useful if each country could come to the next Liaison Group meeting with ideas and thoughts on the way forward with regard to measures to minimise genetic impacts of farmed fish and details of any ongoing research on sterile salmon.
- 2.4 The group considered whether there might be a further Liaison Group workshop to examine some of the other recommendations in the SALCOOP report. The arrangement of holding a joint workshop in conjunction with the biennial AquaNor exhibition had been beneficial to industry representatives but the group felt that a further workshop in August 2007 might be premature, so 2009 might be considered by the Liaison Group. At the Bergen symposium and Trondheim Workshop it became clear that while there are continuing concerns about genetic impacts, progress is being made with regard to effective pest management strategies to control sea lice in salmon farms. However, there are very limited medications available for sea lice treatment. For example, ISFA indicated that in Ireland only two treatments are licensed for use against sea lice, while in Norway farmers have access to eight treatments. There are concerns about the possible development of drug resistance in

sea lice and the group felt that the topic of sea lice control might also usefully be discussed at the next Liaison Group meeting.

3. **The Williamsburg Resolution**

- 3.1 The Resolution to Minimize Impacts from Aquaculture, Introductions and Transfers and Transgenics on the wild salmon stocks, “The Williamsburg Resolution”, was adopted by NASCO at its 2003 Annual Meeting. In adopting this Resolution the Council had recognized that it would evolve in future in the light of experience with its implementation, consultations, improved scientific understanding of the impacts of aquaculture, introductions, transfers and transgenics and developments in measures to minimize them. The Resolution was amended by the Council of NASCO in 2004 by the inclusion of a new definition of ‘transgenic’, revision of the Guidelines for Action on Transgenic Salmonids and inclusion of Guidelines for Stocking Atlantic Salmon.
- 3.2 Prior to adoption of the Williamsburg Resolution by the Council of NASCO, it had been made available to the industry through the Liaison Group but concerns were subsequently expressed by the industry about the way in which the development of the Williamsburg Resolution had been handled, since, in their view, due process had not been followed. At the 2005 Liaison Group meeting, the NASCO Secretariat had been asked to develop an Explanatory Memorandum detailing the background to the development and adoption by NASCO of the Williamsburg Resolution and the manner in which it is to be implemented by NASCO’s Parties and their relevant jurisdictions. Following development of this Explanatory Memorandum the industry representatives had agreed to provide specific comments to NASCO on the various articles of the Resolution with proposals for change where they felt these were necessary, a rationale for such changes and references to relevant scientific papers and codes of practice. The comments from ISFA were tabled at NASCO’s Twenty-Second Annual Meeting in June 2005 (document CNL(05)30). No comments had been received from the salmon farming industries in Scotland and Russia. The Council had asked that the Secretary develop a response to these comments in consultation with the Parties and transmit it to the President of ISFA. This response, which was sent to ISFA on 8 November, is contained in Annex 2.
- 3.3 The representatives of ISFA confirmed that they could now accept all of NASCO’s proposals for addressing their comments, given the assurance that risk assessment and consideration of socio-economic aspects in establishing measures are central themes of the Resolution. Furthermore, the Council’s decision to include the MoU between the US and Canada on introductions of transfers and the Council’s new arrangements for reporting on implementation plans had addressed ISFA’s concerns about annexing relevant legislation/agreements to the Resolution. However, there were four changes in the proposal from NASCO that ISFA would wish to see changed, as follows:

Items 3, 7, 10(a) and 12(c): the industry would prefer to use the word ‘between’ in relation to disease transmission because while it is recognized that in most circumstances it is impossible to treat wild fish, wild fish are a reservoir of infection for some diseases and in some situations, e.g. hatchery releases, it is possible to take measures to ensure that diseases are not transmitted to the wild with potential consequences for both wild and farmed fish.

Item 4: the industry would like to include the statement concerning ISFA's rejection of transgenic salmon production as a footnote to Article 7 of the Resolution.

Item 9(d): change wording to "science and good husbandry practices" since it is assumed neither Party would wish to encourage use of bad science.

Item 9(f): In the first sentence delete "or audited containment management systems" and replace "could be" with "should be". Last sentence delete "should" and replace with "could".

- 3.4 The group felt that it would be advantageous to now resolve the differences with regard to the Williamsburg Resolution so that the Liaison Group could move forward and explore additional areas of mutual interest where there could be cooperation between NASCO and the industry with a view to protecting wild salmon stocks while allowing the industry to continue its development. The NASCO Secretary thanked the industry side and indicated that he would submit these changes for adoption by NASCO Council next month.

4. Progress with containment/prevention of escapes (including reports for 2005)

- 4.1 The NASCO Assistant Secretary briefly summarized the reports provided by the Parties on escapes of farmed salmon in 2005. In summary these were as follows:

Canada:

There were four incidents reported during 2005, all confirmed acts of sabotage. In incidents in April and May, 13,300 fish of 2-3 kg weight and 13,000 fish averaging 1.5kg in weight were released. In August 2005, approximately 20,000 fish of about 0.5kg were released and in November 2005 about 100,000 market-sized fish valued at 3 million Canadian dollars were released.

European Union:

Ireland: There were no reported escape events in 2005.

Scotland: In 2005, approximately 830,000 farmed fish were reported to have escaped compared to approximately 93,000 fish in 2004. Details of the causes of the escapes were provided. In addition, it was reported that the Aquaculture and Fisheries Bill, which is scheduled to be presented to the Scottish Parliament during the summer of 2006, contains a number of proposals aimed at addressing the issue of containment and the containment guidance developed under the Strategic Framework for Scottish Aquaculture has been further developed in the industry's Code of Good Practice. On 25 April 2006, some 700 tagged farmed salmon were released from a fish farm in Wester Ross as part of a NASCO co-ordinated experiment into the migration and fate of farmed salmon.

Sweden: No new information was presented but there is limited salmon farming in Sweden.

Iceland:

There was negligible reporting of escapes from sea-cages on the east coast of Iceland in 2005, although one tagged escaped farmed salmon was reported from an east-coast river. None were reported from other rivers. Microtagging of 10% of farmed fish is required in Iceland and since 2001, 600,000 farmed fish have been tagged. The threat from escapes is considered small on the basis of recoveries of tagged farmed fish. In Iceland salmon farming is being replaced by cod-farming.

USA:

No reported escapees in 2005. Four suspect fish were identified in the Union River that may have come from a nearby aquaculture facility but more information is being gathered. In the Downeast Maine rivers quite a few salmon are suspected to have originated from the releases that occurred in Canada in the summer and fall of 2005. Some fish were recovered in the fall through the use of a weir and directed angling but there were still quite a few fish remaining in the rivers and higher than normal redds.

- 4.2 No report was available for Norway but information presented at the Bergen symposium indicated that approximately 600,000 farmed salmon had escaped in two escape events in 2005. ISFA representatives indicated that they had been advised that approximately 750,000 farmed salmon had been reported to have escaped in 2005 in Norway.
- 4.3 The group noted that while these numbers are large relative to wild fish returns, and give rise to real concerns about interactions with wild fish, they represent a very small proportion of the farmed fish held in eggs. For example, in Norway, it is thought that there may be around 300 million farmed fish in the sea in any given year so the escapees represents around 0.25% of the stock of farmed fish. It was noted that information presented at the Bergen symposium suggests that the stock of salmon in cages in Norway is a better indicator of the occurrence of farmed fish in rivers than reported escape numbers, suggesting that there may be under-reporting of large-scale escape events, and/or significant small-scale, but unreported, trickle losses. All figures should, therefore, be considered minimum estimates.
- 4.4 The Group discussed why countries like Scotland and Norway had reported large numbers of escapes but Ireland had no reported escape events. James Ryan indicated that in Ireland the cages and nets are designed for exposed sites and there are frequent inspections of facilities by divers. While the basic design of cages may be similar in exposed Irish sites, they are constructed of rubber rather than plastic. He also indicated that smolt supply was very limited and the farmers were, therefore, very keen to ensure as high a proportion as possible of the smolts stocked reach harvestable size. In Ireland, approximately half of the smolts stocked are imported, but import is not permitted in Canada, where local stocks must be used and this involves a cost to the industry.
- 4.5 The Group discussed the acts of vandalism in Canada that had resulted in the release of approximately 150,000 farmed salmon. Attempts had been made to recapture the fish using herring seines and while these efforts had been initiated quickly, with good cooperation from the Department of Fisheries and Oceans, they had been largely

unsuccessful. A reward of 250,000 Canadian dollars had been offered for information about the largest incident but the perpetrators had not been arrested to date. In the case of the smaller incidents it was thought that the vandalism may have been related to employee issues. The salmon farming company involved is now investing in new security systems but these involve considerable cost. Only one such act of vandalism had occurred in Ireland. The group recognised that there could be benefits, both environmental and to the farmer, from a system capable of monitoring the biomass of farmed salmon in cages and triggering an alarm if this fell. The group believed that it would be valuable to have an exchange of information at the next Liaison Group meeting on approaches to ensuring security of fish farms from acts of vandalism.

5. NGO participation

5.1 At the last Liaison Group meeting, NASCO representatives had again indicated support for allowing the Chairman of NASCO's accredited NGOs and/or his/her nominee to attend future meetings of the group. The industry representatives had, however, indicated that they felt that there was a need to keep the group small to ensure its effective functioning and they referred to problems of communication with the media involving two NGOs at NASCO's 2001 meeting. However, the industry had agreed that the Trondheim workshop should be an open meeting, and there had been no problems of NGO involvement in this event. Indeed, the Chairman of NASCO's NGOs had chaired a session.

5.2 The ISFA representatives indicated that they had again discussed the question of admitting NGO representatives to the Liaison Group and had decided that it would be timely to admit an NGO representative to future Liaison Group meetings. In view of the role played by WWF(US) in establishing and coordinating salmon aquaculture dialogue meetings, the ISFA representatives proposed that the NASCO NGOs be represented in the Liaison Group by that organization, possibly Dr Jason Clay. NASCO representatives indicated that the change of attitude with regard to NGO representation was extremely welcome and helpful, but suggested that it might be appropriate for the Chairman of NASCO's accredited NGOs to be the representative, as well as a representative of WWF(US), so that there could be both European and North American representation. The industry indicated that they might have some concerns about this arrangement since the Chairman of the NGOs may change in future but the NASCO representatives indicated that it would be possible to develop conditions governing NGO attendance at the Liaison Group to address industry concerns, and indicated that they would raise this matter with NASCO Council.

6. Date, venue and agenda for the next Liaison Group meeting

6.1 The group recommends that the next Liaison Group meeting be held in conjunction with the Boston Seafood Show which is being held at the Boston Conference and Exhibition Centre from Sunday 11 - Tuesday 13 March 2007. Ideally the Liaison Group would meet immediately prior to this show. The group further recommends that in view of the suggested agenda items identified, the Liaison Group should allow one and a half days for this meeting and that the Secretary of NASCO and the President of ISFA should liaise on the arrangements for the meeting and on developing the agenda.

7. **Any other mutually agreed business**

- 7.1 NASCO provided a brief update on the status of the wild stocks and agreed to make the report from ICES available to the ISFA representatives. A brief outline of the SALSEA programme was presented and the ISFA President agreed to consult possible supporters to the programme within the salmon farming industry. It was agreed that the Secretary of NASCO should write to the President of ISFA to provide a brief description of the SALSEA programme and to ask for his assistance in identifying potential supporters of the programme in the salmon farming industry.
- 7.2 There was no other business. The Chairman thanked participants for their contributions.

***Informal Meeting of ISFA and the NASCO Secretariat
Hilton Brussels City***

Tuesday 9 May, 2006

Agenda

1. Follow-up action arising from the Trondheim and Bergen meetings
2. Amendments to the Williamsburg Resolution
3. Progress on containment (including reports on escapes in 2005)
4. NGO participation in the Liaison Group
5. Date, venue and agenda for the next Liaison Group meeting
6. Any other mutually agreed business

***Responses to the
Comments from the International Salmon Farmers' Association (ISFA)
on the Williamsburg Resolution***

1. Preamble to the Williamsburg Resolution

- (a) **ISFA's Proposed Change:** In the Preamble, immediately under the wording "The Parties", ISFA wish to make reference to an Explanatory Memorandum developed by the Liaison Group and to annex this Explanatory Memorandum to the Resolution.

Proposed NASCO Response: The Explanatory Memorandum referred to was developed to assist the industry in providing its comments to NASCO on the Williamsburg Resolution. While it describes the background to the development and adoption by NASCO of the Williamsburg Resolution and the manner in which it is to be implemented by NASCO and its Parties, it also focuses on the Liaison Group's activities. It should remain as a stand-alone Liaison Group document which can be made available on request to interested parties. NASCO, therefore, suggests that this proposed change is not appropriate to the document.

- (b) **ISFA's Proposed Change:** After the fifth paragraph of the Preamble, which begins "RECOGNISING the benefits", ISFA wishes to insert a new paragraph as follows:

NOTING the progress made by the Liaison Group of the North Atlantic Salmon Conservation Organization (NASCO) and the International Salmon Farmers Association (ISFA) in establishing mutually beneficial working arrangements in order to make recommendations on wild salmon conservation and sustainable salmon farming practices that maximize potential benefits and minimize potential risks to both. (Attach as Appendix 2 Annex SLG(01)11 "Guiding Principles for Cooperation between NASCO and its Contracting Parties and the North Atlantic Salmon Farming Industry");

Proposed NASCO Response: The Resolution addresses all forms of aquaculture, as well as introductions and transfers and transgenics, so it is not appropriate to include a statement concerning only salmon farming in the Preamble. Indeed, it gives undue focus to salmon farming, a concern for the industry. Similar text to that proposed is, however, reflected in the Preamble to the Guidelines on Containment of Farm Salmon developed by the Liaison Group and included as Annex 3 of the Resolution. NASCO therefore suggests that these proposed changes are not appropriate to the document.

- (c) **ISFA's Proposed Change:** In the current seventh paragraph of the Preamble, ISFA wishes to change the word "can" to "might". The paragraph would then read (change shown in bold):

RECOGNISING that in order to protect wild salmon stocks from adverse impacts that **might** be caused by aquaculture, introductions and transfers, and transgenics, there is a need to take into account local conditions in determining appropriate management measures;

Proposed NASCO Response: The existing wording is "that can be caused". The compromise solution proposed is to change it to "that can or might be caused..."

2. Article 3 – Burden of Proof

ISFA’s Proposed Change: ISFA wishes to see changes to the wording of this Article as shown below (changes and additions shown in bold):

Each Party, in accordance with the Precautionary Approach, should require the proponent of an activity covered by this Resolution to provide all information necessary to demonstrate that the proposed activity will not have a **significant** adverse impact on wild salmon stocks or lead to irreversible change. **If the required information is not available and cannot be obtained at reasonable cost, the decision-making process should rely on a full Risk Assessment as outlined in Article 4.**

Proposed NASCO Response: “Significant” is an ambiguous term; however, we can include it as it will not change the meaning of the Article. NASCO does not think that the suggested change to the last sentence is appropriate, because risk assessment applies to all measures to be taken in accordance with the Resolution.

3. Article 5 – Measures to Minimise Impacts of Aquaculture and Introductions and Transfers

ISFA’s Proposed Change: ISFA wishes to change the wording of the fourth bulleted sub-paragraph of the first paragraph of this Article to read as follows:

- Minimise the risk of disease and parasite transmission **between** wild salmon stocks and all aquaculture activities, introductions and transfers.

Proposed NASCO Response: Wild salmon cannot be treated, so it is not feasible to minimise risk of disease and parasite transmission from wild salmon to farmed fish other than in relation to stocking activities and this aspect is covered in Annex 2 (General Measures to Minimise Impacts) and in the Guidelines for Stocking Atlantic Salmon (Annex 4 of the Williamsburg Resolution). The aim is to conserve wild stocks and prevent aquaculture activities from affecting them. NASCO does not, therefore, think that the suggested change is appropriate.

4. Article 7 – Transgenic Salmonids

ISFA’s Proposed Change: ISFA wishes to see an additional paragraph added to this Article, as follows:

The International Salmon Farmers Association affirms this position in its Policy on Transgenic Salmon, which was adopted at its Seventeenth General Meeting in Galway, Ireland on September 1996: “*In accordance with sound environmental practice, the ISFA firmly rejects transgenic salmon production.*”

Proposed NASCO Response: It is not felt appropriate for one organization to state its position on one aspect of the Williamsburg Resolution. Other stakeholders may have different views. NASCO does appreciate ISFA’s support on this issue.

5. Article 9 – Mitigation and Corrective Measures

ISFA’s Proposed Change: ISFA wishes to insert the word “significant” into this Article so that it reads as follows:

Where **significant** adverse impacts on wild salmon stocks are identified, the Parties should initiate corrective measures without delay and these should be designed to achieve their purpose promptly.

Proposed NASCO Response: Although “significant” is an ambiguous term, it does not change the meaning of the Article. NASCO can, therefore, accept this change.

6. Article 10 – Implementation

ISFA’s Proposed Changes:

- (a) ISFA wishes to see the text of the first paragraph of Article 10 amended to read as follows (additions and changes in bold):

In order to have confidence that the wild stocks are protected from irreversible genetic change, from **significant** ecological impacts and from **significant** impacts of diseases and parasites, full implementation of the measures in this Resolution and its Annexes is **recommended**. (*Comment from ISFA - If WR is non-binding on the parties and is not intended to be prescriptive “recommended” is more appropriate than “essential”*) Local conditions may warrant consideration of stronger **or more moderate** measures. **All measures should be regarded as adaptable to improved salmon aquaculture technologies and methodologies. (e.g. use of sterile fish, lice vaccine, etc.)**

Proposed NASCO Response: “Significant” is an ambiguous term, but does not change the meaning or intent of the Article, and is acceptable. The word “essential” does not imply that the Resolution is a binding agreement. NASCO could understand the sensitivity if the word “required” had been used, and if there was a timeframe for implementation. The wording proposed, “recommended”, and “or more moderate” seems rather weak. The feeling in developing the Resolution was that it provided a minimum standard and that stronger measures may be required. The last sentence is appropriate and reflects the fact that the Resolution is a ‘living document’.

- (b) ISFA wishes to see the text of the second paragraph of Article 10 amended to read as follows (additions shown in bold):

Where detailed agreements are developed by a regional Commission of NASCO in support of this Resolution, they will be appended. Appendix 1 indicates the current situation within the North American Commission as outlined in the NAC Protocols (94). **Appendix 11 indicates the Canadian Code for Introductions and Transfers which will be followed in Canada.** Any further guidelines to assist in implementing this Resolution will be annexed.

Proposed NASCO Response: The Council agreed in Vichy to include the Memorandum of Understanding between the US and Canada intended to reconcile differences between the methods used in these countries to authorise introductions and transfers. The MoU between the US and Canada is linked to Canada's Code for Introductions and Transfers and accomplishes what is being suggested. NASCO believes that the Resolution will become excessively long if all the relevant agreements developed by the Parties in relation to minimising impacts of aquaculture, introductions and transfers are annexed.

7. Annex 1 – Definitions relating to salmon aquaculture, introductions and transfers and transgenics

ISFA's Proposed Change: ISFA wishes to see the definition of 'Containment of diseases and parasites' changed to read as follows:

Containment of diseases and parasites: Implementation of measures to prevent the **transfer** (spread) of diseases and parasites **between** aquaculture facilities **and wild fish**.

Proposed NASCO Response: See previous comment in 3 above. NASCO does not see this change as appropriate to the Resolution.

8. Annex 2 – General Measures to Minimise Impacts

ISFA's Proposed Change: ISFA wishes to see the following introductory paragraph inserted at the start of this Annex:

This annex is designed to provide guidance to NASCO's Parties on minimizing impacts of salmon aquaculture on wild salmon stocks. The guidelines will be regularly reviewed and updated as appropriate in light of new scientific information and changing technologies and methodologies.

Proposed NASCO Response: The annex is not just concerned with aquaculture. If the words "and introductions and transfers" are inserted after "salmon aquaculture" in the first sentence the proposed change is more inclusive and is acceptable to NASCO.

9. Annex 2 – General Measures to Minimise Impacts – Section 1, Siting and Operation of Aquaculture Activities

ISFA's Proposed Changes:

- (a) ISFA wishes to see the following text added in paragraph 1.1 of this Annex:

Existing protocols employed by the NASCO parties should be referenced here or in separate Annex e.g. Canadian Environmental Assessment Act, Environmental Management Guidelines (New Brunswick), Ireland: Environmental Impact Statement Requirements for Fish Farms and The 5 Fish Farm Monitoring Protocols on Benthic Impacts, Water Column Impacts, Sea Lice, Site Following and Operations Audits. (More examples could be added from other countries)

Proposed NASCO Response: See response under 6(b) above.

- (b) ISFA wishes to see the text of paragraph 1.2 amended to read as follows (changes and additions in bold):

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, **and** parasite (and environmental – *delete, not an issue*) **impacts. In the event wild salmon protection areas are to be used to prohibit salmon aquaculture activities a risk assessment should be conducted to determine the degree to which the protection area will effectively help protect wild salmon stocks. In areas with existing salmon aquaculture facilities that are proposed for wild salmon protection areas and in which restrictions or prohibitions on those existing facilities are proposed consideration should be given to the socio-economic impacts of imposing those restrictions or prohibitions.**

Proposed NASCO Response: NASCO recognises the need for risk assessment and for consideration of socio-economic aspects. Both are either covered in the Resolution or in NASCO’s socio-economic guidelines.

- (c) ISFA wishes to see paragraph 1.3 concerning designation of “aquaculture regions” deleted because they have indicated that aquaculture-free regions already exist in all jurisdictions because of unsuitable topography. Furthermore, they note that most jurisdictions already have strong policies on single generation sites and adequate separation between sites and the next clause covers this question adequately).

Proposed NASCO Response: Retaining this paragraph in the Resolution reflects what is being done in various jurisdictions. Perhaps replacing “should” with “could” would be more appropriate.

- (d) ISFA wishes to see the following change to paragraph 1.4:

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 **good science** and good husbandry practices.

Proposed NASCO Response: Reference Article 11. Inclusion of the words “good science” is a good suggestion but we assume husbandry practices are science-based.

- (e) ISFA wishes to see the following changes to paragraph 1.5:

1.5 Dead and dying fish should be removed ~~immediately~~ **as quickly as possible from aquaculture production facilities taking into account worker safety and weather and sea state conditions. Mortalities should be and 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.

Proposed NASCO Response: *Recognising this as a health and safety issue, NASCO can accept the proposed change except that “immediately” would replace “as quickly as possible”.*

(f) ISFA wishes to see the text of paragraph 1.6 amended as follows:

1.6 **Depending on local regulations and protocols, tagging, marking, inventory tracking systems or audited containment management systems** 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. **These systems should be coupled with river monitoring and recapture systems that allow holding and close examination of returning fish in the rivers.**

Proposed NASCO Response: *The existing wording only indicates that tagging or marking “could be used”. NASCO would appreciate further clarification from the industry on how inventory tracking systems and containment management systems could facilitate identification of farmed salmon in the wild when coupled with the use of monitoring and recapture systems.*

10. Annex 2 – Diseases and Parasites

ISFA’s Proposed Changes:

(a) ISFA wishes to see the text of paragraph 2.6 amended to read as follows:

2.6 **diseases of wild fish:** there is a need to strengthen and amend disease controls to minimise disease transfer between salmon aquaculture activities and wild fish (~~ensure adequate protection of wild fish~~).

Proposed NASCO Response: *See earlier comments on Article 5.*

(b) ISFA wishes to see reference included in paragraph 2.8 to fish health management systems that are currently being implemented, as follows:

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.

**National Aquatic Animal Health Program (NAAHP) Canada
New Brunswick Fish Health Surveillance Program (FHSP)
Ireland: Fish Health Management Protocol (in preparation), Sea Lice Protocol.
(Other countries to follow)**

Proposed NASCO Response: See response under 6(b) above.

11. Annex 4 – Guidelines for Stocking Atlantic Salmon

ISFA’s Proposed Change: In Section IIIB of the Guidelines under paragraph 3, ISFA has made the following comment:

Given the fact that stocking programmes are intentionally releasing aquaculture fish into the wild, there should be close correlation between the recommendations on disease management in fish stocking operations and those in fish farms – see Section 2, Annex 2.)

Proposed NASCO Response: The recommendations in Annex 2, Section 2, apply to all forms of aquaculture, including hatcheries for stocking. The disease aspects of stocking are also covered in Annex 4 - the Guidelines for Stocking Atlantic Salmon.

12. Annex 7 – Research and Development and Data Collection

ISFA’s Proposed Changes:

- (a) ISFA wishes to see the paragraph of this Annex concerning Tagging and Marking changed to read as follows:

Tagging and marking is being used on a small scale 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. Full evaluation of those trials should be conducted in order to assess effectiveness, the feasibility of large-scale marking, and associated costs. **Consideration should also be given to food safety, product quality and animal welfare.**

Proposed NASCO Response: This proposed change is covered by the existing wording concerning effectiveness, feasibility and costs, but is not a problem. NASCO can accept this change.

- (b) ISFA wishes to see the paragraph on ‘Alternative production methods’ deleted, as they indicate that it is no longer relevant in light of the numerous failed commercial and experimental projects which have been carried out in many different countries over the last 25 years. ISFA believes that the focus should be on the improvement of containment technologies and the development of suitable strains of sterile fish).

Proposed NASCO Response: This is important in that it recommends ongoing evaluation of existing and new production methods. Perhaps the heading and examples are the problem here but the intent is consistent with the change the industry sought in Article 10, Implementation. NASCO suggests changing the heading to “Evaluation of production methods”, removing the examples given and including reference to improvement of containment techniques and development of suitable strains of sterile salmon, as suggested by ISFA.

- (c) ISFA wishes to see the paragraph on ‘Diseases and parasites’ changed to read as follows:

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

Proposed NASCO Response: See response under paragraph 3 above.

- (d) ISFA wishes to add a new paragraph to this Annex on Escape Prevention, as follows:

Escape Prevention

Research into escape detection technologies and improved containment systems should be encouraged.

Proposed NASCO Response: This addition seems sensible and consistent with recommendations of the Workshop on Marking of Farm Salmon held in Edinburgh in December 2004. The proposed change is acceptable to NASCO.

13. New Appendix

ISFA’s Proposed Change: ISFA wishes to include a new Appendix containing the Canadian Introduction and Transfers Code.

Proposed NASCO Response: See response under 6(b) above.