



## Newsletter of the Society of Canadian Limnologists

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**Right:** SCL student photo contest winner in the category "places". Photo credit: Jacob Ziegler, McGill University. See our other winning photo on Page 4.



## A temporary reprieve for the Experimental Lakes Area

By Jules Blais, President

Canada's aquatic science community has witnessed an eventful year for our world-renowned Experimental Lakes Area (ELA) in Northwestern Ontario. Following the federal government's decision to end its operations at ELA on March 31st 2013, several groups have stepped in to save the beleaguered facility, at least temporarily.

In particular, the International Institute for Sustainable Development, or IISD, under the direction of Scott Vaughn, has spent the past year in negotiations with the federal government to assume control of ELA. The IISD is an international organization committed to research in sustainable development around the world, and operates as a charitable organization receiving core funding from governments and a few private sponsors.

The SCL Executive sees IISD's central involvement in ELA operations as a positive development, although there is much uncertainty for ELA's future. Now that the Memorandum of Agreement between Canada and Ontario has expired as of September 1, whole-ecosystem experiments

at ELA have been halted, at least temporarily. The eutrophication experiment of Lake 227 which has run continuously for 45 years has now stopped. Other worrisome signs are beginning to show in ELA's operations, especially in retaining staff with experience in conducting whole-ecosystem experiments. Only one senior scientist central to ELA and formerly working for the Department of Fisheries and Oceans (DFO) has now moved over to the IISD as a volunteer, after taking an early retirement from DFO. As negotiations continue to drag on, affected staffers who were once securely employed at ELA continue to apply for and gain employment elsewhere, putting ELA's institutional knowledge at risk.

ELA's transfer to the IISD also highlights a significant shift in Canada's support of research in the public interest. Even the earliest architects of modern democracy recognized that an informed public is the responsibility of any legitimate democracy. As Thomas Jefferson once said, only an informed public can be trusted with its own government. The dramatic cuts to scientific research, the muzzling of scientists, the

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gutting of the Fisheries Act and other environmental regulations in two Omnibus budget bills means that charitable organizations like the IISD are now assuming more of the responsibility to keep Canadians informed of environmental threats.

As of this writing, no agreement is officially in place to transfer the ELA to the IISD, though the Government of Ontario has stepped up by committing up to \$2 Million per year in funding to support the ELA over the next five years to assist in the transfer, as has the Manitoba government with a \$900,000 commitment over 6 years. Ontario's participation is crucial to the future of ELA, not only because it is now the major funding source for the facility during this transition period, but it is also the legal guardian of the land that ELA occupies. Many of the legal hurdles in transferring the ELA to the new operator will need the participation of the Ontario government, from liability for site remediation, to allowing the application of potentially deleterious substances to lakes for research purposes, which will be necessary for experiments at ELA to resume. The Government of Ontario is an essential participant in ELA's future, and it is most fortunate that Premier Wynne has pledged a strong commitment to ELA at this critical juncture, though Ontario's election expected in 2015 could still change ELA's fortunes.

In order to maintain ELA as a public and independent research facility, the SCL Executive believes it will be critical for IISD and the new ELA to (1) retain ELA's scientific expertise by engaging the scientists who can properly operate

the facility; (2) engage a technical advisory committee consisting of scientists from government, academia, and industry to advise on research directions and priorities; (3) secure long-term funding and partnerships above and beyond that announced by the governments of Ontario and Manitoba to ensure operations at ELA continue; and (4) guarantee that all research is done transparently in the public interest.

With many significant hurdles to climb, the SCL is encouraged to find organizations like the IISD and the provincial governments sharing our recognition of the importance of ELA to Canadian limnology and environmental water policies around the world. It is gratifying to see the significant efforts made this past year to preserve the ELA, and the support it has gained across this country and around the world. We are now anxious to see how ELA will evolve during this transition period, and we hope to see the IISD engaging the Canadian aquatic science community as it moves ELA forward. 🌐



ELA Scientist Paul Blanchfield (left) and Scott Vaughn, President and CEO of IISD (right) discuss ongoing experiments at the ELA. Photo credit: Matt McCandless

## Introducing our new executive members



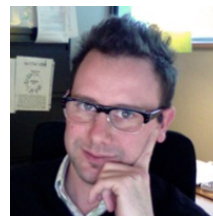
**Vice President Francophone**  
**Alain Patoine**  
Université de Moncton, campus de Shippagan (UMCS)

### Jules Blais, President

It is my great pleasure to introduce two new members to the SCL Executive. Alain Patoine joins us as our new VP Francophone, and Alexandre Poulain joins us as our first Francophone Communications Officer.

Alain Patoine teaches and does research in New Brunswick at the Université de Moncton, campus de Shippagan (UMCS). There, he teaches ecosystem ecology in the Baccalauréat en gestion intégrée des zones côtières – the only francophone undergrad program of Integrated Coastal Zone Management (ICZM) in Canada. Because lakes are far from being a dominant element of the northeastern New Brunswick landscape, Alain has adapted his research to focus on estuaries. The relatively pristine coastal catchments allow him to address questions about the sensitivity of estuaries to climate variability and land use through paleo- and GIS-based approaches. As VP francophone, Alain intends to broaden SCL's membership to include all aquatic ecosystems, from inland lakes to coastal systems.

Following a PhD at Université de Montréal and a postdoctoral fellowship at the Massachusetts Institute of



**Francophone Communications Officer**  
**Alexandre Poulain**  
University of Ottawa

Technology, Alexandre Poulain accepted a position as Assistant Professor at the University of Ottawa. Alex is interested in how microbes sense, internalize and transform metals, particularly for detoxification purposes, as well as how this information can be applied to the development of novel analytical and remediation tools. His lab currently focuses on mercury. He uses a combination of stable isotope techniques and geochemical modelling coupled to the use of whole cell biosensors to determine the fate of metals in aquatic environments in temperate and Arctic ecosystems.

We are truly delighted to welcome these outstanding individuals to our SCL Executive. We also would like to thank Yves Prairie for his service as VP Francophone. Yves stepped down from this role in August so he could assume his new position as President of the International Society of Limnology, SIL. We wish Yves the best in his new role, and we are delighted to have such excellent Canadian representation in SIL with his new appointment.

## Research highlight: The NSERC Canadian Network for Aquatic Ecosystem Services

By Don Jackson

Ecosystem services broadly encompass the goods and services that nature provides. Within the aquatic environment they can range from issues such as fisheries, nutrient recycling and flood mitigation to cultural or spiritual values. Many of these issues are major research topics within Canada, but also need to be considered as important factors in making numerous political, regulatory, and societal decisions (e.g. resource development, pipelines, urbanization). The importance of these issues in both aquatic and terrestrial systems has been highlighted previously (e.g. Millenium Ecosystem Assessment) and is the focus of a new United Nations organization, the Intergovernmental Platform on Biodiversity and Ecosystem Services, to which Canada and other nations must contribute.

The NSERC Canadian Network for Aquatic Ecosystem Services (CNAES; le réseau canadien du CRSNG sur les services des écosystèmes aquatiques (RCSEA)) is a collaborative research group including universities (UNB, UQAM, McGill, Trent, Toronto, Guelph, Waterloo, Western, Nipissing, Laurentian, and UBC), federal and provincial government agencies (NSERC Canada, Fisheries and Oceans Canada, NRCan-Canadian Forest Services, Alberta Innovates, Ministère des Ressources naturelles et de la Faune, Ontario Ministry of the Environment, and Ontario Ministry of Natural Resources), and industrial partners (De Beers Canada, Detour Gold, Kongsberg Maritime). The five-year CNAES/RCSEA began in June 2012, was formally announced by the Government of Canada in Feb 2013, and is led and administered at the Department of Ecology and Evolutionary Biology at the University of Toronto. Among the 30 researchers involved, the Network already has 29 graduate students, four post-doctoral researchers and various technicians and undergraduate students.

Work within the CNAES/RCSEA involves the diverse types of aquatic ecosystems found across much of Canada. Three themes focus the research around




Sampling fish as part of the NSERC Canadian Network for Aquatic Ecosystem Services. Visit [www.cnaes.ca](http://www.cnaes.ca) for more information.

Photo credit: Steve Vandermeer.

broad issues with the first one “Coupling the landscape, aquatic ecosystems, services, and environmental change in Canada’s north” examining issues associated with the vast wetlands and large river systems of the north and addressing questions related to understanding biochemical cycling and hydrology, maintaining supply of clean water and freshwater foods for local communities under development and climate change, amongst other issues. Theme II is “Healthy forest and healthy aquatic ecosystems” and integrates catchment studies from across Canada capitalizing on gradients in natural and anthropogenic disturbances. It addresses issues such as how differences in the physical and biological environments affect the sustainability of aquatic ecosystem services (e.g. water purification, storage and flood control); will experimentally test mechanistic interactions among physical, chemical and biological responses to disturbance and how they affect ecosystem services; and combine ecological and socioeconomic perspectives to examine aspects of planning versus incentivized approaches to managing aquatic ecosystem services. Theme III is “Quantitative indicators & metrics of ecosystem services, health & function” and includes a series of projects focused around mainly lake ecosystems and their watersheds, but also those in the

other two themes, and near-shore marine ecosystems. This theme will develop large-scale hydrologic models of rivers; characterize biomass size spectra of lakes, determine how they provide measures of ecosystem services (e.g. aquatic productivity and fish biomass), and how spectra change in response to stressors (climate, land use, invasive species); develop new approaches to assess ecosystem resilience; develop geospatial risk mapping of aquatic ecosystems in Canada; and evaluate the trade-offs of ecosystem services under disturbance gradients.

Overall our Network has laid out an ambitious program for the coming years. We welcome opportunities to work with others involved in aquatic ecosystem services research and to include new partners and researchers in the Network who have the potential to contribute and advance the CNAES/RCSEA objectives. We invite you to visit our website ([www.cnaes.ca](http://www.cnaes.ca)) to learn about us and contact researchers about specific projects if interested in further opportunities. 

### FAST FACTS:

**WHO?** The CNAES Research Team..

**WHERE?** Institutions across Canada.

**WHAT?** Investigating aquatic ecosystem services across three themes of research.

**WHY?** To provide a clearer understanding of the ways in which aquatic ecosystems respond to disturbance in order to improve management strategies of aquatic resources.