

SAG(05)4

Report of the Third Meeting of the Scientific Advisory Group of the International Atlantic Salmon Research Board

***Palais des Congrès, Vichy, France
Sunday 5 June 2005***

1. Opening of the Meeting

- 1.1 The Chairman of the Scientific Advisory Group (SAG), Mr David Meerburg (Canada), opened the meeting and welcomed members of the group to Vichy.
- 1.2 A list of participants is contained in Annex 1.

2. Adoption of the Agenda

- 2.1 The SAG adopted its agenda, SAG(05)3 (Annex 2).

3. Election of Chairman

- 3.1 Mr Meerburg indicated that he was not able to be considered for re-election. The SAG unanimously elected Dr Malcolm Beveridge (European Union) as Chairman.

4. Review of the updated inventory of research and recommendations for enhanced coordination of research

- 4.1 The SAG reviewed the updated inventory of research relating to salmon mortality in the sea, ICR(05)3. The Assistant Secretary of NASCO, Dr Peter Hutchinson, provided an overview of the inventory, which is considered by the Board to be an essential tool in identifying research gaps and priorities and in improving coordination of existing research. In 2005, 54 ongoing and 9 completed projects had been included in the inventory and the annual expenditure on the ongoing projects was in excess of £5.7 million, although no costings had been provided for 7 projects. A number of projects are, however, close to completion. He noted that an increasing number of EU Member States are contributing information to the inventory and that information is now available for Denmark, France, Finland, Ireland, UK and Sweden. Since the last update, 12 new projects had been included and 2 projects had been completed. He indicated that no updated information had been provided for some ongoing projects and only partial information had been provided for some others. As requested by the Board at its last meeting, guidance notes on updating the inventory had been developed and a number of changes had been made to the presentation of the information. Following this brief overview, each Party gave a more detailed summary of its research projects.
- 4.2 The SAG noted that for projects involving collaboration between two or more countries, some of the project costs may be incurred by Parties other than the coordinating Party, and that this should be made clear in subsequent updates of the inventory. The SAG also noted that the sampling programme at St Pierre and

Miquelon referred to in Council paper CNL(05)28 is not included in the inventory. While France (in respect of St Pierre and Miquelon) is not a Party to NASCO, the sampling programme is being undertaken by French scientists from IFREMER in collaboration with Canadian scientists. The SAG therefore recommends that, in view of the French authorities' indication that they are keen to cooperate with NASCO, the Board should seek to obtain information from them on this sampling programme, according to the agreed reporting format, for inclusion in the inventory. The SAG also recommends that when the inventory is next updated, the Secretariat should indicate which Work Package and Task in the SALSEA programme the project relates to so that those areas of the programme which are already being addressed, at least in part, through ongoing research, and gaps in the SALSEA programme, can be identified. The SAG also noted that in addition to collaboration between Parties, there is collaboration between public and private-sector organizations on a number of the projects in the inventory. The SAG recommends that when the inventory is next updated, the Board Members should be asked to provide a breakdown of the funding between the private and public sectors, to the extent possible, and that the collaborating partners should be identified in the summary tables.

- 4.3 The SAG also recommends that when the inventory is next updated, any projects that have not been updated and no longer appear to be current should be included as completed projects, following consultation between the Secretariat and the Board Member concerned. The SAG also noted that there may be additional projects and updated information that could be included in the inventory and that Board Members should be requested to provide this information to the Secretariat by 30 June. Thereafter the inventory should be made available on the Board's website.
- 4.4 The SAG members discussed whether there is a need to consider a more formal mechanism for coordinating ongoing research, for example by appointment of a funded technical position, or whether the existing approach is adequate. The view was expressed that there may be very limited opportunities to reallocate funds from existing ongoing programmes but that a more formal approach to coordination might be appropriate for any new funds that are raised by the Board in support of the SALSEA programme. In the event that new funding is raised to support this programme, the SAG recognized the desirability of allocating expenditure so as to ensure that the research is conducted at the most appropriate research facility and by bringing in the researchers best qualified to test key hypotheses in relation to mortality of salmon at sea.
- 4.5 The SAG noted that there is apparently only one project in the inventory concerning development of methods and that key areas such as sampling equipment development, genetic stock identification and scale analyses had been identified in the SALSEA programme. Progress on these areas for further development is crucial to the success of the SALSEA programme.
- 4.6 Reference was made to a recent publication entitled "The Norwegian Sea Ecosystem" edited by H.R. Skjoldal which contains valuable information on research on salmon at sea.

5. The SALSEA Programme

5.1 At its last meeting the SAG had reviewed progress in development of the SALSEA programme. The SAG had welcomed the programme but noted that there had been no North American scientists involved in its development and some European countries had not contributed to it. The SAG had recommended to the Board that it support the further development of the SALSEA programme through organizing and funding a Workshop. The Board had agreed to this proposal and the Workshop to further develop SALSEA was held in Dublin, Ireland, during 12-15 October 2004. The Chairman of the Workshop, Dr Ken Whelan, presented the report of the meeting, ICR(05)2. He indicated that the SALSEA programme contains a comprehensive mix of freshwater, estuarine, coastal and off-shore elements ensuring a comprehensive overview of factors which may affect the marine mortality of salmon. The programme comprises four Work Packages designed to test key hypotheses about factors influencing mortality of salmon at sea. These Work Packages are as follows:

- Work Package 1 Supporting technologies (genetic stock identification, sampling, equipment evolution and scale growth history);
- Work Package 2 Early migration through the inshore zone;
- Work Package 3 Investigating the distribution and migration of salmon at sea;
- Work Package 4 Communications.

5.2 He noted that it is intended that Work Package 2 should be carried out and funded by the Parties but with a greater level of cooperation and coordination of the research. The estimated cost of Work Packages 1 and 3 is approximately £7.8 million over approximately five years assuming two years of research cruises. The Board has employed professional fund-raising consultants to develop a strategy to raise the significant funds required from the private sector. The SAG was asked to consider a number of questions in relation to the SALSEA programme, as follows:

- (i) Is there support for the SALSEA programme?
- (ii) Is there any other way of doing it?
- (iii) Is the expenditure justified?
- (iv) Is it technically feasible?
- (v) Is it reasonable to expect that the programme will deliver the results needed?
- (vi) Can the programme be considered alone or is assistance needed?

5.3 The Chairman noted that it would be difficult for the SAG to provide an objective review of the programme since almost all participants at the SAG meeting had been involved in the Workshop to develop the SALSEA programme. Nevertheless, it was recognised that important questions had been raised concerning the programme, and that the Group's views might be of assistance to the Board when it considers the programme and the proposed fund-raising strategy at its meeting.

5.4 With regard to support for SALSEA, the Group recognized that there has been a very significant increase in marine mortality of salmon since the 1970s and that returns to fresh water are now less than 50% of the levels in the 1970s and 1980s. The severity of the situation facing Atlantic salmon needs to be stressed to potential funders of the research. It was, however, recognized that if the increased mortality is related to climate change, there may be no opportunity to counteract it. This might make the

programme less attractive to governments but the programme might still be attractive to private funders as an opportunity to contribute to a better understanding of the salmon's life at sea.

- 5.5 The SAG recognized that SALSEA is a very comprehensive and ambitious programme which should ensure a thorough overview of the factors affecting mortality of salmon at sea originating in fresh water, estuaries, coastal or offshore waters. It was noted that there may be difficulties in securing the research vessel time detailed in the SALSEA programme given existing commitments and that consideration might need to be given to chartering of vessels.
- 5.6 The SAG noted that studies of the economic value associated with exploitation of salmon in a number of countries have confirmed the very significant value of the resource. For example, in Scotland a recent study has estimated that recreational salmon fishing generates in the region of £75 million annually to the economy. In addition, however, there are very significant existence values associated with the resource, which may greatly exceed those associated with its exploitation. The SAG felt that, given the enormous economic values of wild Atlantic salmon and the depleted state of most stocks, additional expenditure on research of around £8 million over a five-year period was justifiable.
- 5.7 The SAG discussed whether or not the SALSEA programme was technically feasible. Some concern was expressed about the capabilities of genetic stock identification techniques. These techniques are being used successfully in the Foyle system in Northern Ireland, and on the Moy in Ireland, to identify individual tributary stocks in the fisheries, and in Alaska for management of the Pacific salmon fishery. It was recognized that it would be far more challenging to employ these techniques to identify the origin of salmon caught at sea in the SALSEA research programme because the application of GSI is dependent on the existence of comprehensive baseline data for all contributing stocks. It was noted, however, that there have been major advances in genetic analytical techniques and that identification to the regional level (e.g. major stock complexes) should be feasible even if it is not initially possible to assign salmon to individual rivers. The SAG noted that there has been standardisation of the suite of genetic markers that will be used by salmon geneticists and that there are several initiatives underway to collect baseline genetic material, including the Atlantic Salmon ARC project detailed in the inventory. A major advantage of GSI techniques is that the origin of every fish caught at sea becomes known as compared to conventional tagging programmes where only the few recovered fish provide information as to their origin.
- 5.8 The SAG agreed that it would be important for the SALSEA programme to be reviewed externally. Dr Dick Beamish from the Canadian Department of Fisheries and Oceans in Nanaimo and Dr Jack Helle, who is presently Chairman, through the North Pacific Anadromous Fish Commission, of an international salmon research programme in the Bering Sea (BASIS) involving collaboration between all NPAFC Parties, were suggested as possible reviewers from the Pacific. Dr Niall O'Maoileidigh, Chairman of the ICES Diadromous Fish Committee, agreed to raise the issue of review of the SALSEA programme by ICES at that Committee's next meeting. It was suggested that the SALSEA programme might also be presented to other ICES Committees at the Organization's Annual Science Conference in

Aberdeen in September 2005 so as to encourage support for the SALSEA programme from broader marine research disciplines.

- 5.9 The SAG noted that the EU's Seventh Framework Programme, which includes a marine component, might be a source of funding for the SALSEA programme. The SALSEA programme has been developed as a concept document and individual Tasks would need to be further developed into research proposals if funding was to be sought from this Seventh Framework Programme.

6. Other business

- 6.1 There was no other business. The Group thanked Mr Meerburg for his excellent work during his time as the SAG Chairman.

7. Report of the meeting

- 7.1 The SAG agreed a report of its meeting.

8. Date and place of next meeting

- 8.1 The SAG decided to agree the date and place of its next meeting by correspondence.

List of Participants

Canada

Mr David Meerburg (Chairman)

Denmark (in respect of the Faroe Islands and Greenland)

Dr Jan Arge Jacobsen

European Union

Dr Malcolm Beveridge
Dr Niall O'Maoileidigh
Dr Ken Whelan

Norway

Dr Lars Petter Hansen

USA

Mr Tim Sheehan

Secretariat

Dr Peter Hutchinson

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**Meeting of the Scientific Advisory Group of the
International Atlantic Salmon Research Board**

**Palais des Congrès, Vichy, France
14.00 hrs, Sunday, 5 June, 2005**

Agenda

1. Opening of the meeting
2. Adoption of the agenda
3. Election of Chairman
4. Review of the updated inventory of research
5. The SALSEA Programme
 - (a) Report of the Dublin meeting
 - (b) Focused coordination of existing resources
 - (c) Recommendations to the Board
6. Other business
7. Report of the meeting
8. Date and place of next meeting