Science Management Board
Record of Decision: October 27, 2009
Ottawa, Ontario

Attendees:
Matthew King, Associate Deputy Minister
Wendy Watson Wright, ADM Science
David Balfour, A/ADM Fisheries and Aquaculture Management
Ian Matheson, A/ADM Oceans, Habitat & Species at Risk
Paul Sprout, Regional Director General (Pacific)
Jim Baird, Regional Director (Maritimes) (for Faith Scattolon)
Art Collins, Chair, Science Advisory Committee
John D. Neilson, Senior DFO Research Scientist
Kenneth Denman, Senior DFO Research Scientist

Regrets: Claire Dansereau, Deputy Minister

1. Opening Remarks

Wendy Watson-Wright, ADM Science facilitated the meeting. Brief introductory remarks and a welcome to new Senior Scientist representative Dr. John Neilson preceded a review of the agenda, the minutes from the last Science Management Board and a progress report on direction and action requested at the April 17th 2009 Board.

Update and Progress Report from April SMB:

International Science Strategy Action Plan:

- The DFO International Science Strategy has been published and is available on the Department's Web site. A mapping exercise of all DFO's international science activities is underway and criteria for engagement are being developed. This work will be completed by the end of 2009.
- Science is working closely with the new International Affairs Directorate to ensure that science support is directed towards the Department's priorities for international fisheries management and policy development.
- DFO Science is pursuing collaborations with the National Oceanic and Atmospheric Administration (NOAA) in the United States and Norway (Institute for Marine Research) both of which were identified as high-potential countries in the bibliometric study undertaken for the strategy development. Additionally, a meeting was held with senior NOAA representatives to identify priorities for collaboration.

Coordination on the Arctic:

- In recognition of the importance of Arctic aquatic ecosystems and in keeping with the spirit of the Government's Northern Agenda initiative, the Department has created the position of Executive Director, CCG Arctic Strategies, Canadian Coast Guard, and has appointed Lori Ridgeway to this new role.

- Science Sector continues to work closely with colleagues within DFO and across the federal government on the Northern Strategy.

Decisions:

- The agenda for the meeting was approved.
- The minutes from the April 17, 2009 meeting were approved.

2. The Increasing Intensity and Spectrum of Ocean Use

Presented by Wayne Moore, Director General, Oceans Directorate

Purpose

An exploration of emerging priorities and changing demands for oceans science information, the evolution of oceans science activities and guidance, and whether this progression may require the Science Program to reposition itself.

Key Issues Discussed:

- Resulting from significant growth in aquaculture production, global consumption of farmed aquatic species exceeds consumption of the wild capture fishery. This changing ratio of consumption marks a significant change in the Canadian fisheries industry that will have an impact on the application of Science resources.
- The ability of Fisheries and Oceans Canada (DFO) to respond to the increasing intensity and spectrum of ocean use is in large part, dependent on the availability of ecosystem science-based information to inform decision-making.
- The department can not expect science to provide absolute answers. Rather, the role of science should be to inform debates and regulatory decisions and to provide clarity wherever disputes over contested ocean space arise.
- The complexity of oceans related questions that are asked of DFO Science cannot be answered unilaterally nor through single species or single issue oriented science. Partnerships with other federal science-based departments and agencies (SBDA) are necessary in order to develop a broader ecosystem understanding. Partnerships with industry (e.g. oil and gas) are also important, and in many cases, industry players are willing to contribute resources to science missions that will yield joint benefits.
- Priority setting exercises should reflect that nature of the resources being managed. There are fundamental differences in managing non-renewable extractive resources such as oil and gas versus renewable resources such as fish stocks. A fundamental question remains, should the economic value of ocean resources determine science priorities?
- Over the last 15 years, there has been significant growth in Environmental Non-governmental Organizations (ENGOs). ENGOs typically lobby government to pursue conservation objectives in favour of resource

exploitation objectives. In terms of Science priorities, what should the balance be?

- Regulatory frameworks often do not keep pace with the rapid emergence of new ocean-uses. Decision-making frameworks should be established to ensure that emerging oceans industries are neither hampered nor aquatic environments jeopardized by Government's slow regulatory development processes.

Direction:

- In the context of Canada's submission to the United Nations Convention on the Law of the Sea (UNCLOS), DFO should give some consideration as to whether there is sufficient science-based information to support the sustainable development and management of the additional ocean resources that Canada will gain access to if the UNCLOS submission is accepted.
- Given the vast geographical scale of DFO's mandate, a national framework for science priority setting would help to ensure that the department's resources are concentrated in the most pressing areas.
- The future for science priority setting must engage a broader range of stakeholders and move away from bilateral negotiations and outcomes. A multilateral collaborative model has the potential to leverage partner resources and yield more robust science.
- The appointment of Deputy Minister Dansereau as the Champion for Federal Science and Technology represents an opportunity for DFO to exhibit leadership and mobilize federal collaboration to advance oceans science.

3. Nautical Charting and Seabed Mapping

Dale Nicholson, Director, Canadian Hydrographic Services, Burlington

Purpose

An overview on nautical charting and seabed mapping, why they are critical DFO Science activities, and how current and emerging priorities (arctic charting, oil & gas exploration) are placing increased pressure on the Canadian Hydrographic Service. Key initiatives, risk management, challenges, and successes, will be addressed.

Direction:

- RDGs should be formally consulted in the process for determining high priority zones that require either new or updated nautical charts.

4. Working Lunch: Presentation on Centre for Aquatic Biotechnology Regulatory Research (CABRR)

Bob Devlin, Director of CABRR

Purpose

To explore DFO Science biotechnology and genomics work and the role of the Centre for Aquatic Biotechnology Regulatory Research, the regulation of aquatic organism products of biotechnology (e.g., genetically modified fish) and the critical issues for DFO and DFO Science, Canada, and the world, related to an evolving fishery.

5. Best Practices in DFO – Industry Collaboration: Aquaculture as a case study

Jay Parsons, Director, Aquaculture Science

Purpose

In response to SMB request for information on our collaboration with industry, DFO Science's relationship with the aquaculture industry will be discussed with emphasis on its successes, best practices and challenges; and to explore whether these are transferable to other regulated ocean industries (e.g., offshore oil and gas).

Direction:

- The role of science in aquaculture should be re-evaluated. For example, the Department's experience with sea lice, in particular, with respect to what has transpired with Sockeye Salmon in the Fraser River in 2009. In this case, what is the role of science? To solve the problem or to help inform the debate?
- Science must inform the Department surrounding the risks posed by the aquaculture industry and provide advice in developing strategies and regulations to mitigate identified risks.
- The "precautionary principle" should be reflected in DFO's management of the aquaculture industry. The precautionary approach should be the guiding principle in balancing economic prosperity and environmental protection to achieve sustainable development.
- Engagement on scientific issues could be used as a means to improve relations with First Nations on a range of issues including but not limited to aquaculture, sea lice, and the wild capture fishery.
- DFO should assess the current model for engaging with stakeholders to resolve contested ocean spaces and consider how Science can help the Department move forward and achieve resolutions.

6. At-Sea Science

Jacqueline Gonçalves, Director General, Science Strategies and Integration

Purpose:

This is an information item to position future SMB discussions on the program framework for at-sea Science program.

In this presentation, the number, variety/type, and purpose of science vessels will be discussed together with the myriad of functions they perform; the nature of this work in the provision of science advice and products, and the necessity of strategies to ensure its long-term viability.

Key Issues Discussed:

- The At-Sea Science Program is an essential element of the Science Sector and will continue to directly impact the future management and decision-making capacity of the Department.
- Technological advancement will have in impact on the design of the future at-sea Science Program. Other technologies (e.g. remote sensing technology) may offer a cost-effective alternative for some types of scientific research.
- Newfoundland Region has started discussions with NRC's Institute for Ocean Technologies (IOT) about alternative technologies to deliver part of their programs. The basic response of IOT is that if DFO requires a specific technology, they will work with Newfoundland Region to build the technologies. In the context of SSI's review of the At-Sea Science Program, Jim Baird is willing to help SSI engage with IOT to explore technological alternatives to supplement the Science Program's reliance on vessels.
- Science has initiated discussions with the President of NSERC on forming a research and vessel user consortium across the country, however, discussions have not progressed since the first meeting.
- In light of current and future financial pressures, the Department will not be in a position to continue funding the vessel (budget) shortfall through priority funds. The review of the At-Sea Science Program is expected to conclude in December 2009 and should result in a permanent solution to the vessel shortfall.

Direction:

- Develop an At-Sea Science Program Framework and present the framework at the next SMB.

7. Wrap-up Discussion

- SMB discussed the importance of the wild capture and the expanding aquaculture industry as well as other emerging industries and the increasing spectrum of ocean use.
- Ocean-related tourism and recreation is expected to increase greatly over the next couple of years which may add new pressures on the oceans and on the Science Program.
- Demand for access to marine genetic resources is expected to increase.
- Multi-sectoral collaboration on priority setting would be more effective in resolving contested ocean issues. Early engagement of stakeholders is key.
- In the discussion on aquaculture, the issue of sea lice was highlighted as an example of where DFO must do a better job in terms of stakeholder engagement, departmental communications, and engaging the scientific community to further our collective understanding of the issue.
- The role of the Science Sector in communicating risk for the purposes of informing decision-making needs to be explicitly defined.
- The future At-Sea Science Framework should result in an improved arrangement with the Canadian Coast Guard.
- There may be an opportunity to use oceans science as a mechanism to engage other SBDAs and increase the profile of federal S&T.

8. SMB Forward Agenda

The following issues were identified for the forward agenda:

- *International Science Strategy* implementation plan;
- Follow-up on Science Renewal: review the results of some key initiatives such as the Ecosystem Research Initiatives, Centres of Expertise, the Science HR Strategy, etc.;
- Review of the At-Sea Science Program Framework;
- *Oceans Science Map* - Opportunities for SBDA collaboration;
- Discussion on governance mechanisms required to achieve leadership in aquatic science; and,
- Discussion on future strategic drivers that will have a direct impact on science priority setting and the science research agenda, including the implications of regime shifts.