

# THE CURRENT

Newsletter of the Society of  
Canadian Limnologists

Society  
of Canadian  
Limnologists



Société  
canadienne de  
Limnologie

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Winter Sampling in SK  
Photo credit: Erin Hillis



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# Message from the president

*Björn Wissel, President*



First of all, I would like to thank the SCL membership for their confidence, electing me as new President at the past meeting in London, ON. I have been a member of SCL since 2000, and attended/presented at several annual meetings, which are always great opportunities to exchange ideas and learn about novel research. I do feel prepared for the upcoming challenges and opportunities of the SCL Presidency due to my leadership skills acquired as Associate Director of the Institute of Environmental Change and Society (IECS, University of Regina), my engagement in the International Society of Limnology (SIL), and 20+ years of research experience in both boreal and prairie lakes/rivers in Canada. I am looking forward to working with you all over the next three years and beyond.

I also want to express my gratitude to the current and former members of the Executive Committee. Due to their hard work and ongoing commitment, SCL is now officially incorporated with updated bylaws that will enable SCL to play a more active and independent role, such as organizing conferences. Also, the concerns that SCL raised in a joint letter to NSERC were successfully addressed in the recently released new NSERC Alliance Grants program. Now, a broader range of partner organizations, including industry, government, and the non-profit sector are eligible for joint research projects. I would like to extend a special Thank You to Jérôme Marty, who has been taking on a very active role as Past President. His readiness to share his experience and institutional knowledge has been instrumental for my transition into the position of SCL President.

Limnological research has a long tradition in Canada and its impact and quality are recognized and respected well beyond its borders. Even though Canada has some of the largest water resources on Earth, both quality and quantity are under threat due to stressors such as climate change, population growth, industrialisation and agriculture. National societies are crucial for creating a network for researchers at all career stages that enables scientific exchange, fosters career development and provides critical insight on the aquatic environment to stakeholders and decision makes.

Now that the important Incorporation Process is finalized, it will be critical to increase membership numbers and engagement, particularly at the student and ECR levels. Similar to ongoing efforts at SIL, we will plan to develop and conduct a survey of member and non-member limnologists across Canada to identify potential avenues to improve services provided by SCL and revitalize broader interest in the Society. Reviewing everything from membership types, rates and durations, outreach and professional services, and organisation and timing of annual meetings will be helpful to assess current strengths and identify potential for future improvements. To work towards these goals, SCL has already reduced student membership rates (\$20/\$35 for 1/2 yrs.) and created a new, ECR membership category (\$40/\$70 for 1/2 yrs.). I anticipate that this initiative will help retain existing and recruit new members. Based on this information and revitalisation activities, the Executive Committee will also be in a better position to articulate and promote the critical findings and impacts of limnological research to the public and federal and provincial governments to ultimately create positive change for society. 



## New SCL executive

Special thanks to our outgoing executive members: Jérôme Marty (President), and Alexandre Poulain (Communication officer)



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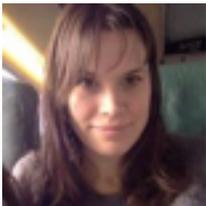
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## New openings on the SCL executive!

By Björn Wissel

Early-Career Researchers (ECR) represent the next generation of scientists, innovators and managers. ECR often fulfill dual roles of training and supervising students, while being mentored by senior researchers. Similarly, ECR transition from conducting research within existing programs to develop their own independent research. We recognize that support and guidance for ECR during this critical period is crucial, but not always readily available.

As part of SCL's efforts to provide ECR with a stronger voice and provide better services, we are creating a new, ECR position on our Executive Committee, starting in January 2020. We encourage nominations from anyone who is within 10 years of their PhD and is enthusiastic about advancing ECR issues.

## About our new Francophone communications officer François Guillemette:

Currently an Assistant Professor at the Université du Québec à Trois-Rivières his research interests revolve around the fields of aquatic carbon biogeochemistry and microbial ecology. Of particular interest is the export, transformation and fate of dissolved organic carbon from land to a vast array of aquatic ecosystems such as rivers, wetlands, and lakes, and the understanding of the metabolic response of microbial communities to changes in the supply, age, source and composition of the organic carbon pool. He uses a suite of molecular and optical tools such as high-resolution mass spectrometry, spectrofluorometry and size-exclusion chromatography, as well as stable and radioisotopes, and modeling. Aside from his research program, he also has great interests in public education for the preservation, valuation and restoration of aquatic ecosystems.

FRENCH VERSION: Actuellement professeur adjoint à l'Université du Québec à Trois-Rivières, ses domaines de recherche portent sur la biogéochimie du carbone aquatique et l'écologie microbienne. Il s'intéresse, entre autres choses, à l'exportation, la transformation et le devenir du carbone organique dissous provenant de la terre vers un vaste éventail d'écosystèmes aquatiques tels que les rivières, les zones humides et les lacs, ainsi que la compréhension de la réponse métabolique des communautés microbiennes aux modifications de source et composition du pool de carbone organique. Il utilise une suite d'outils moléculaires et optiques tels que la spectrométrie de masse à haute résolution, la spectrofluorométrie et la chromatographie par exclusion de taille, ainsi que les isotopes stables et radioactifs. Outre son programme de recherche, il s'intéresse également à l'éducation du public à la préservation, à la valorisation et à la restauration des écosystèmes aquatiques. 



November Sampling in SK, Canada.  
Photo credit: Erin Hillis

## SCL by numbers

By Josh Thienpont

SCL continues to maintain a strong membership, with 119 current members. This is just slightly below the number of last year (121), and closely aligns with the 5-year average. Student members continue to constitute a strong proportion of the SCL membership (~30%). If you have not already, please renew your membership, either online via PayPal, or by mailing in a paper form, available online. Take note of several changes that were made for 2019 to membership dues rates. **Student memberships are now much lower!** PIs, please encourage your students to join SCL as members! There are now also new lower rates for early career members. Contact Josh or the SCL Communications email for details if you wish to join as an Early Career member (while we get PayPal aligned with the new rates).

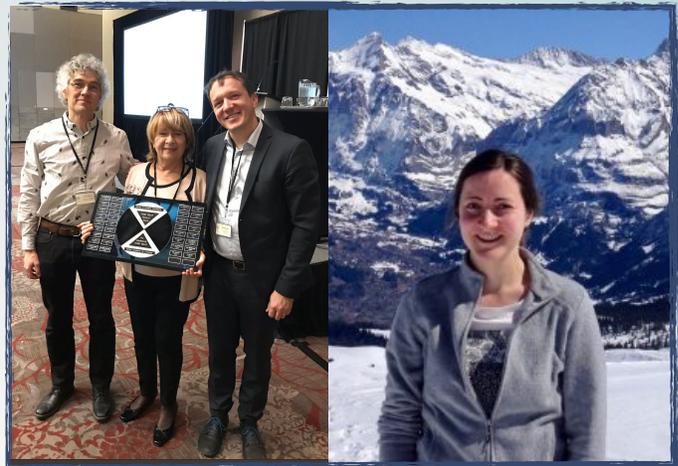
Member attendance at the 2019 CCFFR-SCL meeting in London was very strong, and we had a great discussion in the business meeting about the future of SCL, especially related to its new incorporated status. We look forward to seeing many of you in Halifax in 2020 for the CCFFR/SCL meeting. 

# Conference Round-up 2019

By Cécilia Barouillet

There were 261 attendees at the January meeting in London, with higher SCL member attendance than in 2018. Bernadette Pinel-Alloul was awarded the 2019 Frank Rigler Award for her significant achievements in the field of limnology. Bernadette gave an excellent talk highlighting her work studying the distribution of zooplankton and environmental stressors influence on the zooplankton community composition at the local, regional, and global scale. The Rob Peters Award this year went to Marie Eve Monchamp from the University of Zurich and Eawag (Switzerland), for her exceptional paper describing how the long term effect of climate change and eutrophication shape cyanobacteria communities. 🌐

Congratulations to all our winners!



Left: Bernadette Pinel-Alloul recipient of the Frank Rigler Award at the conference in London (2019), along with Alain Pantoine (past-vice president) and Jérôme Marty (past-président).

Right: Marie Eve Monchamp recipient of the Rob Peters

## List of 2019 conferences

- [Animal Behaviour Society conference](#) • July 23-27 2019 • Chicago, Illinois
- [ESA & USSEE 2019](#) joint Meeting • Aug. 11-16 2019 • Louisville, Kentucky
- [American Fisheries Society & the Wildlife Society 2019](#) joint annual conference • Sept. 29 - Oct. 3 • Reno, Nevada, USA
- International Association for Great Lakes Research [IAGLR 2019](#) • June 10-14 2019 • Brockport, New York, USA
- North American Lake Management Society [NALMS 2019](#) • Nov. 11-15 2019 • Burlington, Vermont, USA
- Geological Society of American [GSA 2019](#) • Sept. 22-25 2019 • Pheonix, Arizona, USA
- Society of Environmental Toxicology and Chemistry [SETAC North America](#) • Nov. 3-7 2019 • Toronto, Ontario, Canada
- American Geophysical Union, [AGU 2019 Fall Meeting](#) • Dec 9-13 2019 • San Francisco, California
- International Union of Geodesy and Geophysics, [UGGI 2019](#) • July 8-18 2019 • Montréal, Québec, Canada
- [Joint Meeting of Ichthyologists and Herpetologists](#) • July 28-29 2019 • Utah, USA

Save  
the Date for the Next CCFFR-  
CRP SCL conference  
Halifax, NS January 2-5 2020  
More information coming up on our  
[website.](#)

# Call for nominations!

## Frank Rigler Award

By Jérôme Comte

### Submission Deadline: August 31<sup>st</sup>

The Frank Rigler Award is 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 with a proven record of contribution to the field of aquatic sciences, whose work is widely recognized for its influence and importance. The winner of this award must give an overview on their research during the plenary session of the annual meeting of SCL/CCFFR, January 2-5, 2020 in Halifax (NS) and will receive complimentary registration at the meeting and a one-year membership with the Society. Nominations should be sent to [jerome.comte@inrs.ca](mailto:jerome.comte@inrs.ca)

**More details about these awards and instructions about the nomination package:**  
<http://socanlimnol.ca/awards/robert-peters-award/#instructions>

## Rob Peters Award

By Kerry Finlay

### Submission Deadline: August 31<sup>st</sup>

The Rob Peters award is given by SCL each year to recognize the best aquatic sciences paper published in the preceding year by a Canadian student or a student working in Canada. Students need not be SCL members to be nominated. The award is valued at \$500 and a free 1-year membership in the society. The awardee will present his/her paper at the upcoming SCL meeting in Halifax, NS; January 2-5, 2020 during a plenary session.

Please consider nominating your published students for a Rob Peters Award! The nomination consists of a submission of the paper, typically from the student's supervisor. Nominations may be accompanied by a one-page cover letter outlining the quality, importance and impact of the paper. Nomination packages should be sent to [kerri.finlay@uregina.ca](mailto:kerri.finlay@uregina.ca).

## Other Societies' nominations: SIL awards

By Josh Thienpont

The third International Society of Limnology (SIL) Student Competition will be held over the next few months, leading up to the 2020 SIL meeting in South Korea. Any current student or early career members of SIL may apply. The first prize winner will present their research as a plenary talk at the 2020 meeting, and receive registration and travel cost coverage. For more information on the application procedure, visit: <https://limnology.org/students/sil-student-competition/3rd-international-sil-student-competition/>

If you have any questions direct them to Josh Thienpont at [joshua.thienpont@gmail.com](mailto:joshua.thienpont@gmail.com) The deadline for application at the National level is September 30, 2019. 

# Society By Law

By Joshua Thienpont

The formal incorporation of SCL with Revenue Canada has been completed; many thanks to past president Jérôme Marty for seeing this process through to its completion. Associated with this, the official bylaws of the SCL were circulated prior to, and voted on, at the most recent business meeting in London. They have now been submitted to the government. We encourage you to have a look at these, in case you were unable to prior to the business meeting; they can be found on the SCL website: <http://socanlimnol.ca/society/by-laws/>. These bylaws are written in a very legal manner, as is required, but in essence they outline the structure of the organization, its reporting to the membership, the roles and duties of the board/officers, and types of members (regular, student, EC, etc). If you have any questions related to the bylaws, please send Josh an email at [joshua.thienpont@gmail.com](mailto:joshua.thienpont@gmail.com) 

## Member Recognition

**Gertrud Nürnberg** was awarded the Secchi Disk Award, recognizing an individual member considered to have contributed the most to the achievement of NALMS' goal. <https://www.nalms.org/2018-achievement-award-nominations-recipients/>

**John Smol** was awarded the Sandford Fleming Medal from the Royal Canadian Institute for Science (RCIS). "For outstanding achievements in promoting knowledge and understanding of science ...". In addition, John was elected President of the Academy of Science, Royal Society of Canada, taking on the presidency in November 2019 for a 2-year term.



Left: "Tim Fernandes (McMeans lab) holds a lake trout caught under the ice, contributing to several ongoing studies focused on the winter physiology and behavior of freshwater fishes.

Right: OMNRF researchers use an ice saw to cut a hole through the ice, revealing an array of colorful layers. The hole was used to deploy zooplankton nets and a small ROV

For more information about this research see [www.baileymcmeans.com](http://www.baileymcmeans.com)

# Happy Birthday GRIL !!

by Beatrix Beisner

The GRIL (Groupe de recherche interuniversitaire en limnologie/Interuniversity Research Group in Limnology) is celebrating the 30th anniversary of its creation (1989) this year, with continuous funding from the Québec government (FRQNT) since 1993. In 2019, GRIL has grown to include 10 universities and the active labs of 51 members. To mark this anniversary, we are planning a special symposium at the 2019 Acfas (Association francophone pour le savoir) annual meeting in Gatineau, QC, as well as special insert for the newspaper Le Devoir to be published May 18th. We will hold our 30th GRIL Annual Symposium in the spring of 2020. Here's hoping for many more decades of GRIL contributions to limnology in Québec, Canada and the world!

Le Groupe de recherche interuniversitaire en limnologie (GRIL) célèbre son 30e anniversaire de création (1989) cette année, avec un financement continu du gouvernement du Québec (FRQNT) depuis 1993. En 2019, le GRIL regroupe les laboratoires actifs de 51 membres provenant de 10 universités québécoises. Pour marquer cet anniversaire, nous prévoyons un colloque spécial lors de la réunion annuelle de l'Acfas (Association francophone pour le savoir) 2019 à Gatineau, QC, ainsi qu'un cahier spécial pour le journal Le Devoir le 18 mai prochain. Nous tiendrons également notre 30e Symposium annuel du GRIL au printemps 2020. Nous espérons encore de nombreuses décennies de contributions du GRIL à la limnologie au Québec, au Canada et à travers le monde! 



160 people participated in the 2019 GRIL Annual Symposium in Orford, Québec • 160 personnes ont participé au Symposium annuel du GRIL en 2019 à Orford, Québec. Photo Credit : Marie-Andrée Fallu. Follow GRIL: [@GRIL\\_Limnologie](https://www.facebook.com/GRIL.limno) •

[https://oraprdnt.uqtr.quebec.ca/pls/public/gscw030?owa\\_no\\_site=543](https://oraprdnt.uqtr.quebec.ca/pls/public/gscw030?owa_no_site=543) • <https://www.facebook.com/GRIL.limno>

## • Student Spotlight •

Summary of the panel discussion: “Tips to get a job in aquatic sciences”

by Cécilia Barouillet (Queen's University) & Kristen Coleman (York University)

During this year's CCFR/SCL conference, held January 3-6 in London, Ontario, the SCL student reps organized a panel discussion that allowed students and recent graduates to interact with professionals

from varied backgrounds and get advice on how to prepare for the school to career transition. Here we have summarized some of the great advice we gleaned from the two-hour long discussion between students and professionals.

### List of Panelists (from left to right on photo below):

Nicholas Mandrak (PhD) - Associate Professor Biological Sciences, University of Toronto Scarborough

Neil Hutchinson (PhD) – President and Principal Scientist, Hutchinson Environmental Sciences Ltd.

Yolanda Morbey (PhD) – Associate Professor (Biology), Western University

Anthony Merante (MSc) – Specialist - Freshwater Program, WWF Canada

Jennifer Korosi (PhD) – Assistant Professor (Geography), York University

Brian Cumming (PhD) – Professor/Head of Biology Department, Queen’s University

Nicholas Jones (PhD) – Research Scientist, Ontario Ministry of Natural Resources and Forestry



## Some Tips

### Work-life balance

- Learn to manage your time and know your limitations (e.g. if you are more effective and focused in the morning, do brain intensive tasks in the morning and more menial tasks in the afternoon).
- Make sure to schedule time off so that you don't burn out.
- Learn to say no.
- Love what you do, because then it doesn't feel like work.

### Skills

- In all sectors, the ability to communicate clearly and concisely to a variety of audiences is a necessity.
- Some interviews for governmental and industry positions will test your writing abilities.
- Good social skills are also important to employers.

### Landing an interview

- Always read application instructions very carefully.
- Spend more time perfecting fewer applications.
- Take time to research the employer's mandate, understand the job you are applying for.
- Try to make a connection: invite someone out for coffee, schedule a meeting, volunteer.
- Cover letter:
  - Include academic standing, research capacity skills, leadership skills.
  - Making your cover letter unique can help your application to stand out from the others.
  - It is okay to include relevant hobbies.

### Interview Tips

- Have at least 10 stories prepared that can be used to answer situational questions. Research situational questions online beforehand.
- For academic interviews make sure to research the school so you are familiar with and understand their focus, the different research groups, style of teaching, etc...
- Understand the position you are applying for, take lots of time to prepare. Always be prepared to ask an informed question at the end of the interview.

Do you want to be our next student spotlight? If you are a student and you want to share your research project, let us know: [comms@socanlimnol.ca](mailto:comms@socanlimnol.ca)

## Summary of the pros and cons of working in the different sectors

	Government	Industry	NGOs	Academia
Pros	<ul style="list-style-type: none"> <li>• Work with a group of highly specialized individuals and learn a lot working in these teams.</li> <li>• Some science (multiyear and large scale) is only possible at the government level (e.g., inland lakes monitoring).</li> <li>• You are more likely to stay within your standard 40-hour work week but this is dependent on the person.</li> <li>• You have access to more human and financial resources.</li> </ul>	<ul style="list-style-type: none"> <li>• There are have fewer restrictions and less bureaucracy (than with the government) and so you can accomplish more in a shorter period of time.</li> </ul>	<ul style="list-style-type: none"> <li>• You have more freedom in NGOs.</li> <li>• Through networking NGOs can make large projects happen, particularly in cases where the government isn't interested in pursuing that research.</li> </ul>	<ul style="list-style-type: none"> <li>• You have more flexibility and can set your schedule and work from home when you need to.</li> <li>• You are also free to pursue science that interests you, as long as you have the funding.</li> </ul>
Cons	<ul style="list-style-type: none"> <li>• Things can move slower in the government so it takes longer to complete projects.</li> </ul>	<ul style="list-style-type: none"> <li>• You have less freedom on the project you work on.</li> </ul>	Limited resources	<ul style="list-style-type: none"> <li>• You have to put in more hours to accomplish everything on time, and a lot of time is spent looking for funding.</li> <li>• The first few years are the hardest as you learn the ropes and set up your lab.</li> </ul>

# Research Highlight: Assessing the impacts of oil spills at the IISD Experimental Lake Area

The BOREAL Project is a landmark study to examine the effects of an oil spill on lakes in the Northwestern Ontario IISD Experimental Lakes Area

By Jules Blais (University of Ottawa)

Canada's economic development depends in part on efficient transport of its landlocked oil resources to global markets. Pipelines are considered to be the safest mode of transporting Canada's oil; nonetheless, the potential for spills, in a growing network of pipelines, is a significant concern for Canadians. While oil transportation and spill response are relatively mature fields, the diluted bitumen (dilbit) transported through pipelines from the Alberta oil sands presents new challenges for spill clean-up and ecological effects compared with traditional crude oils. In 2015, The Royal Society of Canada tasked a panel of expert oil scientists to develop a report to outline the gaps existing in the current state of knowledge surrounding diluted bitumen and its behaviour in the environment. The panel identified their highest priority was "field trials to define the behaviour of diluted bitumen and unconventional crude oils under various seasonal and site conditions relevant to Canada". The panel emphasized the need to gain further understanding of how diluted bitumen behaves once spilled into freshwater, as well as to better understand how dilbit affects aquatic communities and ecosystem function.

To address these research needs, scientists from across Canada initiated a major project to assess the impacts of diluted bitumen on lakes in a major outdoor experiment. The program, called the

"Boreal Oil Release Experiment by Additions to Limnocorrals (or BOREAL) project consisted of adding dilbit to a series of nine large 10-meter diameter enclosures. The BOREAL team conducted this unprecedented project at the world-renowned IISD-Experimental Lakes Area in Northwestern Ontario near Kenora, a facility consisting of 58 lakes set aside in 1968 for whole-ecosystem experimental research. The BOREAL project is among the first major studies to be performed at the newly established IISD-ELA under its new management structure. This research would not have been possible without the involvement of federal partners, especially Dr. Bruce Hollebone at Environment and Climate Change Canada, who helped the project navigate through the legal and logistical challenges involved in doing such an unprecedented study. ↪



Aerial drone image of the BOREAL study to examine the environmental effects of a diluted bitumen spill on lakes. This experiment consisted of adding diluted bitumen to a series of nine large limnocorrals suspended in Lake 260 of the IISD-Experimental Lakes Area in Northwestern Ontario. Booms were set up across the lake to contain any inadvertent oil spills. [Photo](#): Dr. Jose Rodriguez-Gil

→ The BOREAL project had four major themes: (1) to track the physical and chemical fate of the dilbit as it weathers in a natural aquatic environment; (2) to examine the effects of dilbit on the aquatic ecosystem; (3) to perform bioaccumulation studies of chemical substances from dilbit to fish, amphibians, and invertebrates; and (4) to determine the toxicity of dilbit on aquatic organisms. BOREAL was a collaboration between universities (primarily the University of Ottawa, the University of Manitoba, and Queen's University), government departments (Environment and Climate Change Canada, Fisheries and Oceans Canada, the National Energy Board) and the IISD-Experimental Lakes Area), as well as other partners and colleagues from across Canada.

A companion project called FOrEst (Freshwater Oil Spill Remediation Study) led by Dr. Vince Palace at IISD-ELA intends to assess shoreline remediation strategies to oil spills. 

### FAST FACTS

**Who:** BOREAL Principal Investigators: Drs. Jules Blais, Mark Hanson, Diane Orihel

**What:** Studying the effects of oil spills on lakes

**Why:** To better understand the effects of spilled diluted bitumen in Canadian lakes

**Where:** The IISD Experimental Lakes Area, near Kenora, Ontario

## The 2019 floods in Eastern Canada: an outlier or a new normal?

by Jérôme Marty

This year again saw the rise of many rivers and lakes to a level rarely observed in Ontario, Québec and New Brunswick. The public often hears about these floods in relation to 'the 100 year floods', a notion that is not always well understood by the public. The 100-year flood refers to a probability of having a flood event that has 1 in 100 chance of being equaled or exceeded in any one year. This definition has a very different meaning to that commonly believed by the public (that is having a flood every 100 years).

The 2019 floods follow the 2017 floods, causing cities to declare a state of emergency; evacuations, losses of properties mostly in the province of Quebec. The recurrence of the floods highlights the need for policy makers to



carefully consider the design of land use and municipal plans in the flood plains. Research is needed to



determine the cause of these new highs in water levels which likely is a combination of amount and timing of precipitation as snow and rain, timing of snow melt and the ability of soil and vegetation to store water on the land. Research could also help to identify areas in watersheds that would be sensitive to floods, either being at risk or providing mitigations to impacts.

In the recent days, we observed the rise of the water level of Lake Ontario, which is needed to reduce the flow of the St Lawrence River going to Montreal. Although residents in Ontario were complaining about high levels in the lake, there is a need to mitigate the impacts of the Ottawa River merging the St Lawrence upstream of Montreal. At its peak, the discharge of the Ottawa River reached again this year a value similar to the mean flow of the St Lawrence River and there was as much water flowing under the Chaudière Bridge in Ottawa as in the Niagara Falls. 

# Indigenous Community-Based Climate Monitoring Forum

by Kerri Finlay (University of Regina),  
& David Fortin (Wicehtowak Limnos  
Consulting Services Ltd.)

The first Indigenous Community-Based Climate Monitoring Forum was held from March 28-30, 2019, on Treaty 4 lands at First Nations University of Canada in Regina, SK. This forum was held in response to the enthusiastic feedback from many groups working with the Indigenous Community-Based Climate Monitoring Program offered through the Crown-Indigenous Relations and Northern Affairs Canada branch of the Government of Canada. This program offers funding opportunities for First Nations and Métis communities to establish baseline data, monitor trends in a variety of environmental measurements and increase environmental awareness under a changing climate.

Over 60 attendees participated in the forum, including First Nation and Métis representatives from across the prairie provinces, as well as government and university researchers. Each day began with a pipe ceremony in the First Nations University tipi, which was then followed by presentations and workshops with the aim to increase communication among communities and allow for the sharing of best practices, and the dissemination of challenges, successes, and milestones.

Given the diversity of climate-based concerns across such a wide geographical area, and the different world views of the participants, a wide range of topics were discussed. Workshops focussed on monitoring options for snow, ice, and permafrost, freshwater monitoring, weather stations, and wildlife and vegetation surveys.

Beyond the technical component of how to measure, additional workshops were offered that addressed issues of community engagement, blending multiple ways of knowing, and engaging Indigenous youth in STEM.

From the SCL perspective, it is clear that we as limnologists have a lot to learn from indigenous environmental stewardship initiatives. We also have a role in supporting First Nations and Métis communities that are working with their Leadership, Youth, Knowledge Keepers and Citizens to monitor environmental changes and to increase awareness about environmental issue on their land and traditional territories. This could include collaborating on sampling protocols and data interpretation, as many participants mentioned during the forum. As researchers, we need to make ourselves available for collaboration and support when possible, while recognizing the sovereignty of the First Nations and Métis and their right to determine whether and how to share the data collected on their lands. →



George Gordon First Nation Climate Monitoring Team (from left to right: Wayne Bitternose, Treyton Pratt, David Fortin) Photo credit: Kerry Finlay

➤ This forum, and the federal funding program is a great first step in fostering collaboration and shared learning among Indigenous community-based monitoring groups, but there is a lot of work ahead. We are looking forward to future opportunities to improve these relationships and work towards an effective mechanism for climate monitoring in First Nations in the years to come. 

Photo on the right: Water Rangers sampling kit.  
Photo credit: Kerry Finlay



## Toxic Cyanobacteria on Parliament Hill

by Jérôme Marty (Council of Canadian Academies)

If you would like to contribute to our newsletter, share your stories or cool research project, please contact [comms@socanlimnol.ca](mailto:comms@socanlimnol.ca)



Once a month, the federal MPs, senators and senior policy makers have the opportunity to hear about key science and engineering topics when they attend the **Bacon and Eggheads breakfast** speaker series. For the month of April, our very own Frances Pick, from the

the House of Commons Standing Committee on Finance Pre-budget Consultations.

The title of the presentation ‘Toxic Algae: a Growing Threat to Canadians’ highlighted the differences between harmful algal blooms and “normal” blooms in terms of health and economic impacts on wildlife and society. Frances presented trends for blooms in Canada based on both contemporary data and sediment DNA analyses of cyanobacterial genes over the past 200 years. Cyanobacteria blooms are not just typical of nutrient enriched inland waters and have now arisen in relatively pristine lakes as far north as the Arctic Circle in Canada. The importance of both nutrients and climate change as significant drivers was outlined along with the research and policy required to develop guidelines for emerging toxins (beyond microcystin -LR) and for regulating phosphorus, nitrogen and carbon in the environment. 

University of Ottawa explained why toxic algae and cyanobacteria represent a significant threat to Canadian waters and Canadians.

The series has been running since 1998 and is organized by the Partnership Group for Science and Engineering (PAGSE), which represents over 25 science and engineering organizations and societies, including SCL (yes, the SCL logo appears each month on the Hill!). In addition to these societies, PAGSE obtains support from NSERC, CANARIE, the Canadian Museum of Nature, plus some other organizations and individuals. Beside the Bacon and Egghead speaker series, PAGSE manages the SciEng Pages internship, allowing students to experience the translation of scientific findings into policy ready documents. PAGSE also issues parliamentary briefs, including submissions to



# In Memoriam: John R. Glew

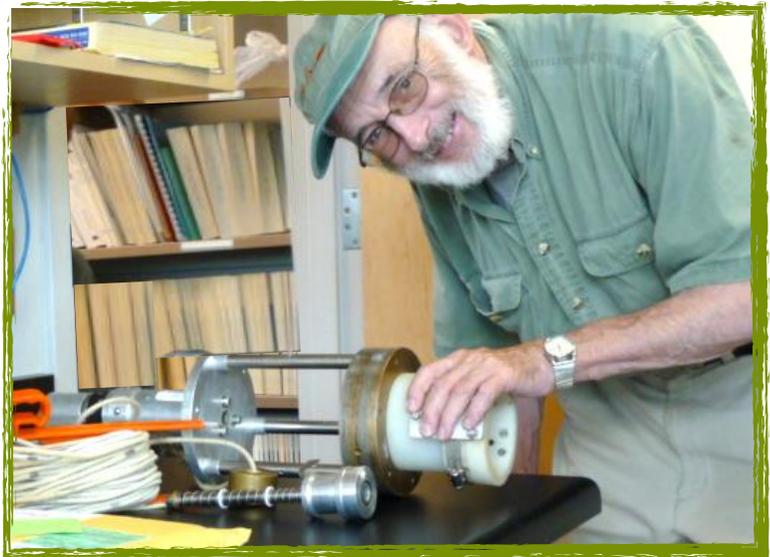
(1942-2019)

by John P. Smol (Paleoecological Environmental Assessment and Research Lab (PEARL), Queen's University, Kingston, Ontario)

It is with profound sadness that I report the passing of John R. Glew on Feb 19, 2019 – he died very suddenly, but peacefully, in his sleep. He was 76 years old.

I met John when I was in my 20s, within a few days of receiving my professorship, when I happened to be in the Geography Department at Queen's University. John had remarkable skills in both science and instrument development, having been a tool and die maker in Sheffield before he immigrated to Canada in 1968. Following work at Sperry Gyroscope Corporation in Ottawa, a company manufacturing precision electronic equipment for the naval and aircraft industries, John enrolled in a Bachelor of Science program in Geography at Trent University as a mature student, graduated, then received a Bachelor of Education from Queen's University. He then taught for a few years in Northern Ontario before enrolling as a MSc student at McMaster University (Hamilton, Ontario) and received his degree in physical geography. He then returned (now in his 40s) to Queen's University (Kingston, Ontario) as a PhD student in Geography, but his career path changed direction and he began working with me and colleagues at the young PEARL lab, designing and building specialized equipment and making remarkable drawings.

John is best known for his various Glew sediment corers and extruders (first designed for our early acid rain work, where we required high-resolution records of lake ecosystem changes). These instruments included the original Glew (1989) gravity corer and Glew (1988) extruder, and then the mini-Glew corer



John R. Glew with Glew Corer at Queen's University.  
Photo credit: John P. Smol

(Glew 1991), which proved invaluable for our High Arctic work, coring through a single ice auger hole, and largely replaced small sediment corers that were unreliable. He later modified his designs with adaptations for deep-water (Glew 1995) and then shallow-water (Glew and Smol 2016) coring. His innovations also included modifying piston corers, including pistons with pressure-release valves. John's creativity and technical skills, coupled with his understanding of the physics and mechanical details of sediment coring and extrusion, were key to the success of his many designs. His co-authored summaries of the overall protocols and challenges of sediment coring (e.g. Cumming et al. 1993, Glew et al. 2001) remain valuable sources for newcomers and seasoned paleolimnologists alike.

John's paleolimnological equipment is in use on all 7 continents. Not surprisingly, he was an inaugural winner of the International Paleolimnology Association Service Award,



→ “dedicated work in developing and improving new corers and samplers used by paleolimnologists worldwide”.

John’s remarkable mechanical skills were indispensable in the field – for many of my High Arctic field seasons he was my right hand (and often my left hand as well). He could fix almost anything, from field gear to small motors to electrical equipment, to infrastructure torn apart by polar bears!

In addition to his technical and creative skills, John was an accomplished artist, working mainly in watercolours. John’s artistic talent combined with his geological knowledge provided him with a unique skill set that brought to life complex landscape processes that he beautifully illustrated. John illustrated all of my books, such as the 2 volumes of the chrysophyte cyst atlas (Duff et al. 1995, Wilkinson et al. 2001) as well as my paleolimnology textbook (Smol 2008), amongst other volumes.

John officially retired a few years ago, but continued on as a part-time employee with me

at PEARL. We saw him almost every day. I had coffee with John the afternoon before he died, and he was argumentative and entertaining as usual. He was my closest friend and sharpest critic for 35 years. He will be sorely missed.

John is survived by his brother (Peter Marshall-Glew) of Victoria (British Columbia) and his family, as well as thousands of friends. 



Drawing of a chrysophyte cyst by John R. Glew.

#### Publications

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## - • - Recent Citings - • -

This section highlights 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 [comms@socanlimnol.ca](mailto:comms@socanlimnol.ca)!

- Barouillet, C., Cumming, B.F., Laird K.R., Perrin C.J., Selbie D.T. 2019. Influence of glacial flour on the primary and secondary production of Sockeye Salmon nursery lakes: a comparative modern and paleolimnological study. *Canadian Journal of Fisheries and Aquatic Sciences*. <https://doi.org/10.1139/cjfas-2018-0372>. Just-IN version
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