

Science Management Board

April 22, 2008

1. Opening Remarks

The Deputy Minister opened the sixth meeting of the Science Management Board (SMB) by welcoming the meeting participants, and recognizing the important role of the Board and the contribution of its members. The Board approved the agenda (see Annex).

After a brief update on the status of all action items, the Board adopted the meeting minutes from October 11, 2007. Two action items from the last meeting were noted:

At-Sea Science: The Board suggested that more discussion was required prior to developing a vision for an At-Sea Science Program for Canada (see minutes from Oct. 11, 2007).

DFO Science and Universities workshop: The Board decided to move forward with developing a proposal for a national inventory of marine and freshwater expertise (federal and university). The proposal should focus on a few priority areas to test the feasibility of any expanded inventory, and be linked to regional fora to augment existing inventories (see minutes from Oct. 11, 2007).

2. Science Outreach Strategy

W. Watson-Wright presented an overview of the *Science Outreach Strategy*, which emphasized the goals of the Strategy, including the development of an action plan. Emphasis was placed on the rationale for the Strategy, including areas of importance such as audience and partner confirmation; specific activities both planned and currently underway and; and proposed next steps.

There was broad support for the Strategy from Board members, along with a substantive discussion regarding its implementation. Several suggestions were proposed by the Board including:

- a) linking the Science Outreach Strategy to other potential partners, including other federal departments (e.g. use of Science.gc.ca),
- b) refining the target audience(s) for the Strategy, both internally and externally (i.e. enhancing collaboration with stakeholders),
- c) developing packages of material for school age children,
- d) making use of benchmarks to track progress (e.g. number of annual visits to schools or web site visits),
- e) inclusion of non-government organizations (NGOs) as delivery partners,
- f) benefiting from Traditional Ecological Knowledge (TEK),
- g) encouraging “two-way” communications with partners, and including research scientists themselves,
- h) making use of regional Federal science councils (e.g. Atlantic) to advance the outreach agenda, and
- i) communicating some of the challenges and uncertainty of producing science products within complex and ever-changing aquatic ecosystems (e.g. research within the context of global climate change).

The Deputy Minister summarized the discussion by emphasizing the elements of innovative partnerships, proactive communication, and increased linkages with the traditional media. In addition to Science outreach, “in-reach” within the Department has to be an important component of the strategy. The chair also stressed the need to focus on priorities within the action plan

ACTION 1: The Science Outreach Strategy was approved.

- **Science will develop an action plan that will focus on key priorities.**
- **Science will report back to the Board regarding progress of implementation.**

3. Science Peer Review and Advice

W. Watson-Wright introduced the item, indicating that scientific peer review for the provision of advice is critical to the DFO Science program. S. Labonté presented *Science Peer Review and Advice: the Path Forward*. This agenda item was in response to a request at the last SMB meeting to report on peer review processes, their subsequent uptake by clients, and the use of priority setting in the exercise.

The presentation focussed on a description of the current peer review process, discussed a recent internal evaluation of the process, and proposed some specific improvements to the review process, including making use of risk-based planning. The important findings of the evaluation included the recommended use of more proactive planning, addressing concerns about participation in the peer review meetings, improving communications of the results, and increasing the quality and relevance of the scientific advice. These proposed changes will improve the peer review process.

The presenter emphasized making better use of risk and uncertainty in the planning for peer reviews, and stressed the following aspects; need for approval of advice, making use of reference points and limits within the advice provided, training of future Chairpersons, ensuring that the science advice process is at “arms-length” (absence of political-management interference, lobbying by stakeholders and personal agendas), and using appropriate consultation mechanisms to convey the results to managers and stakeholders. The use of a “risk-management” approach to the peer review process was welcomed as a response to Deputy Minister direction.

Discussion – Action Plan:

The ensuing discussion raised several points appropriate for consideration within the science peer review process. These points included:

- a) the need to account for and communicate “uncertainty” in the provision of science advice (e.g. changes in oceanographic conditions and productivity, influences of climate change on salmon returns, etc.),
- b) the need to clearly separate participation in advisory processes from broader consultation.

- c) the concept of a “two-tiered” process for the provision of science advice, which would bring together first (1) scientists and industry to discuss data and information and then (2) internal and external scientific experts to peer review the information and draft the scientific advice.
- d) the use of data compilation workshops to ensure independence of the science,
- e) the importance of development and validation of established models to create a “tool box” for stock assessment,
- f) increasing the collaboration between Centres of Expertise and the peer review process,
- g) considering how to include traditional ecological knowledge (TEK) in assessments,

Improvements to the process over the course of the last year were recognized by the Board, including enhanced collaboration with client sectors (i.e. working together to establish Terms of Reference for peer reviews). For new and emerging areas (e.g. *Species at Risk Act* assessments) and for areas in which DFO lacks specific expertise (e.g. some freshwater species), it may be necessary to enhance participation via inclusion of more external experts. There was also some discussion on “observer” status at peer reviews, which was not seen as desirable.

ACTION 2: The Board directed Science to move forward with a refined Action Plan, including the potential use of pilots for a two-tiered process for peer review.

Discussion: Risk Management Approach:

There was broad interest and support by Board members in the use of a risk-management approach within the provision of scientific advice. It was noted that a risk-based approach should consider Departmental priorities, and address provision of advice over the short, medium, and long terms.

The Deputy Minister noted the importance of separating the peer review process from stakeholder consultation. It was also suggested that a risk-management approach could be more proactive with respect to emerging issues.

ACTION 3: Science, in collaboration with other Sectors, to move forward with the development of a risk-based approach to prioritize the provision of peer-reviewed scientific advice.

4. Developing a Framework for Provision of Socio-Economic Advice

The SMB was joined by B. Doubleday (Director General, Economic Analysis and Statistics) for a presentation regarding the provision of socio-economic (SE) advice. The presentation noted that socio-economic analysis is an important consideration for DFO program and policy choices. Important considerations include employment, income, competitiveness, profitability, and the potential impacts on communities. Additional context was provided as to Policy Sector’s economic and statistical analysis functions, and their support of other national and regional programs. An overview of the Departmental investment in the SE program was presented,

along with further detail on analysis and research, and a description of how SE data is collected and managed. Peer review of SE analyses was noted to be a key element of the SE framework, with emphasis being placed on *Species at Risk Act* analyses.

Discussion:

It was noted that fisheries management decisions should include these types of SE analyses, not just for SARA-related species, but also within the broader context of fisheries management plans. The question was raised as to how to incorporate these types of analyses into decision-making, given that social considerations are becoming more important over time. It was also highlighted that SE analyses occur within other sectors of DFO (e.g. Oceans Directorate). It was recommended that any SE peer reviews should include other government departments, based on their respective mandates and expertise, along with the need to include ecosystem goods and services within these analyses. How and where scientific and socio-economic advice are integrated in decision-making needs to be discussed.

ACTION 4: Policy to bring this subject of peer reviewed socio-economic advice to DMC for further discussion.

5. Centre of Expertise (COE) on Hydropower Impacts on Fish and Fish Habitat

J-D. Dutil (Director, COE on Hydropower Impacts on Fish and Fish Habitat) joined the Board for a lunchtime presentation of the progress and achievements of this COE. For full content, please refer to the presentation as included in the distributed materials.

Discussion:

The Board commended Dr. Dutil for the excellent presentation and recognized the importance of data management and developing GIS to facilitate informed management decisions.

ACTION 5: The Deputy Minister acknowledged the informative presentation, and asked for presentations from other COEs and/or Ecosystem Research Initiatives (ERIs) at future meetings of the SMB.

6. National Science Managers Workshop: Outcomes

S. Labonté presented the key conclusions of the National Science Managers workshop held in Montréal in February 2008. Highlights of the presentation included a workshop overview, a description of the individual theme sessions and associated recommendations, and workshop conclusions. For full content, please refer to the presentation as included in the distributed materials.

Discussion:

Board members expressed an interest in seeing the presentation content of the Montreal

workshop. There was particular interest by Board members in the priority matrix for Centres of Expertise (COE), Ecosystem Research Initiatives (ERI), and Climate Change Science Initiatives (CCSI). The Deputy Minister sought a method by which to compare the various ERI programs. It was noted that this will be addressed within the forthcoming Science Research Plan, which will be discussed at the next Board meeting.

ACTION 6: Board members will be provided with the internet access to the complete presentations from the Montreal workshop.

ACTION 7: Science to address linkages and common elements between ERIs in the Science Research Plan.

7. Climate Change Presentation and Discussion

K. Denman spoke about DFO's role with respect to climate change. Main points included an overview of climate change and its impacts, science needs, DFO's response to date, and a proposed "way forward". For full content, please refer to the presentation as included in the distributed materials.

Discussion:

There was much discussion on the topic of climate change, and the question of adaptability of organisms, along with several examples of how fisheries population trends might change (e.g. Pacific chum and pink salmon increases, sockeye salmon range reduction). The need for a Departmental, policy-level discussion regarding climate change was raised, with the particular examples of SARA species assessments and fisheries enhancement programs suggested.

The question of scientific capacity was raised particularly with respect to climate and oceanographic modelling. From a research perspective, it was noted that scientific manpower was a more immediate need relative to computer modelling capacity. Further points were raised that the provision of science advice should consider the impacts of climate change, and that the Department should conduct monitoring to determine the efficacy of management actions with respect to climate change.

The Deputy Minister sought adaptive measures that the Department could implement now with respect to climate change, and suggested the selection of two or three pilot areas for future discussion (Pacific Region a potential candidate study area).

8. Conclusion and Forward Agenda

The Deputy Minister closed the meeting by thanking all the Board members for a productive meeting that was both helpful and a worthy investment of time. She asked that the Forward Agenda for the next meeting of the SMB include the following topics:

- a) Science Research Plan

b) Centres of Expertise – how emerging issues are addressed

Ecosystem Research Initiatives (ERIs).

(i) potential products for decision-making

(ii) interactions and common elements between various ERIs.

c) Attendees

Deputy Minister (chair) – Michelle d’Auray

ADM, Science – Wendy Watson-Wright

ADM, Fisheries and Aquaculture Management – David Bevan

ADM, Oceans and Habitat Management – Mimi Breton (via videoconference)

Regional Director General, East – Jim Jones

Regional Director General, West – Bob Lambe

Chair, Science Advisory Council – Dr. John Leggat (for Dr. Arthur Collin)

Senior DFO Research Scientist – Dr. Kenneth Lee

Senior DFO Research Scientist – Dr. Richard Beamish

Senior DFO Research Scientist – Dr. Kenneth Denman

Regrets:

Dr. Arthur Collin

Invited Presenters:

Barbara Adams (Science Outreach)

Bill Doubleday (DG, Economic Analysis and Statistics)

Jean-Denis Dutil (COE, Hydropower Impacts)

Science Sector

Serge Labonté (Senior Director General, Science Renewal)

Roger Wysocki (National Coordinator, CSAS)

DFO Science Management Board Agenda

Tuesday, April 22, 2008, Deputy Minister Boardroom

Chair: Deputy Minister

- 09:00 **Opening Remarks** – Michelle d’Auray
- Introduction – Wendy Watson-Wright
- Review and approval of October 11, 2007 minutes, plans for today
- 09:20 **Science Outreach Strategy**
- Presentation of the Science Outreach Strategy – Wendy Watson-Wright
 - Discussion of the Strategic Science Outreach document
 - General discussion and approval of the Strategy
- 10:15 Break
- 10:30 **Science Peer Review and Advice**
- Presentation on Science Peer Review and Advice – Serge Labonté
- Overview of the Peer Review and Advice Process
 - Challenges to moving this process forward
 - Discussion on processes, uptake and priority setting
- 11:30 **Developing a Framework for Socio-economic Advice**
- Presentation on assessing a peer review framework for socio-economic advice – Bill Doubleday
- 12:15 **Working Lunch**
- Presentation on CHIF (Centre of Expertise on Hydropower Impacts on Fish and Fish Habitat) – Jean-Denis Dutil, Director of CHIF
- 13:15 **National Science Managers Workshop: Outcomes**
- Presentation on the key conclusions and recommendations – Serge

Labonté

A report card on the Ecosystem Research Initiatives and Science
Centres of Expertise

General discussion on the Research Plan

14:00 **Climate Change Discussion**

- Presentation on the Impacts of Climate Change – Kenneth Denman
- General discussion on Climate Change and its impacts on DFO Science

15:00 **Closing**

Forward Agenda

Concluding Remarks – Michelle d’Auray

15:15 End of Meeting

Supporting Documents

Minutes, October 11, 2007 meeting

Deck on the Science Outreach Strategy

Strategic Science Outreach document

Deck on Peer Review and Advice

Slide on SAGE Principles

Deck on Framework for Socio-economic Advice

Deck on the National Science Managers’ Workshop

Deck on the Impacts of Climate Change