

Science Management Board

Minutes of Meeting: November 28, 2008

Ottawa, Ontario

1. Opening Remarks

The seventh meeting of the Science Management Board (SMB) was called to order by the Deputy Minister. Wendy Watson-Wright reviewed the meeting agenda and spoke to the purpose of each item, noting that the *Five Year Research Plan* and the *Risk Framework for Scientific Advice* were the two substantive items that Science was seeking approval to implement in 2009-10. The Board approved the agenda (see Annex) and the minutes of the previous meeting (April 22, 2008). Follow-up action items associated with the April 22, 2008 SMB meeting were determined to be adequately addressed.

2. Five Year Research Plan

Serge Labonté presented an overview of the *Fisheries and Oceans Science Five Year Research Plan* in support of the *Fisheries and Oceans Canada Five-Year Research Agenda (2007-2012)*, including the strategic context, key goals, and initiatives (Ecosystem Research Initiatives (ERIs), Climate Change Science Initiative (CCSI), and Centres of Expertise (COEs)). The Board considered how the initiatives can best address emerging issues and deliver the necessary scientific products to support decision and policy making.

In reviewing the *Research Plan*, Board members remarked that:

- It is important to acknowledge the international context in which the Plan is situated.
- There is significant potential for cross fertilization between the different research initiatives (ERIs, CCSI, COEs) in addressing the research priorities.
- There is good integration and alignment between the research initiatives and research priorities. Each priority is addressed by at least twelve research initiatives.
- To retain a degree of flexibility, the mandates of the ERIs, CCSI, and COEs should allow for emerging priorities
- The Plan should remain 'evergreen' in the sense that adjustments to the Plan in response to requests for science advice are reflected. It should be formally reviewed every 2-3 years to ensure ongoing relevance.
- The Plan will enable a more strategic proactive approach to knowledge requirements and minimize the need for tactical reactive science (i.e. 'just in time science').
- The practical reality at the operational/program level is that the application of resources is constantly questioned and evaluated, and consequently there is an ongoing dynamic realignment of resources. The Plan will provide useful guidance in making these choices.
- Translating the results of the research into advice that responds to the precise needs of client sectors is a priority.
- Both science and sector clients have a responsibility to ensure questions pertaining to scientific advice are well framed and plausible.
- Consideration should be given to establishing a mechanism for national dialogue regarding future issues and adjustments to the Plan.

- It is useful to consider the objectives of external clients when formulating questions requiring scientific advice.

ACTION: Science Management Board strongly supports the Fisheries and Oceans Science Five Year Research Plan

3. Regional Science Plan

Mike Sinclair presented an illustration of how the Gulf of Maine Area Ecosystem Research Initiative provides knowledge in support of national and regional priorities requiring science advice, via the Maritimes regional planning process was provided. The report associated with the outcomes of this process is to be completed shortly.

Board members made the following observations:

- The planning process used illustrates the benefits of an integrated approach, from the interpretation of national priorities to the establishment of applied regional priorities and plausible scientific lines of inquiry.
- Downscaling the impacts of climate change to the regional level is a challenge. Some impacts are more immediate whereas others are longer term.
- Collaborative work on ecosystem overviews and climate change with Environment Canada (EC), through the Centre for Ocean Model Development and Application (COMDA), and Natural Resources Canada (NRCan), within the constructs of an Ecosystem Research Initiative (ERI), is currently underway.
- The Department is fortunate to have long term data sets from which to draw upon.

4. Monitoring Program – Pacific Region

Serge Labonté gave a brief overview of the Pacific Region Monitoring Program in order to demonstrate the utility of the Program, typical monitoring parameters, geographic coverage, and associated challenges, both present and future.

Discussion points included:

- DFO Science will be exploring opportunities with Environment Canada to harmonize elements of their respective monitoring programs.
- Monitoring will be a fundamental element of future Arctic related proposals.
- It would be useful to replicate the Pacific Region Monitoring Program Matrix for all regional monitoring programs.
- The importance of maintaining a comprehensive monitoring program (i.e. pH, ocean acidification, and climate change).
- Arctic and freshwater monitoring programs are lacking in comparison to well established Atlantic and Pacific monitoring programs.
- Decisions concerning adjustments to long term monitoring programs are difficult to make. In particular, it is difficult to discontinue a parameter without risking the integrity of data sets.
- Industries such as oil and gas (offshore and inland), aquaculture, etc. are often required to undertake monitoring programs to ensure compliance or fulfill obligations associated with permits and/or authorizations. It may be worthwhile exploring the possibility of accessing this data to supplement existing monitoring efforts.

- In a post Laroque era, consideration must be given to the constraints of using industry generated data.
- Would the monitoring function transfer to an external party under a scenario in which the responsibility to manage a resource was transferred to an external party?

ACTION: SMB suggested that a monitoring grid (similar to the one developed for Pacific) be developed and linked to ecosystem monitoring requirements. Strengths and weaknesses should be identified; alignments proposed; and a strategy should be developed to fill critical gaps.

6. Improving Stock Assessment – Technical Expertise in Stock Assessment Program (TESA)

Dave Gillis briefed the Board on a new initiative to improve the quality and consistency of Stock Assessment across Canada, entitled the Technical Expertise in Stock Assessment Program (TESA). The initiative will promote expertise through the establishment of a stock assessment methods committee, an annual national stock assessment methods conference, and a technical training and upgrading program.

With regard to the TESA initiative, members commented that:

- The Steering Committee should consider including non-science members (e.g. managers) on the Steering Committee and/or providing an alternate opportunity for interaction where appropriate.
- It is important to capture expertise that resides in external organizations, such as the International Council for the Exploration of the Sea (ICES) and National Oceanic and Atmospheric Administration (NOAA).
- Industry may have expertise to contribute.
- Consider including a member of the Fisheries Resource Conservation Council (FRCC) and the Pacific Fisheries Resource Conservation Council (FRCC) on the Stock Assessment Methods Committee (SAMC).
- TESA presents an opportunity to transfer knowledge and integrate the expertise of stock assessment practitioners who have or will be taking their retirement.
- It would be interesting to engage the Network of Centre of Excellence (NCE) MITACS in the mathematical analysis and review of existing stock assessment models.
- Explore opportunities to integrate Traditional Ecological Knowledge (TEK) into models.

ACTION: Science was encouraged to move forward with the TESA initiative, taking into account the above suggestions.

7. Risk Framework for Scientific Advice

In follow up to the review of the CSAS peer review process in January 2008 and the direction of the SMB (April 2008), Ghislain Chouinard presented a risk-based approach to prioritizing the provision of science advice for the approval of Board members.

Members noted that:

- Risk is extremely difficult to quantify in a meaningful way.
- The risk tool is designed to be applicable to advice being requested under the CSAS process and is not intended for use within the context of a foresight exercise.

- The Framework should be evaluated after one year to determine if any refinements to the methodology and/or its application are necessary.
- In addition to considering the output of the risk tool, there is value in qualitative discussion concerning identified risks.
- The Framework brings rigour to the setting of priorities and will balance the supply side with the demand for science advice.
- Framing a scientifically plausible question for advice is difficult, whereas describing the issue associated with the question is straightforward.
- The Framework process may be useful in balancing responses against regional and national priorities.
- The 'request for science advice' form is an important interface between the client sectors and Science.
- It may be useful to have an inclusive discussion with all client sectors simultaneously during the annual prioritization process.
- International commitments must be considered as such within the prioritization process.
- The requests for science advice that do not make the final advisory list can inform the proactive science agenda.
- It would be useful to be able to quantify the lost economic opportunity associated with the risk of not having scientific advice.
- The risk-based approach to prioritization which enables the formal consideration of risk in decision-making is viewed favourably by the audit and evaluation community.

ACTION: The Risk Framework for Scientific Advice was approved for implementation. Science to report back to SMB in one year with an evaluation of the Framework to determine if any refinements to the methodology and/or its application are necessary

8. Strategic Science Outreach

As per the direction of the SMB (April 2008 meeting) an update on the implementation of the *Strategic Science Outreach Strategy* as well recent and future communication initiatives was provided by Wendy Watson-Wright. The ADM Science indicated that the Department's Science Advisory Council has been instrumental in the development of the Strategy and is continuing to provide guidance throughout its implementation.

Board members offered the following observations:

- The Science Annual Report is an excellent initiative.
- The '100 years of aquatic science' exhibits were exceptionally well done. The exhibit should be displayed at Parliament Hill.
- The 'number of hits' on the Science Internet site continue to increase.
- In speaking with students at career fairs across the country they seem to be well informed as to the science aspects of the Department's work.
- Oceans Day and the Canadian Oceans Lecture Series present significant opportunities to communicate the work of Science.
- The career fairs have been productive with regard to recruitment and positive interaction with recent graduates.
- There is evidence that the external perception of the Department's Science Program is improving. The Department has demonstrated its increasingly progressive approach to science and recent graduates are expressing an increased level of interest in joining the

Department.

9. Forward Agenda and Closing Remarks

The Board discussed bringing forward the following agenda items for consideration at the next SMB meeting (April 2009):

- Schedule of Advice for 2009-10 using the *Risk Framework for Scientific Advice*
- Management of Scientific Data
- International Science Strategy
- Knowledge Translation Plan
- Foresight issues, such as iron fertilization and acidification of the oceans
- Climate Change Indicators Project
- Possible oceans related lines of inquiry for consideration by the Council of Canadian Academies (e.g. environmental and societal implications of extracting oil, sustainability of the seal hunt).
- The forward agenda for Arctic research after the conclusion of International Polar Year (IPY).

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.

Attendees:

Deputy Minister (chair) – Michelle d’Auray
ADM, Science – Wendy Watson-Wright
ADM, Fisheries and Aquaculture Management - David Balfour (for David Bevan)
ADM, Oceans, Habitat and Species at Risk Sector - Wayne Moore (for Mimi Breton)
Regional Director General, East – Faith Scattolon (for Jim Jones)
Regional Director General, West – Bob Lambe
Chair, Science Advisory Council – Dr. Arthur Collin
Senior DFO Research Scientist – Dr. Kenneth Denman

Regrets:

Senior DFO Research Scientist – Dr. Kenneth Lee

Invited Presenters:

Regional Science Director, Maritimes Region - Mike Sinclair
Director, Fish Population Science - Dave Gillis
Director, Canadian Science Advisory Secretariat (CSAS) - Ghislain Chouinard

Science Sector:

Senior Director General, Science Renewal – Serge Labonté
Director General, Ecosystem Science – Sylvain Paradis
Director General, Integrated Business management – Jacquie Gonçalves
Senior Advisor - Karen Davison.

DFO Science Management Board Agenda

November 28, 2008, Deputy Minister Boardroom

Chair: Deputy Minister

- 09:00 **1 - Opening Remarks – Michelle d’Auray**
- Introduction – Wendy Watson-Wright
- Review and approval of April 22, 2008 minutes, plans for today
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- 09:15 **2 - Five Year Research Plan**
- Presentation of the Research Plan – Serge Labonté
 - Discussion on how best the ERIs, CCSI and COEs can:
 - Address emerging issues
 - Deliver scientific products for decision and policy making
 - Discussion on how the research done under the plan help address regional issues
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- 10:30 Break
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- 10:45 **3 - Regional Science Plan**
- How regional plans are linked to the Science Framework of the Future and support regional priorities
 - Presentation: Maritimes as an example – Mike Sinclair
 - General discussion
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- 11:30 **4 - Monitoring Program**
- How monitoring programs enable DFO in assessing aquatic resources and ecosystems
 - Presentation: Pacific Marine Monitoring as an example – Serge Labonté
 - General discussion

- 12:15 **5 - Working Lunch**
- Presentation on the management of Scientific Data – Bob Keeley
- 13:15 **6 - Improving Stock Assessment**
- Presentation of the Technical Expertise in Stock Assessment (TESA) program – Dave Gillis
- 13:45 **7 - Risk Framework for Scientific Advice**
Presentation of the Risk Framework – Ghislain Chouinard
Discussion on Framework and Way Forward
- 14:45 **8 – Strategic Science Outreach**
- Update on progress – Wendy Watson-Wright
- 15:00 **9 - Closing**
Forward Agenda
Concluding Remarks – Michelle d’Auray
- 15:15 End of Meeting

Supporting Documents

Minutes, April 22, 2008 meeting
Deck on the Research Plan
Research Plan document
Deck on regional Science Plan - Maritimes
Deck on Monitoring Program - Pacific
Deck on Improving Stock assessment
Deck on Risk Framework for Scientific Advice
Deck on Science Outreach