



Newsletter of the Society of Canadian Limnologists

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Right: Death of Evidence Rally,
July 10th, 2012, attended by
nearly 2,000 protesters, mostly
scientists. Photo copyright
Michael & Richard Webster.



Tumultuous times for Canadian Limnology

By Jules Blais, President

The year 2012 will be long remembered by the limnology community in Canada as a tumultuous one. Following announcements by the federal government that hundreds of positions at Environment Canada, Parks Canada, and Fisheries and Oceans would be lost or reassigned, few disciplines of scientific enquiry were hit harder than those that study the environmental impacts of human disturbances. These layoffs came following an unprecedented omnibus 'Budget' Bill C-38 that altered 70 Canadian laws, weakening environmental protection for fisheries and species at risk, as well as streamlining the environmental review process for major industrial developments. Other cuts to basic science capacity in Canada, such as NSERC's Research Tools and Infrastructure program to fund basic scientific equipment, and the Major Resources Support program to support dozens of research centers in Canada, have left an unprecedented sense of unease in the Canadian scientific community. Perhaps most shocking to limnologists in Canada was the government's announcement to DFO staff members on May 17 that it would end its support of the world-renowned Experimental

Lakes Area (ELA), which has served limnology in Canada as a staging ground for some of our most significant scientific contributions to society, including the effects of eutrophication, acid rain, mercury from reservoirs, endocrine disrupting chemicals, nanomaterials, and transgenic fish from aquaculture.

This year also saw some extraordinary efforts by the scientific community, typically soft-spoken and docile, to stand up for itself with unprecedented force and organization. Within days of the announcement of ELA's closure, the Coalition to Save ELA was formed by PhD student Diane Orihel to bring attention to Canadians about the many contributions ELA has made during its 44 year history. Coalition activities included publishing in the Globe and Mail an open letter signed by eight prominent limnologists on the importance of ELA, as well as a volley of press releases, media interviews, and op-ed articles, many by SCL members. A major rally on Parliament Hill took place on July 10th to protest what organizers called the 'Death of Evidence', attracting over 2,000 people by police estimates, mostly

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scientists and many wearing lab coats as a symbol of scientific objectivity. Rally organizers, PhD student Katie Gibbs and Prof. Scott Findlay, both of the University of Ottawa, described the Harper government's actions as 'a systematic program to impede the flow of evidence to Canadians' through two major strategies. The first they listed was the elimination of programs or institutions whose prime mandate is the collection of evidence, including the Long form Census, and research departments within Environment, Fisheries and Parks. The second involved impeding the flow of scientific evidence into public debate, including censoring government scientists, terminating the National Round Table on Environment and Economy (NRTEE), and eliminating the National Science Advisor. The enormous response by the scientific community showed, perhaps for the first time in Canada, that scientists are capable of organizing themselves and speaking loudly to the public with a common voice. As one reporter put it, the science community made the ground move in Ottawa.

The government's claim that the cuts were necessary to return to balanced budgets is difficult to accept considering

the costs to run ELA (\$2 million) and the NTREE (\$5 million) are being cut from an \$11 billion federal budget for science and technology. Rather, these cuts to research and jobs appear more as targeted strikes against environmental researchers producing results the government considers inconvenient or incompatible with government policy, a claim the Harper government is finding increasingly difficult to sweep aside.

The SCL Executive was active in bringing attention to these developments through a series of letters to Ministers Kent, Ashfield, and Prime Minister Harper. These letters are publicly available on the SCL website. One of our letters to Minister Ashfield on the ELA closure was highlighted in an article in the Globe and Mail on June 6, and SCL members sent their support via emails and notes of encouragement. These events underlined the important role of scientific societies in speaking for the well being of our common purpose. We hope to see more of our membership getting involved in the challenging times ahead because if we as scientists don't stand up for scientific evidence, nobody will. For now, we hope for more enlightened days ahead. ☺

Feds pull the plug on Experimental Lakes Area Alternate operator sought for facility

After operating for 44 years, the federal government announced on May 17th that it was ending its science program at the Experimental Lakes Area in Northwestern Ontario as of March 31, 2013. The announcement was made to staff, in person at the Freshwater Institute in Winnipeg, and by emergency conference call to staff at the Experimental Lakes Area. Since then, the closure has sparked an outcry among scientists and the public (see www.saveela.org for a summary of media coverage, details and activities).

According to Fisheries and Oceans Canada (DFO), the end of the research station comes as the organization has decided to "no longer use whole ecosystem manipulation experiments." Instead, the department believes that observational ecosystem research will provide the information necessary for guiding government policy around waterways and fisheries.

It is difficult to grasp this reasoning behind abandoning the only facility in the world dedicated to whole-lake experimentation, where experiments through the decades have shaped environmental policy domestically and internationally. Experimental manipulation is frequently required to effectively determine causality. Any who have ever been involved in observational/empirical studies know that attempting to tease out "the cause" of ecosystem-level changes is rare, as the data are inherently confounded by many other factors that are



ELA from above

Recent aerial shot of the Experimental Lakes Area camp. Tens of millions in Infrastructure upgrades have been made over the past 10 years (including a new 3/4 Million dollar fish lab completed last year as part of Canada's Economic Action Plan). The government has made clear it's intentions to close the facility March 2013 if an alternate operator is not found soon. Photo credit: M. Rennie

difficult to control. Factors that can often be effectively accounted and controlled for through experimentation.

Other reasons for closing the facility offered by DFO administration and members of parliament are equally perplexing. Environment Minister Peter Kent and MP Joyce Bateman have both made reference to a "similar" facility in Saskatchewan; this facility has yet to be identified. Assistant Deputy Minister Claire Danserau in a "town hall" meeting with staff at the Freshwater Institute indicated that it was an issue of facility operations- that the department was no longer interested in owning and operating infrastructure, yet the Freshwater Institute in Winnipeg has no plans for closure.

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Further claims that the facility is unproductive and underutilized are similarly unfounded; the annual publication record for data generated from the facility has remained consistently high over time, with over 1,000 peer-reviewed and scientific publications, and a recent CDN \$750,000 experiment on whole-ecosystem effects on nanosilver (an antimicrobial that is embedded in a wide array of consumer products, including clothing and children’s toys) was recently funded by NSERC, but

this study is now in jeopardy with the announced closure of the facility. Regional Director David Burden has yet to justify to DFO staff the decision to close ELA.

The government issued statements almost immediately that they hope to transfer the facility to a “third party operator” by the March 31st deadline (now only 6 months away), and that they are “actively involved” in seeking appropriate operators. However, DFO’s efforts to date indicate they are waiting for a solution to approach

them, rather than actively participating in finding a solution. Given the cuts to NSERC-MRS funds, it is difficult to imagine what university (or group thereof) could take on the facility operation costs (pegged annually at around \$600-800 thousand minimally, and more like \$2-3 million with a staff contingent comparable to what is there currently). As this newsletter goes to press, a third party operator had not yet been identified. ☹️

Pollution is the solution: Fisheries minister

Canadian limnologists should be concerned about recent changes to the Fisheries Act and what it means for freshwater in Canada.

As reported in the Vancouver Sun on June 25, 2012, Minister of Fisheries and Oceans, Keith Ashfield, announced in a [letter](#) that the changes to the Fisheries Act in Bill C-38 would enable a simpler mechanism for proponents of development to introduce “deleterious substances” into Canadian waters. Prior to the changes, there were few options available for proponents to introduce deleterious substances (defined as those toxic or otherwise harmful to aquatic ecosystems) besides ministerial approval. Given the prevalence of pictures to the right, as well as the numerous lakes in the Northwest Territories that have been drained for the purposes of diamond mining, this does not appear to have been such a significant hurdle in the first place. Regardless, the Minister indicated that “the amended Fisheries Act will provide flexibility and establish new tools to



Oil sands tailings entering a holding pond near Fort McMurray, Alberta. Credit: Larry MacDougall, Canadian Press.

authorize deposits of deleterious substances.”

Perhaps not surprisingly, the announcement comes one month after the same department announced the elimination of its national contaminant research group (The announcement was made the same day ELA staff were informed they were also being shut down).

The combination of changes to the Fisheries Act, Environmental Assessment Act, reduction in Habitat staff (and therefore capacity to review development proposals), and significant cuts to scientific research programs within DFO cannot bode well for the state of Canada’s freshwater resources. ☹️

FAST FACTS:
WHO? Industrial Research Chair in Carbon Biogeochemistry in Boreal Aquatic Ecosystems, Paul del Giorgio
WHERE? Université du Québec à Montréal, Boreal aquatic ecosystems in northern Québec
WHAT? Characterizing carbon cycling in northern boreal aquatic ecosystems
WHY? To inform global carbon models of the importance of boreal aquatic ecosystems to global climate change

Research Highlight

Exploring the role of boreal aquatic networks in regional C and greenhouse gas budgets: *The CarBBAS Industrial Research Chair.*

By Paul del Giorgio


Rivers and lakes comprise between 10% and 30% of the territory in the vast northern regions of Québec, yet these ecosystems have hardly been explored, mostly due to their remoteness and inaccessibility. The NSERC / HQ Industrial Research Chair in Carbon Biogeochemistry in Boreal Aquatic Systems (CarBBAS), which was launched in 2010 and is led by Paul A. del Giorgio

Continued from page 3 of the Université du Québec à Montréal, aims at filling this major gap in our understanding of northern landscapes. The mission of the CarBBAS Chair is to expand our basic understanding of the function and carbon biogeochemistry of boreal aquatic networks in Northern Québec. The research program aims at 1) developing more robust inventories of aquatic C sources and sinks for these northern landscapes, 2) developing regional empirical and mechanistic models for aquatic greenhouse gas dynamics and carbon storage, 3) understanding the regulation of the key processes involved, and of the influence of landscape and climate change, and 4) scaling up aquatic processes and integrating them at the whole landscape scale. Ultimately, the goals of the Chair are developing and transferring the tools needed to integrate these systems into regional and global C and climate models. The program involves large-scale comparative field studies that integrate streams, rivers, wetlands and lakes across the major eco-regions within the boreal biome of Québec, as well as long-term, detailed processes studies in selected sentinel lakes and rivers. The core group is based in the Dépt. des sciences biologiques of the



Boreal aquatic ecosystems in northern Québec, where Paul del Giorgio and researchers at the Université du Québec à Montréal are investigating the role these systems play in the global carbon cycle, and the degree to which they influence global climate models. Photo courtesy Paul del Giorgio.

Université du Québec à Montréal, and is composed of 15 to 18 researchers, students and research professionals, with collaborators in 8 other Universities in

Canada, US and Europe. For more information, go to <http://www.carbbas.uqam.ca/> 



FAST FACTS:

WHAT? CSOL/CCFR/SWS Annual meeting
WHEN? January 3-5, 2013
WHERE? ST. Clair Centre for the Arts, Windsor Ontario
WHO? Canadian limnologists, fisheries ecologists, wetland ecologists
WHY? Good science, good people.
DEADLINES:
 ABSTRACT SUBMISSION: **31 Oct 2012**
 CLEMENS-RIGLER TRAVEL AWARD: **31 Oct 2012**

SCL 2013 in Windsor!

By Alison Derry

Please check out the details for the upcoming 66th CCFR/SWS conference in Windsor, Ontario on Jan 3-5, 2013 at the St. Clair Centre for the Arts. The conference theme is "Science for Sustainable Ecosystems: Great and Small". We have 14 excellent special sessions planned for this important meeting, including one to recognize the contribution to aquatic science in Canada by the Experimental Lakes Area scientists, and one on Great Lakes Fisheries and Environmental Policies. All sessions are jointly organized and co-sponsored with SCL, the Canadian Conference for Fisheries Research (CCFR) and the Society of Wetland Scientists (SWS). We have topical themes important for both aquatic and fisheries researchers. Please spread the word and plan to join us in the early New Year. Details can be

viewed at: <http://www.uwindsor.ca/glier/ccfr/>.

Activities for the plenary include the invited Annual SCL Frank Rigler Memorial Award Lecture and CCFR J.C. Stevenson Memorial Lecture.

The deadline for abstracts is Wednesday, October 31, 2012. Authors can make submissions for oral or poster presentations. Abstracts should be submitted to: ccfrscl2013@gmail.com

Graduate students should apply to the Clemens-Rigler Travel Fund Applications are to be submitted to Dr. Rob Mackereth (rob.mackereth@ontario.ca) by Wednesday, October 31, 2012. Details are posted at: <http://www.uwindsor.ca/glier/ccfr/system/files/ClemensRiglerTravel.pdf>

SCL/CCFR Program Committee: Alison Derry, Andrew Muir and John Gunn 

Introducing our new logo

A fresh face for the society

By Mike Rennie

Society
of Canadian
Limnologists



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Limnologie

After numerous designs and a vote by the membership, we have our new face to the public.

The Society is currently in the process of facelifting our image. A necessary first step was to find a logo that accurately captured the things we represent; namely, inland waters. The design that was consistently ranked most highly among the membership was the one presented above.

The designers at Pilot Interactive (www.pilotinteractive.ca) brought this design forward to emphasize the stylized water molecule, as well as the connectivity that exists between water bodies. Unlike other designs, this was able to represent both lake and river systems. Other members saw organisms in a petri dish,

or under magnification in a microscope. However, you look at it, the membership decided that this design best represents us as an image to the public. The executive would like to thank all members who participated in the selection, as well as the folks at Pilot Interactive for being so collaborative and helpful through the process. ☺

Hey- aren't we supposed to have a fancy new website too?

My, aren't we an observant bunch. Yes, that is one of the things we are currently working on. Having the logo design pegged will assist with the webpage design. Unfortunately, the process has been somewhat sidetracked by other, um, issues that have distracted our communications department. 2013, we promise. In the meantime, we will keep the old site updated as needed.

And the award goes to: Send your nominations

By Jules Blais

We are now taking **nominations for the 2013 Frank Rigler Award**, the highest honour given by the Society of Canadian Limnologists. It was first presented in 1984 to recognize and honor major achievements in the field of limnology by Canadians or those working in Canada. Emphasis in selection is given to established aquatic scientists whose work is recognized for its influence and importance. The winner of this award is expected to give an overview on their research during the plenary session of the annual meeting of SCL/CCFFR. The meeting this year will be in Windsor Ontario from January 3-5, 2013.

Nomination packages should include a letter detailing why the candidate should be considered, and a current CV including a list of publications.



Top: 2012 Rigler Award recipient Paul del Giorgio, Universit  du Qu bec   Montr al. His talk: "Terrestrial carbon, lake metabolism, allochthony and the role of lakes in the landscape."



Bottom: 2012 Peters Award winner, Jennifer Korosi (PhD candidate, Queen's University), for her paper "Anomalous rise in algal production linked to lakewater calcium decline through food web interactions. Proceedings of the Royal Society (Lond.), Series B. doi:10.1098/rspb.2011.1411.

We are also taking **nominations for the 2013 Robert H. Peters Award**, which recognizes the best aquatic sciences paper published in the preceding year (2012) by a Canadian student or a student working in Canada. The

student must be first author on the publication. **Nomination packages should include a letter explaining why the student is deserving of this award, and a pdf of the publication to be considered for the award.** ☺

Update from PAGSE

By **Martha Guy**

The Partnership Group for Science and Engineering (PAGSE) is a cooperative association of more than 25 national science and engineering organizations. They work collectively to represent the Canadian science and engineering community to the Government of Canada and to advance research and innovation for the benefit of Canadians. Guests, representing science and engineering in the government and industry sectors, are invited to monthly PAGSE meetings to present their perspectives on science and engineering in Canada, on the activities of their organizations, as well as the potential issues and challenges that they would like to see PAGSE address. These presentations and the discussion afterwards are always educational and entertaining with topics ranging from genomic research in Canada to Foreign Affairs and International Trade Canada's science programs to the presidents of the major science funding bodies.

PAGSE, in partnership with NSERC, also sponsors a monthly breakfast meeting held on Parliament Hill known as "Bacon and Eggheads". Speakers at the meetings inform parliamentarians about recent advances in science and engineering. PAGSE has recently started producing SciencePages to provide short science and engineering briefing notes on topical issues for Canadian Parliamentarians. The three issues of SciencePages have covered biodiversity, toxicology and Smart Grid and are available at www.sciencepages.ca/publications.html. Please contact Martha.Guy@ec.gc.ca if you would like copies of any of the meeting minutes.

This past spring was a very turbulent time to be a scientist in Ottawa. The 2012 Federal Budget resulted in 10% cuts across all departments and the fallout was widespread. Discussions about the role of PAGSE in addressing the cuts were long and animated as perspectives on

the issues varied by scientific and engineering discipline. PAGSE positions itself as a non-lobby group that represents the general views of science and research to government, but the consensus was it should comment. The group is still working on how exactly that will happen but it is an issue to be resolved this year. In the meantime, PAGSE is a group that can facilitate communication among the leaders of all member societies and develop stronger relations between people around topical issues, such as the closing of the ELA. This discussion led to SCL's letter opposing the closure of ELA to be circulated to several scientific societies that might not have seen it otherwise, such as the Canadian Meteorological and Oceanography Society (CMOS), which undoubtedly helped build support.

At the end of May, Dr. Suzanne Fortier, President of NSERC, spoke to PAGSE about the 2012 Federal budget's impact on NSERC. NSERC took a \$15 million funding reduction in 2012-13 and \$30 million in 2013-14. The \$15 million was fully re-invested in NSERC so there was no net loss of funding, just a redistribution of funds. She emphasized Discovery Grants, scholarships and university-industry partnership grants were not touched. Both the research tools and instrument grants (RTI) and major resources support (MRS) programs were affected.

In August, I became the next chair of PAGSE. I am looking forward to learning more about the issues facing science and engineering at large and making sure the view points and concerns of SCL are well represented. ☺

Where are we going? Drafting a vision for SCL

By **Jim Rusak**

The SCL Visioning Committee has been formed and has started the process of examining future directions for the society. The members that have volunteered their time to assist with this important endeavour are:

Peter Leavitt (University of Regina – former SCL president and VP Anglophone); **Roxanne Maranger** (University of Montreal – former SCL VP Francophone); **Andrew Paterson**

(Co-chair: Dorset Environmental Science Centre – former SCL Secretary-Treasurer); **Jim Rusak** (Co-chair: Dorset Environmental Science Centre – former SCL VP Anglophone); **Vanessa Swarbrick** (University of Regina – current SCL student representative); **Norman Yan** (York University – former SCL VP Anglophone)

The committee met for the first time in early September 2012 to identify priorities and timelines for this opportunity. We decided to begin by soliciting feedback from members using parts of an earlier survey conducted in 2004, but to also explore the Society's needs and values with new questions. Several issues have been central to our discussions so far, such as 1) how do we make SCL more relevant to its members, 2) what should the society look like in 5 - 10 years and 3) what do we value most in the society and 4) what is the future of limnology in general? Members and non-members alike will be asked to complete the survey over the coming months and the committee plans to report on its progress and solicit additional feedback at the 2013 meeting in Windsor. See you then! ☺

SCL Student Update Student reps needed

By **Vanessa Swarbrick**

The society is seeking motivated students to participate as student representatives starting January 2013. Student representatives facilitate communications from the executive to students by maintaining the student website, and preparing student newsletters in French and English once to twice a year (Winter and Fall editions). Student representatives assist with student oriented services at meetings such as organizing housing pools, coordinating social mixer events, round-table scientific discussions and student business meetings, and facilitating a student-chosen speaker or seminar series at meetings. Student representatives also participate in Executive business, such as participating on awards committees, and providing assistance with conference organization to the VP, etc. Francophone and anglophone student representatives provide a communication link between

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student members and the executive, and are available for students to express ideas and concerns about SCL and limnology in Canada.

This is a great opportunity for students to get more involved in the society, and to participate fully as a member of the executive.

Please submit a letter of interest (to the e-mail addresses below) stating why you would like participate in SCL in this role and how you would represent Canadian students in aquatic sciences on the SCL board. There are two student positions – an anglophone representative and a francophone representative. We will be accepting letters of interest until December 15, 2012. The new student representatives will be announced at the next SCL business meeting that will be held during the 2013 SCL conference in Windsor, Ontario.

Anglophone students, submit letters to Vanessa Swarbrick (vanessa.swarbrick@gmail.com)

Francophone students, submit letters to Morgan Botrel (morganbotrel@yahoo.com)

Upcoming meetings**SCL Meetings**

- [2013 \(with CCFFR/SWS\): Windsor, ON \(January 3-5, Windsor ON\)](#)
- 2014 (with CCFFR/SWS) Yellowknife, NWT (dates TBA, expect early January)
- 2014 (with CSEE, CSZ) Montreal, Quebec (tentatively May 16-21)

SIL Meetings

- None currently announced.

Other meetings

- [2012 North American Lake Management Society 32nd International Symposium, November 7 - 9, Madison, Wisconsin](#)
- [2013 ASLO Aquatic Sciences meeting, February 17-22, New Orleans, Louisiana](#)
- [2013 Canadian Society for Ecology and Evolution May 6-10, Kelowna, BC, Canada](#)
- [2013 meeting of the International Association of Great Lakes Research, June 2-6, West Lafayette, IN](#)
- [2013 98th Annual Meeting of ESA, August 4-9, Minneapolis, MN](#)
- [2013 143rd Annual meeting of AFS, Sept. 8-12, Little Rock, AR](#)

Recognizing our members

Congratulations to our members for recent recognition of their efforts!

Gertrud Nurnberg- Outstanding L&O Reviewer

John Smol- Margalef Excellence in Education Award

Recent Citings

Here's a new section we're trying out to help highlight some of the current work of our members. If you have a recent (past 6-12 months) contribution to the peer-reviewed literature that you'd like to share with the society, please e-mail it to scl@uregina.ca.

Beisner, B.E. 2012. **A plankton research gem: the probable closure of the Experimental Lakes Area, Canada.** *Journal of Plankton Research*, 34:849-852. doi: 10.1093/plankt/fbs052

Deison, R., Smol, J.P., Kokelj, S.V., Pisaric, M.F.J., Kimpe, L.E., Poulain, A.J., Sanei, H., Thienpont, J.R., Blais, J.M. 2012. **Spatial and temporal assessment of mercury and organic matter in lakes affected by thawing permafrost in the Mackenzie Delta uplands, NT, Canada.** *Environmental Science & Technology* 46: 8748-8755. doi: 10.1021/es300798w

Donald, D.B., Bogard, M.J., Finlay, K. and Leavitt, P.R. 2011. **Comparative effects of urea, ammonium, and nitrate on phytoplankton abundance, community composition, and toxicity in hypereutrophic freshwaters.** *Limnology and Oceanography* 56: 2161-2175. doi:10.4319/lo.2011.56.6.2161

Nürnberg, G.K., Tarvainen, M., Ventelä, A.-M. and Sarvala, J., 2012. **Internal phosphorus load estimation during biomanipulation in a large polymictic and mesotrophic lake.** *Inland Waters* 2: 147-62. doi: 10.5268/IW-2.3.469

Rennie, M.D. and Evans, D.O. 2012. **Decadal changes in benthic invertebrate communities following dreissenid establishment in Lake Simcoe.** *Freshwater Science* 31: 733-749. doi:10.1899/11-079.1

Rosabal, M., Hare, L., Campbell, P.G.C. 2012. **Subcellular metal partitioning in larvae of the insect Chaoborus collected along an environmental metal exposure gradient (Cd, Cu, Ni and Zn).** *Aquat. Toxicol.* 120-121, 67-78. doi: 10.1016/j.aquatox.2012.05.001

Smith, A.L., N. Hewitt, N. Klenk, D.R. Bazely, N.D., Yan, S. Wood, I Henriques, J.I. MacLellan and C. Lipsig-Mummé. 2012. **The effects of climate change on the distribution of invasive alien species in Canada: reviewing prospects of range changes in a warming world.** *Env. Reviews* 20: 1-16. doi:10.1139/A11-020.

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