

SAG(03)3

Report of the First Meeting of the Scientific Advisory Group of the International Cooperative Salmon Research Board

ICES Headquarters, Copenhagen, Denmark, 11 April 2003

1. Opening of the Meeting

- 1.1 The Chairman, David Meerburg, opened the meeting and welcomed participants to the first meeting of the Scientific Advisory Group (SAG) of NASCO's International Cooperative Salmon Research Board (ICSRB), hereinafter referred to as "the Board". He indicated the importance of the meeting, in allowing scientists working actively in the field the opportunity to input to the priorities and operations of the Board. He briefly reviewed the report of the Board's first meeting in New York in December (ICR(02)12) and highlighted the timetable and mechanisms envisaged by the Board for the promotion of research on salmon mortality in the sea. As well, he outlined the process the Board had undertaken to produce its most recent inventory of research relating to salmon mortality in the sea, SAG(03)2. He mentioned that the Russian Federation was unable to attend this meeting, but their views on the work of the SAG had been received from Sergei Prusov prior to his departure from the meeting of the Working Group on North Atlantic Salmon.
- 1.2 A list of participants is contained in Annex 1.

2. Adoption of the Agenda

- 2.1 The SAG adopted its agenda, SAG(03)4 (Annex 2).

3. Review of Updated Inventory of Research and Recommendations for Enhanced Coordination of Research

- 3.1 The ICES Working Group on North Atlantic Salmon (WGNAS) was provided with the inventory (SAG(03)2) during their meeting of March 31 - April 10, 2003 to assist in their identification of research needs and data deficiencies. The SAG and ICSR objectives were broadly endorsed by the WGNAS as they noted that such research is expected to provide valuable information for assessments. They were not able, however, to consider the utility of individual projects until the results from such projects become available.
- 3.2 The SAG reviewed the project inventory and were pleased to note the many projects underway on issues related to research on mortality of salmon in the sea. However, the SAG also noted that not all projects related to research on salmon mortality in the sea were included in the list. The Group was informed that there were projects underway at various universities that were not included in the inventory. This may have happened because only the Contracting Parties to NASCO (that are mainly national governments) were requested, through the Members of the Board, to complete the inventory or difficulties may have occurred in contacting sources at the many universities and non-national government institutions. Also, there are several

institutions that can provide ecological information that is not directly related to salmon (i.e. sea surface temperature or phytoplankton time series) that could be very useful if linked to studies on salmon mortality in the sea. The list of projects is a very worthwhile tool that will enhance collaboration between researchers and is worth following up to ensure it is complete. The SAG concludes that the Board should request its Members to contact universities and other non-national government institutions for further information to include in the inventory.

- 3.3 The SAG concluded that a computer database, if made accessible on a website, would be desirable but the SAG thought that it should be kept simple. It should include only the project description and a contact person, linked to e-mail addresses and reports/publications. There could also be an institution link which would take the interested person to each institution website, which frequently include details on researchers and facilities. This would encourage researchers to become more aware of projects and would greatly facilitate collaboration between researchers in various fields. Also, it would be desirable to make a list of sources of knowledge or experts in the field who could be called upon to review projects and rank them.
- 3.4 The project inventory does not currently include any large-scale or multi-species projects. These types of projects are those that governments cannot currently afford to fund but are potentially very valuable. If a large-scale tagging project is considered desirable and fundable by the Board, then a desk study on tagging to determine a research protocol, including numbers and locations, would be a worthwhile project for funding prior to initiating large-scale projects.
- 3.5 The SAG concluded that there is a role that the Board could play to enhance coordination and collaboration amongst scientists working on sources of salmon mortality in the sea. For example, the Board could promote the exchange of scientists on research vessels and at land-based facilities where research is being conducted. The Board could also sponsor and fund workshops/symposia on salmon studies related to marine mortality and this could serve a useful function in bringing universities and government researchers together. For example, the SAG felt that the following topics could be considered for workshop/symposia:
 - Other species and marine organisms linked to salmon ecologically. How are they doing? What does this tell us about salmon mortality in the sea?
 - Migration models putting together current knowledge from tagging information, current speeds, sea temperature, showing potential locations for research vessel studies.
- 3.6 The Board could also facilitate the exchange of staff among countries and best use of facilities internationally, whereby expertise not available within one country or project that exists elsewhere could be funded to work on specific problems.

4. Development of Research Priorities

- 4.1 The SAG discussed the types of Atlantic salmon marine mortality issues that would be appropriate topics for future Board funding.

- 4.2 The top priority as defined by the SAG was research aimed at better defining Atlantic salmon migration patterns and marine distributions. The freshwater phase of Atlantic salmon has historically received much attention and focus, in part because of its accessibility to researchers, while the marine habitats have been under-studied. Lack of knowledge on marine distribution and logistical issues with capturing post-smolts have contributed to the inability to adequately sample Atlantic salmon in the ocean. This area of research is critically needed as many Atlantic salmon stocks worldwide are declining and marine mortality is a large contributing factor. Minute increases in marine survival can result in large increases in adult returns. Better defining marine migration patterns and distributions will allow for fine-tuning future research efforts to understand the causes of these declines.
- 4.3 Historically, efforts to define marine migration and distribution patterns in the sea have been focused on large-scale tagging efforts utilizing coded wire tags (CWTs) or Carlin tags. These efforts were reliant on home- and distant-water fisheries for tag recovery. Since many of these fisheries have been eliminated or greatly reduced, so have the opportunities for tag recovery. As a result, recovery programmes need to be well thought out and the possibility of recapturing these tagged individuals needs to be considered *a priori*. Thus, the cost-effectiveness of any future tagging efforts needs to be considered.
- 4.4 Significant advances have been made in tag development and further advances in miniaturization are expected in the near future. Individual identification tags are now available that are small enough to tag wild or hatchery smolts and post-smolts. These tags can perform a wide variety of functions. Ultrasonic telemetry tags can be used to track individuals as they migrate through the estuarine and near-shore environment through the strategic placement of fixed listening stations or through active tracking. Data storage tags (DSTs) can now store information on water temperature, depth and/or location for the time the tag is at large. These are just two examples of an alternative to the traditional large-scale tagging operations that have historically relied on commercial fisheries to generate tag returns. With advances in technology, although newer style tags may be more expensive, the amount of information that can be gained per tag can be extremely valuable (more data from fewer fish) and this can be crucial when dealing with small numbers of endangered fish.
- 4.5 Post-smolt trawl surveys involving live capture and release techniques have recently become an important component of numerous Atlantic salmon marine research programmes on both sides of the Atlantic. The benefits of these types of surveys are two-fold. The primary benefit is the directed research programme of the cruise, whether it is to define marine migration routes and distribution of post-smolts or to estimate the by-catch potential of specific pelagic fisheries. A secondary benefit is to serve as a platform to launch other related research initiatives, such as tag and recovery efforts or detailed biological and physiological sampling. These surveys have the potential to provide post-smolts to other interested researchers. Collaborative efforts should be pursued at every opportunity to maximize the amount of information collected during each research effort.
- 4.6 A study to summarise the information and resources related to salmon marine migration and distribution that are currently known and available was identified by the SAG as an important project that should and could be done immediately. A

comprehensive summary of this type would provide researchers with information to better target future research projects.

- 4.7 Efforts should be made to consider all possible extra benefits from research on causes of salmon mortality at sea. These extra benefits could be in the form of collaboration between different research projects through the sharing of resources or data collected or the collection of additional data that can be used by non-collaborating researchers. These types of data could be related to oceanographic conditions, predator observations, by-catch or other issues.
- 4.8 Although the marine issues for Atlantic salmon in the Eastern Atlantic may be different from the Western Atlantic, the commonality of the marine habitat ensures that all research is generally applicable to all stocks. In general, an important component to the Western Atlantic marine research has been the near-shore environment and the transition of smolts to post-smolts while Eastern Atlantic research has mixed stock fisheries and aquaculture interaction issues. A wide viewpoint is necessary as large-scale events may be responsible for influencing many of these processes.
- 4.9 After reviewing the current research inventory related to salmon mortality in the sea, the SAG concluded that the priorities assigned by the Board coincided with the priorities assigned by the group. In terms of research effort, the SAG felt that emphasis should be placed on better defining and understanding Atlantic salmon migration patterns and marine distributions. The group felt that these priorities were appropriate to use when evaluating research projects and whenever possible, international cooperation among the Contracting Parties should be given greater weight in the evaluation of projects.

5. Development of Draft Call for Proposals for New Research

- 5.1 The SAG agreed guidance for the Board on the content of a “Call for Proposals For New Research”, Annex 3.

6. Other Business

- 6.1 There was no other business.

7. Report of the Meeting

- 7.1 The SAG generally agreed a report of its meeting, with final edits to be agreed by correspondence.

8. Date and Place of Next Meeting

- 8.1 The SAG agreed that its next formal meeting would take place on the margins of the next meeting of the WGNAS, probably in Halifax, Canada in April 2004, with a date to be determined later. The SAG was also aware that it may have to meet by teleconference or in person in the fall of 2003 to evaluate research proposals if the Board receives these during the summer of 2003.

8.2 The Chairman thanked the participants for their contributions to the meeting. The work of the Group had got off to a very good start and he appreciated the very positive atmosphere in which discussions had taken place.

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

11 April 2003, ICES Headquarters, Copenhagen, Denmark

SAG(03)4

Agenda

1. Opening of the meeting
2. Adoption of the Agenda
3. Review of updated Inventory of Research and recommendations for enhanced coordination of research
4. Development of research priorities
5. Development of draft call for proposals for new research
6. Other business
7. Report of the meeting
8. Date and place of next meeting

CALL FOR PROPOSALS FOR RESEARCH

The North Atlantic Salmon Conservation Organisation's (NASCO's) International Cooperative Salmon Research Board (ICSRB), hereinafter referred to as "the Board", invites calls for proposals for "**Research into the migration, distribution and survival of North Atlantic salmon at sea**" focusing primarily on:

- *practical studies of the distribution and migration of salmon in the sea (including studies of by-catch in pelagic fisheries)*
- *studies of biological processes (e.g. environment, food, predation, growth, parasites and diseases) relating to the marine phase of the life-cycle.*

Within these broad areas the Board has identified the following sub-headings which are of particular interest:

Tagging

Large-scale marking or tagging (external, coded wire tags (CWT), PIT tags) - release and recovery programmes;

Tagging of adults, kelts, post-smolts or smolts with Data Storage Tags (DSTs);

Sonic tagging and active tracking of salmon movements;

Developments in electronic tag and data acquisition systems and technology.

By-catch

By-catch of salmon in near-surface pelagic trawling in the Norwegian Sea and elsewhere;

Identification of practical measures to reduce by-catch of post-smolts in these fisheries;

Development of sampling gears;

Inter-calibration of survey methods;

Practical methods to reduce by-catch.

Other

Oceanographic influences on migration and distribution and life-history of salmon;

Impacts of diseases, predators and parasites on salmon populations at sea;

Synergistic effects of predation/competition/food availability/freshwater influences on subsequent marine survival.

The Board will give priority to major multi-disciplinary and collaborative (multi-country) projects but will also consider smaller projects and proposals relevant to the topics above for:

Knowledge inventory studies;

Symposia and workshops;

Fellowships and studentships.

Funding may be provided in full or on a partial or matching basis.

An application form is available from the NASCO website or on request from the NASCO Secretariat.

The deadline for receipt of completed applications is: XX/XX/XX

The application form could include the following, as an example:

1. Project title

Give the application a brief title which describes the work to be done.

2. Applicant – Institution/company responsible for the project

As a general rule, an institution or company should be the formal applicant, with legal responsibility for ensuring that the conditions attached to an allocation of funds are met.

3. Project Leader

This should be the name of the technical expert responsible for the project.

4. Project summary

Provide a brief summary of the project description, with an emphasis on describing the objectives of the project, the most important R & D challenges and the potential for application of the project results. The project summary will be made publicly available via the Board's inventory. For this reason, the text should be capable of being understood by non-experts, and should not exceed 200 words.

5. Principal goal and sub-goals

Describe the results that are expected to be obtained in the course of the project period. Formulate individual demonstrable sub-goals which lead to the principal objective.

6. Milestones – timetable

Indicate milestones for the principal activities that fulfil the main objectives and sub-goals of the project (e.g. data-acquisition, field-work, main activities in study plan and final report). Check off these milestones by date (or possibly include a calendar or time grid). Use keywords – maximum of 45 characters. A more detailed timetable may be provided in the project description.

7. Cost plan

The cost plan for the project should be summarized and preferably broken down into sub-costs (e.g. capital costs, contracts or services, consumables, travel and subsistence).

Personnel costs and indirect costs

Personnel costs and indirect costs cover salary, social security and indirect costs such as rent, secretarial help, telecommunications and computing costs, etc.

The “Project total” should show the same amount each year as the total in section 8: “Finance plan”.

The Board should consider fixed rates for fellowships and certain types of positions. Companies or institutions may also calculate personnel costs and indirect costs on the basis of their own employees’ hours of work on the project and their hourly rates. Consider only work done by their own R & D personnel, i.e. the project manager and research and technical personnel.

8. Finance plan

The finance plan should show how the costs shown in the cost plan are to be financed and the amount sought from the Board.

Own funding

This refers to the applicant’s institution’s input of own resources such as cash, personnel, infrastructure/goods/equipment into the project.

Other public-sector funding

This refers to public-sector grants such as direct support from ministries, the grants from the State Fund for Regional and Industrial Development, regional support schemes, funds from agricultural or fisheries agreements, local authority industrial development funds, etc.

Other private funding

This includes financial support from cooperating companies, trade organizations, private funds, etc. State-owned companies that operate as commercial concerns are also regarded as sources of private funding in this respect.

9. Active partners

Enter national and international partners who will participate actively in the project. Provide names of persons, universities, institutes, companies, programmes, bodies, etc. Confirmation provided by such partners of their participation in the project should be enclosed with the application. Enter the name of the doctoral fellowship or student supervisor if he or she is not the project manager.

10. Project publication plan

The Board considers that dissemination of information about the projects it supports is very important. Provide brief details of goals, target groups and type of information to be provided.

11. List of enclosures

List all documents enclosed with the application as backup and possibly confirmation of the skills and background of the proposers.

12. Signatures

The Board requires the signatures of the project manager and of a representative of the institution or company responsible for the project and may want to further develop the requirements regarding project manager and institution. If possible, candidates for fellowships or research positions should sign when their names have been confirmed.

Project description

The project description should provide more details of individual points in the application form and offer a basis for academic evaluation of the project proposal. The project description must not exceed 10 pages (including the list of references). (Recommended norm: A4 page format, 12pt Times New Roman font, single line spacing and 2cm margins). A distinction should be made between background material and planned activities. For the application to be considered, the project description must provide information on the following topics, where relevant.

Familiarity: The applicant must document good familiarity with the field of research concerned, both nationally and internationally.

Problem: The problem must be clearly formulated and satisfactorily limited in scope. It must be demonstrated that the project involves an expansion of existing knowledge, and/or that this knowledge provides a basis for further research in the field.

Method: It must be demonstrated that the methods and theories to be used are appropriate for the solution of the problem involved, or that there are good prospects of developing the necessary methods and theory. Analytical methods, including any statistical methods needed to evaluate the significance of the results, should also be described.

Objectives: Concrete, testable main objectives that provide a description of the expected results of the project must be formulated, as well as a set of sub-goals that will lead to the principal objectives.

Ethics: The project description must describe how ethical considerations are taken into account, where appropriate.

Implications for the environment: An assessment must be provided of whether the results of the project will have significant effects (whether positive or negative) on the physical environment. If such is the case, the project description must describe whether there is a need for research related to the environmental consequences, and whether the project has defined objectives or sub-goals that aim to shed light on the environmental implications.

Research Fishing: If the proposal includes research fishing, details should be provided of the purpose of the research fishing; the dates of research fishing; the area in which research fishing will take place; the name, registration, call sign and a description of any participating vessel; the type and amount of gear to be used and the estimated total weight and number of salmon to be retained.

Timetable: A more detailed timetable than that shown in item 6 may be drawn up. At least one milestone must be identified.

Information: Describe plans for information dissemination and user contact, including purpose, target groups and form of information dissemination, and, if appropriate, usefulness and application potential.

Resources: Information should be provided (directly as well as indirectly via the project manager/group of researchers) regarding the resources available to the project.

Professional position: Describe the position of the project with respect to the institution's or company's range of activities, and any co-operation or co-operative agreements with other projects or institutions.

Information regarding professional competence

Project managers should submit their CV with a list of relevant publications for the last 5 years (maximum of four pages).

Specifically named persons for whom fellowships or positions are being sought must document their competence by submitting a CV and a list of publications of a maximum of 4 pages (the applicant should prioritise the information provided if necessary), as well as copies of relevant references and certificates. In applications for doctoral fellowships that are to be dealt with a brief presentation of the supervisor's or project manager's research supervision experience during the previous five years should be provided, stating the number of candidates who have completed their doctoral or master's degree. Similar supervisor information is required for all applications for studentships. Candidates for post-doctoral fellowships who have not completed their doctorate must provide a list of the articles that will be included in their doctoral dissertations.

Project managers who lack qualifications as senior lecturer/associate professor must document their competence in the same way as the persons for whom studentships are being sought.

Costs and financing

The process of evaluating project applications requires information regarding costs and financing, including the company's or institution's own contribution of resources.

Experts

The Board may wish to be able to consult referees proposed by applicants in addition to their own appointed experts when handling applications.

Please list the names, titles and addresses of three persons with a thorough knowledge of the applicant's field of research, who may be consulted as referees.