

No. 12	Canadian Aquatic Resources Section	Steven J. Cooke
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Canadian
Aquatic Resource Section



Section Des Ressources Aquatiques
Canadiennes

TO: Jon Boreman, President

FROM: Steven J. Cooke, President, Canadian Aquatic Resources Section

DATE: August 8, 2013

I. Motion Report

(A) Recommended Motion: None.

(B) Minority View: NA..

(C) Background for Motion: NA

II. Activity Report

(A) Charge or Annual Program of Work: Focus on greater communication with CARS members and between our membership and the broader scientific community and Canadian public.

(B) Summary of Outcomes:

Goal 1: Global Fisheries Leadership

Objective 1.1. CARS sponsored a series of five Fisheries articles about the success of new Canadian interdisciplinary, inter-institutional research networks. Led by Steve Cooke and Caleb Hasler (Carleton U.) this effort was intended to highlight the effectiveness of these research networks that link academia, government science, and industry to tackle new frontiers in Canadian fisheries science. Funded by the Natural Science and Engineering Research Council of Canada (NSERC), these broad scale networks provide a great model for collaboration. As of July 2013, an introductory paper and four formal articles in the CARS series have been published.

Objective 1.1. CARS applied for membership in the World Council of Fisheries Societies and is now a member. We intend to be engaged in this group providing Canadian perspectives and raising the profile on Canada (and CARS-AFS) on the global stage. Cooke is serving as the rep for this committee.

Objective 1.1. CARS is beginning work on a book (target AFS publication) about current Canadian fisheries science and management issues. Aiming at a synthetic text with professional and educational value, the book would use historical review along with regional and species case studies to examine issues, science, and management actions toward sustaining the diverse Canadian fisheries. Scoping for this project is underway and includes plans for a symposium at a future conference. The book proposal was recently accepted (June 2012) by the AFS Book Advisory Committee and the editorial team is now being populated.

Objective 1.2. CARS Excom and membership continue dialogue about fishery and environmental issues of concern to fisheries professionals in Canada. These discussions consider current chapter and division resolutions and the development of providing new Section resolutions. Of particular note is our recent membership with the Partnership Group in Science and Engineering (PAGSE). In that role, President Cooke attended a meeting with the Deputy Minister of DFO as well as the Assistant Deputy Minister for Science of DFO in June 2012. That meeting provided the opportunity to remind DFO administrators of the potential assistance that could be provided by PAGSE and CARS in addressing issues of mutual concern. There is currently a new Minister, Deputy Minister and Assistant Deputy Minister Science so Cooke intends to participate in another suite of meetings this fall. Being engaged with PAGSE has already generated increased communication with other key societies including Can Soc Zoologists, Soc Can Limnologists, and Can Soc Ecology and Evolution. Appended to the end of this email is the PAGSE House of Commons Finance Committee Submission to which CARS-AFS contributed. Cooke and Hasler co-share duties of representing CARS on this committee.

Objective 1.2. CARS Excom wrote two letters to the Minister of DFO (cc'ing the Prime Minister and other key members of Parliament) where we questioned changes to the Fisheries Act (i.e., Bill 38-C). We also spearheaded the development of a manuscript titled "Principles for ensuring healthy and productive freshwater ecosystems that support sustainable fisheries" by Nicolas W. R. Lapointe, Steven J. Cooke, Jack G. Imhof, Daniel Boisclair, John M. Casselman, R. Allen Curry, Otto E. Langer, Robert L. McLaughlin, Charles K. Minns, John R. Post, Michael Power, Joseph B. Rasmussen, John D. Reynolds, John S. Richardson, and William M. Tonn which is intended to serve as a tool for governments revising policy related to freshwater fish and fish habitat. That manuscript is currently in review with "Environmental Reviews".

Goal 3: Value of Membership

Objective 3.1. The connection between AFS Chapters in Canada and CARS will be strengthened. CARS plans to expand connection with engagement of Canadian Chapter presidents as participants in CARS

Excom monthly conference calls and will hold specific invited sessions with Chapters for focused discussions about shared interests.

Objective 3.1. Expanded communication and input from fisheries professionals across the country will be sought through establishing a network of regional representatives to help gather newsletter articles and information items that represent the diversity of the country. These regional representatives will be invited to participate in the ExCom calls to expand the working base of individuals active in CARS.

Objective 3.1. Caleb Hasler, has successfully updated and revitalized the CARS web-site which is on the common AFS web-site gateway. CARS is working to increase content and use of the site including linking with Chapter and other organizations web sites. Caleb Hasler has also done a great job generating several newsletters.

Objective 3.1. Karen Murchie, established a new Facebook page for CARS to provide new web connections to current events and messages. Karen (with help from Caleb Hasler and Stephanie Avery-Gomm) provide frequent updates.

Objective 3.1. In May of 2012 Stephanie Avery-Gomm initiated a twitter account for CARS and has been making frequent posts. In Sept of 2012, Steven Cooke (CARS President) also began to Tweet regularly on CARS topics. In July of 2013 Graham Raby and Caleb Hasler assumed CARS Twitter account duties.

Objective 3.2. CARS continues to focus on fostering student professional development by raising funds and coordinating the Larkin Travel Award(s). The Larkin Travel Fund was established by CARS in honour of the memory of Dr. Peter Larkin, a distinguished Canadian fisheries scientist. The Larkin Travel Award recognizes excellence and commitment in fisheries graduate students. The Larkin travel awards facilitate attendance of Canadian students at AFS annual meetings and encourage their participation through in AFS business. Selection criteria and a process for determining awards developed during 2009 were revised in 2012. We did so because there was a bias towards Ph.D. students given that they had opportunity to accrue more "points" given time in program. To that end we created an M.Sc. and Ph.D. level award. Moreover, we have moved away from the moniker of "travel award" given that such a role is already filled by the Skinner. The new "Larkin" is for excellence in fisheries among Canadian students. Attendance at the AFS Annual meeting is not essential but is encouraged. The ranking committee is comprised of Bill Gardner (DFO), John Post (U. of Calgary), Michael Fox (Trent U.), and Karen Murchie (College of The Bahamas). In 2013 the panel considered 9 applicants from universities across Canada.

Objective 3.2. A key effort by CARS is supporting student participation in the Canadian Conference for Fisheries Research (CCFFR), the Canadian national fisheries science meeting. Over \$16,000 was distributed among 50+ students through the Clemens-Rigler Travel Fund to attend the CCFFR held in Windsor in January 2013.

Objective 3.2. CARS is committed to raise funds to support the Clemens-Rigler Student Travel Fund. Currently, the majority of funds come from the organizers of the Canadian Conference for Fisheries Research and from a generous matching grant from the Department of Fisheries and Oceans Canada. Important contributions come from the AFS-North Central Division and the Mid-Canada and Ontario Chapters of AFS. New fund raising options are being explored. This year a book raffle during CCFFR, organized by the CARS student members, generated several hundred dollars for the fund.

Objective 3.2 CARS is investigating the development of a new award called “Legends of Canadian Fisheries” intended to recognize past and present fisheries professionals that have made exceptional contributions to fisheries in Canada. It is our goal to begin by awarding 10 such awards (no financial value – entirely prestige) to past legends (think Larkin, Ricker, Crossman, etc) in 2014 at the AFS Quebec meeting. Subsequent to that we would name up to two per year. The first ten legends would be championed in the AFS book on Canadian fisheries noted above.

Objective 3.2. CARS continues efforts to increase and rebuild CARS and AFS membership in Canada. A first task will be an evaluation of AFS and CARS membership with the intent of developing ways to communicate and engage future members. CARS’ focus has been on enhancing CARS activities so as to offer tangible evidence its benefits to fisheries in Canada and to its members.

Objective 3.5. During the 2012 Annual meeting membership we confirmed the progression of officers for the new CARS executive. A new 2nd Vice President was sought and considered by ballot following the annual meeting. We are in the process of recruiting a new suite of officers to replace Cooke as he becomes past-president and Stephanie Avery-Gomm as she is no longer a student. Jack Imhof will progress to President at the 2013 Annual Meeting. The executive is currently as follows:

- President: Steven Cooke, Carleton University
- 1st Vice President: Jack Imhof, Trout Unlimited
- 2nd Vice President: Vic Gillman, DFO, Retired
- Past President: Gavin Christie, DFO, Central & Arctic Science
- Secretary-Treasurer: Margot Stockwell, DFO, Pacific
- Communications: Caleb Hasler, Dillon Consulting and Karen Murchie, College of The Bahamas
- Student Representative: Stephanie Avery-Gomm, Univ of British Columbia

(C) Recommendations or Suggestions for Future Consideration:

The need to engage fisheries professionals and students in Canada in CARS and AFS activities remains a critical need. The new Excom is committed to expanding membership and involvement, especially with student members. The focus of CARS on supporting travel to the Canadian Conference for Fisheries Research and to the national AFS conference will remain critical routes of engagement.

APPENDIX

Note – PAGSE was able to submit up to three Recommendations and they had to include expected cost and benefit with no more than 500 words each.

Canadian House of Commons Standing Committee on Finance – Pre-budget Consultations 2013 (PAGSE SUBMISSION WITH INPUT FROM CARS-AFS)

Recommendation 1:

Increased & Targeted Funding towards employment opportunities for recent PhD graduates and Post-Doctoral fellows

Description of Recommendation:

To increase targeted funding for both postgraduate and postdoctoral fellowships in the areas of health, natural sciences and engineering, ensuring that more Canadians are equipped to meet future labour market needs and gain experience in industrially relevant research, development and commercialization towards their transition into the workforce. The funding will assist in developing the most highly qualified talent.

Expected cost: \$10 million – \$99.9 million

Time Frame: Immediately

Federal funding:

In Budget 2010, the federal government provided \$45 million over five years to establish a post-doctoral fellowship program to help attract the research leaders of tomorrow to Canada. The government can further enhance and expand this program, amongst others, into industry and government (federal, provincial, municipal) sectors with a strong research mandate and capacity. The cost of such measures

could be covered by equivalent reductions in the level of tax credits for corporate research for a zero-net cost modification of the current incentive system.

Intended beneficiaries:

Implementation of this recommendation would benefit recent graduates from doctoral programs by providing increased financial support, development and networking opportunities. Canadian firms also benefit by increased familiarization with skills and abilities of PhD's with potential value to their research and development activities. This is particularly important to small and medium companies that may lack the resources to hire at this level as well as new innovative companies that have an aggressive R&D agenda.

General impacts:

A talented and adaptable workforce is at the heart of innovative economies. Every part of the economy therefore has a stake in educating, training and effectively integrating highly qualified and skilled Canadians into the workforce, and in attracting and retaining talented individuals to Canada. This follows the logic of a knowledge economy where increasing the number of people with advanced degrees leads to more innovation and thus more economic development.

Further information about the recommendation

Canada has done well to improve its capacity to train the next generation of researchers and innovators. However, employment prospects in industry for highly skilled graduates remain worryingly low while universities are under pressure to hold hiring until the economy recovers. The lack of employment opportunities could result in Canadian graduates leaving the country to take jobs in industry and academia in other advanced economies.

Recommendation 2

National Institute on Big Data and Advanced Analytics

Description of Recommendation:

The need for data analytics is no longer a case that has to be made. Automated data analysis methods are required to cope with the large volume of information we generate and record. Businesses and nations that do not adapt to this information-driven reality will face difficulty surviving. Data analytics offers synergies between industry, government and academia - both in terms of the "basic science" of analytics and its application. Canada would therefore benefit from a unified national institute on "big data" and advanced analytics.

Expected cost: \$30 million – \$99.9 million

Time frame: Immediately

Federal funding:

In Budget 2011, the government provided more than \$240 million towards the digital economy strategy. Funds in that program could be re-allocated towards supporting a new national institute for data science that could accelerate the development and application of data analytics in Canada. This would leverage existing, but distributed and disconnected, Canadian excellence in analytics into national leadership in this critical area.

The mandate of such an institute might range from funding industrial and academic research and development, to acting as a collaborative hub for bringing together existing expertise in analytics with users who need that expertise.

Intended beneficiaries:

Implementation of this recommendation would benefit Canadian industry (from traditional analytics-heavy industries like oil and gas exploration to industries where this is still relatively new); federal, provincial and local government.

General impacts:

Targeted funding could create a national "Data Analytics Ecosystem", flowing in a cycle between industry, government and the academy. Beyond the direct impacts of applying cutting-edge analytics approaches in Canadian industry and government, such an ecosystem has the potential to produce a large pool of highly qualified personnel capable of truly pushing data analytics into the everyday workplace.

Recommendation 3

Increased Support for Basic Research

Description of Recommendation:

Invest \$15M to fund basic research at universities particularly through the Discovery Grants Program. This investment will reaffirm budget 2012's goal of preserving programming in support of basic research and begin to compensate for reductions in basic research at the NRC over the past two years and inflationary erosion in NSERC's Discovery Grants (DG) program over the past decade. Sustained investments in basic research at universities create knowledge and trains highly qualified personnel, both of which are foundational for long-term economic and social prosperity.

Expected cost: \$10 million – \$99.9 million

Federal funding:

Budget 2013 pledged a return to balanced budgets through fiscal restraint, allowing for modest spending growth in strategic areas, including investments in world-class research and innovation. This recommendation aligns with the spirit of that pledge and is consistent with previous budgetary allocations made towards strengthening research partnerships between post-secondary institutions and industry. Therefore, we believe this scale of new funding is possible in the current fiscal environment. By allocating the funds to the NSERC DG program, stakeholders will benefit from an already established and effective distribution system.

Intended beneficiaries:

Implementation of this recommendation would directly benefit both researchers and students in science and engineering programs at universities across Canada. With increased funding, researchers can address gaps in basic scientific knowledge and, in the process, train the next generation of Canadian research talent.

General impacts:

The knowledge advantage provided through research cannot be overstated. Canada must have the intellectual, organizational and institutional resources to generate new knowledge, identify and act on opportunities, develop strategic alliances and advance developments in new areas. Basic scientific research is essential in this regard. Investments in basic research and the people who do it are crucial to ensuring a steady supply of ideas for the innovation pipeline.

Summary of Recommendations

The Partnership Group for Science and Engineering (PAGSE), is an association of more than 25 professional and scientific organizations. It reflects a diversity of science and technology interests in

Canada, ranging from a focus on research, innovation and industrial capacity to stimulating science in academia and government, to monitoring S&T requirements for policy development. PAGSE is not a lobby group; rather it works in partnership with government to advance research and innovation for the benefit of Canadians.

The recommendations from PAGSE in this pre-budget submission offer practical solutions to addressing three of the Government's top priorities: support for research, education and training; innovation and the digital economy.

By investing in expanded post-doctoral training opportunities, the Government of Canada can support the further participation of people with advanced degrees in the knowledge economy thereby contributing to more innovation and economic development.

By supporting a data analytics ecosystem, the Government of Canada can contribute to an effective digital infrastructure, specifically impacting data flow, storage, access and translation into knowledge and useful applications.

Finally, by supporting basic research, the Government of Canada contributes to ensuring a steady supply of ideas in the innovation pipeline and long-term economic and social prosperity.