

THE CURRENT



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Newsletter of the Society of Canadian Limnologists

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Right: Sunrise on Lake 239 (Rawson Lake) at the IISD-Experimental Lakes Area. Photo credit: Lauren Hayhurst



SCL Update

Mike Rennie, Communications Officer



Lots of exciting things are happening with the society in 2017. Under the stewardship of our President, Jerome Marty, SCL will finally become incorporated as a not-for-profit scientific organization. We look forward to being able to announce the final details of this in the coming months.

January saw another amazing set of talks with our Society meeting held annually with CCFFR, and

Limnology featured prominently with many SCL members on the Local Organizing Committee. As one of the largest CCFFR/SCL meetings on record, I think it demonstrates what SCL can do with a greater level of participation in organizing conferences, and bodes well for the future as more formal agreements in conferences are made possible through our incorporation. Details on how to submit a proposal for a special session for the upcoming meeting in Ottawa can be found later in this issue.

[Limnoseminar](#) continues to make waves, with four already on our website and plans to add more. Be sure to [contact us](#) if you are interested in this opportunity. .

In this issue of the newsletter, we are lucky enough to have contributions from three research groups regarding their work on hydrology, lake health and oil sands. Please be sure to contact us so we can highlight your research in an upcoming issue.

A first for us, our student spotlight this issue is en français. As a bilingual society, we welcome contributions in both official languages, and continue to strive to incorporate a greater degree of bilingualism in both our newsletters and on our website. If you're interested in assisting with these initiatives, we'd love your help so don't hesitate to reach out and let us know.

Finally, it's awards nomination time. Awards announcements for the Peters and Rigler awards are in this issue; in addition, we are announcing the SIL student competition, as well as a new opportunity for HQP support at the world-renowned IISD-Experimental Lakes Area. Keep reading in this issue for all the details; we hope you enjoy it. 🌐

SIL Student Competition

We are pleased to announce the 2nd SIL student competition, which recognizes the best published paper in Limnology appearing as part of a PhD or MSc thesis internationally. The first (national) stage of the competition will select 1 or 2 student paper(s) to put forward to the international stage. There, papers nominated from all countries will compete for

first, second and third places. The first place winner will be invited to give a plenary talk at the 2018 SIL Congress in Nanjing.

For details, instruction and application form go to [sil-student-competition](#). Deadline for submitting applications: 30 September 2017. 🌐

Our new Secretary and Treasurer

Jérôme Marty

We are happy to announce that we have found someone capable of filling the large shoes left by Roberto Quinlan, our past secretary-treasurer. Elected unanimously at the Montreal meeting, SCL's new secretary-treasurer is Dr. Joshua Thienpont, a postdoctoral fellow in the Department of Biology at the University of Ottawa. Josh completed his undergraduate degree and graduate training in the Department of Biology at Queen's University, under the supervision of John Smol in the PEARL Lab. His PhD research was on the impact of environmental changes, including permafrost thaw and saltwater inundation, on lakes of the western Canadian Arctic. Following his PhD, Josh held a W. Garfield Weston Postdoctoral Fellowship at Brock University, and taught a number of courses at Carleton University. In 2015, Josh was elected a fellow of the Royal Canadian Geographical Society, and joined Jules Blais' lab at the University of Ottawa. He is an aficionado of coffee and cycling. Please join us in welcoming Josh as our newest member of the SCL executive! 🌐



Josh Thienpont, our new Secretary Treasurer and SCL's newest addition to the executive.

Announcing the IISD Experimental Lakes Area (IISD-ELA) HQP Support Grant

Michael Paterson

In partnership with NSERC and Trent University, the IISD-Experimental Lakes Area (IISD-ELA) has established a pilot (2017-2018) competitive grant program to support research activities of Highly Qualified Personnel (HQP)¹ at the IISD-ELA research station in northwestern Ontario (<http://www.iisd.org/ela/>). The Support Grant will help to defray all, or a portion of, IISD-ELA research station Facility Fees for HQP. IISD-ELA Facility Fees cover the cost of housing, meals, laboratory space, and field equipment (boats, motors, ATVs, snowmobiles, etc) for researchers while working at the IISD-ELA field station in northwestern Ontario. Current fees range between \$99.50 and \$142/d depending on the length of the stay (<http://www.iisd.org/ela/visitors/visitor-information/>). HQP Support Grants are intended to increase numbers of HQP conducting research at the IISD-ELA research station and increase the accessibility of IISD-ELA to HQP that could not otherwise obtain support for the IISD-ELA Facility Fees. HQP Support Grants are NOT designed to defray IISD-ELA Facility Fees already budgeted within existing grants, but they can be used to increase the

number of HQP or the duration of on-site research above those budgeted for in existing grants.

Grant applications must originate from and will be awarded to Principal Investigators. Facility Fee support will be provided in the form of credits at the IISD-ELA facility and are not transferable among Principal Investigators. Facility Fee credits may not be carried over from one research year to the next. The IISD-ELA anticipates awarding a total of up to \$30,000/year of credits for the 2-year pilot program.

Initial applications for the 2017 field season are due on **June 21, 2017**. Later applications may be accepted if the full grant budget is not allocated following this first intake. Applications for the 2018 field season are due on March 31, 2018. Applicants are asked to provide the following materials:

- A one page summary of the proposed research;
- A curriculum vitae for the Principal Investigator (a current NSERC Form-100 or CCV is acceptable), including contact information;
- A brief budget justification including requests for Facility Fee support (number of days, HQP and anticipated


timing). Based on demand and available funds, the selection committee may offer to provide funding to meet some or all of an applicant's request. Please indicate the minimum number of days of Facility Fee support that could be utilized.

d. A description of external support for research being conducted at IISD-ELA, including funds provided for Facility Fees. Where Facility Fees have been budgeted within an existing grant, please provide a clear justification of the need for additional personnel or duration of research.

Applications will be evaluated based on the following criteria:

1. Quality of the research proposal
2. Availability of alternative research funds for work at the IISD-ELA
3. Researchers and HQP new to IISD-ELA
4. Research conducted outside of the May-August peak period.

¹ NSERC defines HQP as graduate, post-graduate and advance undergraduate training (e.g. Honours theses).

Please send applications and direct inquiries to Michael Paterson (mpaterson@iisd-ela.org). 

Major questions come with rising waters

Stacey Dumanski, Outreach Coordinator, Global Institute for Water Security, University of Saskatchewan

Although weather extremes and natural disasters are a normal occurrence across Canada, recent extreme events have set records in terms of damage, costs, severity/intensity and spatial extent, including the oscillation between opposing extremes of flood and drought in a very short period of time and in close geographic proximity or at the same locations. As the climate continues to warm, Canada is entering a new era of water threats that emerge from altered precipitation patterns, reduced snowpacks, accelerated glacier melt, intensified floods and droughts, reduced water availability and degraded water quality.

This spring, provinces across Canada have been struggling with rising floodwaters. By the start of May, dozens of municipalities in New Brunswick, Quebec, Ontario and British Columbia declared states of emergency and thousands have been evacuated from their homes. Across these flood ravaged regions, the story is much the same –



Flooding on Marshall Street in Kelowna, BC this spring. Photo credit: Brady Strachan/CBC .




A parched farmer's field in Alberta, near Leduc, 2015. Photo Credit: Rick Bremness/CBC.

deep, late melting snowpacks combined with intense rainfalls have caused rivers and streams to surge and lake levels to rise to above normal levels in some areas. These rising waters bring major questions regarding future risks to infrastructure, and major questions regarding current and future risks to ecosystems -- as nutrients and contaminants are delivered along with floodwaters.

This flooding follows on the heels of recent drought events that have impacted areas across both Eastern and Western Canada. In 2016, much of Southern Ontario and coastal British Columbia experienced severe drought conditions and

in 2015, a widespread drought impacted large areas across Western Canada (particularly in British Columbia and Alberta). Record or near-record dry soil moisture and low streamflow conditions developed in just a few short months and prompted restrictions to be placed on water use.

As temperatures continue to warm, we will continue to see the intensification of both drought and flood events. For every 1 °C of warming, approximately 7% more water can be held in the atmosphere (global water vapour) which will impact the delivery of precipitation and evaporative demand. It is likely that rainfall will become more intense (heavier rainfall in fewer events) and dry spells may last longer due to an increase in evaporative demand. So what does this mean to our inland waters? This is a major research question in Canada, and globally, that requires integration of limnologists, hydrologists, climate scientists, and policy experts.

As Canada continues to experience rapid environmental change, there is an increasing need to prepare for and manage water-related risks. In September 2016, a new water research program, Global Water Futures (GWF) was launched with the aim to reduce the risk of such disasters by gaining advanced warning of extreme weather events. The 7-year, University of Saskatchewan-led research program is partly funded by a \$77.8-million grant from the Canada First Research Excellence Fund and aims to place water protection tools and information directly into the hands of the public, communities and industries, including Canada's first national flood, drought and water quality forecasting tools. 

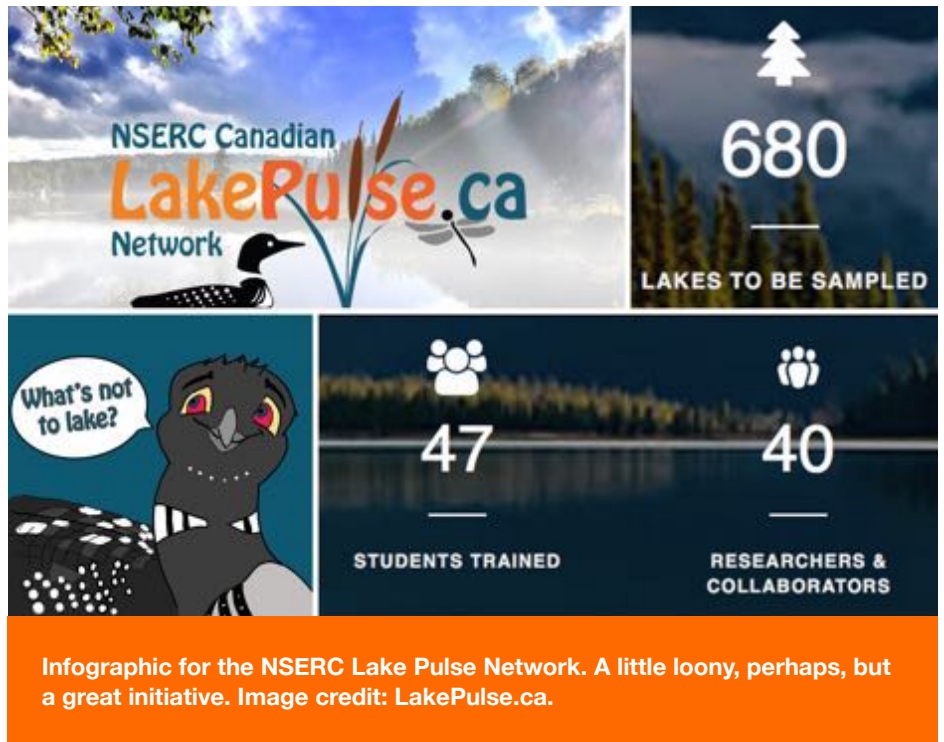
Research Highlight The NSERC Canadian Lake Pulse Network: Assessing lake health nationwide

Yannick Huot and Catherine Brown
Université de Sherbrooke

How do you combine a pan-Canadian assessment of lake health with innovative research, while also providing governmental partners and other stakeholders with new knowledge to spur evidence-based decision making? Put it all into an NSERC strategic network grant, of course. The objectives of the NSERC Canadian Lake Pulse Network (we affectionately call it “Lake Pulse”) are ambitious, to say the least!

Lake Pulse participants collaboratively explore many aspects of limnology, including paleolimnology, spatial modelling, remote sensing, genomics and contaminants, while determining how to best integrate these advances into lake management and provide accessible data for policymakers and decision making. Our aim is to create an accessible web platform to promote a science-based understanding of lake health, which will help bring together stakeholders and facilitate informed and cooperative lake management. This 5-year research network, initiated in mid-2016, includes 18 university researchers and will train over 40 students. Our partners include federal, provincial and territorial government agencies as well as non-governmental organizations.

Many Lake Pulse participants are finding that a departure from their usual




modus operandi is required. Enhanced cooperation is essential in this network, and many individuals are coming together to contribute to common goals. For example, Lake Pulse students will be immersed in our multidisciplinary, collaborative field expeditions to sample 680 lakes across Canada over 3 summers. These students will collect data for the entire network and cannot focus only on their own individual projects. They will be trained in diverse limnological techniques; contribute to our large, shared database of lake variables; and help to refine our Lake Pulse field manual of protocols that will be consistently applied nationwide and aligned with the EPA's National Lakes Assessment. Lake Pulse researchers, unlike researchers working in many other NSERC Strategic Partnership networks, are not allocated funds to carry out specific research projects; instead, they are provided with partial stipends for students. Our partners are deeply embedded in all aspects of Lake Pulse from planning to analyses, including data collection and publication.

For this network to succeed, trust must be built amongst all participants; methods and guidelines must be put in place; and communication must be efficient and flow freely. Establishing this framework was some of the work cut out for us over the last few months,

along with building the core team at our host institution, the Université de Sherbrooke.

To say that these months have been fast paced would be an understatement, and to claim that there were no challenges would be inaccurate. However, we are confidently on track to begin one of the most ambitious limnological field campaigns ever carried out in Canada. When our mobile labs set out in July 2017, you can follow their progress online.

We also welcome opportunities to work with new partners, collaborators and researchers who have the potential to enhance our Lake Pulse objectives. To learn more about us, visit our website at www.lakepulse.ca... and subscribe to our blog! 

Do YOU have a story to share in the next issue of The Current? Have an idea for a blog?


Send ideas, photos or contributions to:
comms@socanlimnol.ca.

FAST FACTS:

WHO? A friendly group of academic and government scientists, managers and policymakers; students; NGOs... you?
WHERE? Possibly coming to a lake near you... 680 lakes will be sampled across Canada.
WHAT? An NSERC Strategic Partnership Network on environmental issues affecting Canadian lakes.
WHY? It's high time to go beyond a regional understanding of the status of Canadian lakes.
WEB: www.lakepulse.ca

Society update

Josh Thienpont

SCL has continued to maintain its strong core membership, with 117 current members. This is just slightly below the number at this point last year (122), and closely aligns with the 5-year average for the society. Our end of year membership in 2016 was 131 members, and as memberships continue to trickle in we aim to meet this number in the current year. Student members continue to constitute a strong proportion of the SCL membership (31% currently, 38% year end 2016). If you have not already, please renew your membership, either online via PayPal, or through mailing in a paper form. You can access all renewal options [on our website.](#) 

Conference round-up: Montreal, 2017


Mike Rennie, Josh Thienpont and Alain Patoine

There were more than 443 attendees at the January meeting in Montreal, with 51% of participants identified as students. SCL member attendance at the 2017 CCFFR meeting in Montreal was high, in keeping with the trend of greater attendance in the central meetings. In addition, SCL members were an important component of the



2017 Peters Award recipients Jaime Summers from Queen's University (left) and Dan Grégoire from University of Ottawa (right), being congratulated by Jérôme Marty, SCL President (centre). Photo credit: Roberto Quinlan.

local organizing committee, which put together an excellent and successful congress. [Jules Blais](#) was awarded the 2017 Frank Rigler Award for his significant achievements in the field of limnology, who gave an excellent talk highlighting the work of his research group using patterns of biomarkers and contaminants in sediments to understand environmental change.

Exceptionally this year, [there were two 2017 awardees of the Rob Peters award.](#) Jaime Summers from Queen's University was recognized for her paper on temporal changes in primary production in the Athabasca Oil Sands Region. Daniel Grégoire from the University of Ottawa was also recognized for his paper examining the role of mercury during phototrophic growth in Nature Geoscience. Links to both papers are [on our website.](#) Congratulations to all our winners! 

Save the date: Jan 5-8, 2018 in Edmonton!


Mark Poesch and Alain Patoine

Our next meeting with CCFFR will take place January 4-7, 2018 in Edmonton's downtown Westin hotel.

The Canadian Conference for Fisheries Research (CCFFR) is Canada's largest and best known gathering of fisheries scientists. The conference has been held annually since 1948 and since 1979 has been co-hosted by the Canadian Society of Limnologists. The objectives of CCFFR are: 1) to provide a forum for cutting edge fisheries research among academia, government, and industry; 2) to encourage the knowledge transfer of developments in fisheries, aquatic science and aquaculture; 3) to encourage professional development and networking among Canadian fisheries professionals; and, 4) to provide training opportunities

and networking for undergraduate and graduate students, including financial support for conference travel through the annual Clemens-Rigler Travel Award. In 2018, CCFFR will be held in Edmonton.

This year, the conference theme is "Balancing Economic Development with Environmental Sustainability: An Aquatics Perspective" and currently includes 10 sessions ranging from oil sands monitoring to contaminants and climate change.

We are still seeking special session nominations. Please submit your special session or workshop title, along with a 250 word summary and the list of 5 potential speakers/contributors to alain.patoine@umoncton.ca by June 26th 2017. 

Nominations for awards now open!

Frank Rigler Award submission deadline August 25th

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 4-7, 2018 in Edmonton's downtown Westin, and will receive complimentary registration at the meeting and a one-year membership with the Society.



Above: Frank Rigler award recipient Jules Blais, University of Ottawa (left), with Jérôme Marty, SCL President (right). Photo credit: Michael Rennie.

A nomination for the Frank Rigler Award shall consist of:

1. A cover letter, not to exceed two pages in length (single-spaced, 12-pt Times New Roman font, 1-inch margins), describing clearly how the nominee has made a lasting contribution to the field of limnology, either as a Canadian citizen abroad or to the field of limnology in Canada. Contributions that should be highlighted in the nomination can include (but are not limited to) evidence of work that has a scope that is both broad and of high-impact; evidence of work that has directly influenced aquatic science policy, and major public outreach initiatives involving the candidate that increase awareness regarding the importance of freshwater

resources to Canadians. The cover letter must also confirm the nominee's commitment to attend the upcoming society meeting and, if selected, present the Rigler lecture.

2. A CV covering the applicant's full scientific career that highlights employment history, publication record, funding held, contributions to training of students, invited lectures and contributions to public outreach, honours and prizes, and journal editorships and reviewing.


Deadline for nominations is August 25th, and should be sent to alain.patoine@umoncton.ca.

Rob Peters Award

deadline August 25th

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 Edmonton, January 4-7, 2018 during a plenary session.

Please nominate your students who have published for a Rob Peters Award. Nomination packages should be sent to helen.baulch@usask.ca by August 25th. The nomination criteria are not onerous, and outlined here: <http://socanlimnol.ca/awards/robert-peters-award/#instructions> 

Student spotlight

Dan Gregoire and Nicolas Fortin St-Gelais

**Dominic Vachon, Post doc,
Université de Genève, Suisse
Superviseur: Daniel McGinnis**

En quelques phrases, veuillez décrire votre projet de recherche actuel :



J'étudie présentement la dynamique combinée de l'oxygène, du méthane et du dioxyde de carbone dans un petit lac eutrophe. Plus précisément, je m'intéresse au mode de transport et à la régulation biogéochimique de ces gaz dans la colonne d'eau en fonction du niveau de stratification. Le but ultime de mon projet est de mieux prévoir les émissions de gaz à effet de

serre des lacs dans un contexte

Quand et comment avez-vous découvert la limnologie?


Do YOU want to be in the next student spotlight? Let us know!
comms@socanlimnol.ca

J'ai découvert la limnologie lors d'un cours de terrain à Saint-Michel-des-Saints, dans le cadre du baccalauréat en biologie de l'UQAM. Nous étions sur un ponton au milieu du Lac Lusignan et le professeur Yves Prairie nous expliquait comment le lac était le reflet de son bassin versant, que ce qui se passait sur la terre ferme affectait ultimement ce qui avait dans la colonne d'eau. J'ai tout de suite accroché. Yves Prairie est devenu quelques mois plus tard mon directeur de mémoire de maîtrise.

Que préférez-vous le plus et le moins dans la recherche?

Ce que je préfère le plus dans la recherche sont les discussions informelles avec mes collègues, que ce soit lors de congrès, dans le cadre d'une porte ou en buvant une bière. Ce sont lors de ses moments que souvent de nouvelles idées émergent. Ce que j'aime le moins est la pression de performance que le système actuel nous impose. Peut-être qu'un jour cela changera, mais pour l'instant, il faut apprendre à vivre avec cette réalité.

Quels sont vos objectifs futurs?

Mes objectifs sont de faire de la recherche pour faire avancer nos connaissances sur les écosystèmes aquatiques. Que ce soit dans le cadre du secteur privé, gouvernemental ou académique, je souhaite contribuer à préserver l'intégrité des plans d'eau et à mieux prévoir les impacts qu'auront les humains sur leur fonctionnement et leurs services écosystémiques. 

An integrated approach to studying the environmental impacts of Canada's oil sands

By Philippe J. Thomas^{1,2} and Jules Blais¹ (University of Ottawa, Ottawa, ON, Canada)

¹-Department of Biology, University of Ottawa, Ottawa, Canada

²-National Wildlife Research Centre, Science and Technology Branch, Environment and Climate Change Canada, Ottawa, Canada



Northern Lights over Lake Athabasca in February.

“Water cannot speak, but together, we can give it a voice.” – Yellowknife Dene First Nation Elder.

Photo credit: Philippe J. Thomas


The Athabasca oil sands are an important economic driver for Canada, yet concerns about their environmental impacts continue to mount. Oil production in Canada's oil sands increased from 0.48 to 1.98 million barrels per day between 1995 and 2013, and production is predicted to double again by the 2020s. This rise in production also raises concerns for many stakeholders, especially the numerous downstream indigenous communities such as Fort McKay First Nation, the Mikisew-Cree, Athabasca Chipewyan First Nations and the Métis. Further, new pipeline developments are being planned to ship Alberta bitumen across Canada and the United States, bringing concerns to more people about threats to water quality. These concerns may be warranted given that contaminants from the oil sands could have impacts on fish and wildlife and the people that consume them.

As is often the case for environmental pollutants, the overall risks of oil sands contaminants are difficult to assess. Problems include extrapolation from laboratory research, a poor understanding of chemical dynamics in natural systems, and a poor knowledge of ecological connectivity. Despite the many contaminants known to be present in oil sands emissions (including polycyclic aromatic hydrocarbons, metals, naphthenic acids), research tends to focus on a few representative substances, which may ignore the impacts of the complex chemical mixtures that are found in the oil sands region.

In response to these concerns, we have been working in collaboration with local indigenous communities, federal, provincial and territorial governments, academia, NGOs, and industry to assess the distribution and effects of oil sands-derived contaminants.


In the Athabasca River and the Peace–Athabasca Delta, we are undertaking a research program to assess not only the spatial and temporal patterns in polycyclic aromatic compounds in the watershed, but also their impacts on aquatic communities. We are mapping the distribution of polycyclic aromatic hydrocarbons and metals in the Athabasca River and the Peace Athabasca Delta, using their unique chemical fingerprints to track sources. We are also focusing our attention on the river otter (*Lontra canadensis*), a sentinel species of aquatic ecosystem health because it resides in the Athabasca River and feeds mainly from the local aquatic food web. We are specifically examining the impacts of oil sands-derived contaminants on endocrine function, genomic DNA mutations, and population-level responses in otters, amphibians, and other apex predators in the Athabasca River and its tributaries.

At the IISD-Experimental Lakes Area, we are planning to conduct a series of experiments in lake enclosures (or limnocorrals) to assess the impacts of diluted bitumen on boreal lakes. These enclosures isolate a column of water and the underlying sediments while retaining the ecological processes and biota found outside the limnocorrals in the lake environment. We plan to add diluted bitumen to eight separate enclosures at different concentrations to determine thresholds of toxicity to phytoplankton, benthos, and fish in a natural system.

Together with our partners and indigenous collaborators, we hope to produce the science needed to fill many of the knowledge gaps to help us better anticipate the risks of oil sands developments. These studies will help to provide the data needed by policy and decision-makers wishing to mitigate and regulate contaminant emissions from the oil sands. 

Member Recognition

Dr. Andrea Kirkwood, University of Ontario Institute of Technology, was appointed to the International Joint Commission's Science Priority Committee.

Congratulations to all our members on their achievements! 

Upcoming meetings

SCL meetings

- **2018 with CCFR in Edmonton, AB January 4-7**

SIL meetings

- **34th SIL Congress**, August 19-24 2018, Nanjing, China

Other meetings

2017

- **Joint meeting of Ichthyologists and Herpetologists**, Austin TX July 12-16, 2017
- **13th Coregonid symposium**, Sept 10-15, 2017
- **2017 Annual meeting of the Geological Society of America, 22-25 Sept**, Seattle, WA
- **2017 Ecological Society of America meeting**, 6-11 Aug, Portland, OR
- **147th American Fisheries Society meeting**, 21-25 August 2017, Tampa, FL
- **38th SETAC North America Annual Meeting**, Minneapolis, MN, 12-16 November 2017
- **2017 North American Lake Management Society**, Nov 6-9, Westminster, CO
- **2017 AGU Fall Meeting**, 11-15 December 2017, New Orleans, LA

2018

- **Canadian Society of Zoologists**, 2018, St. John's Newfoundland (Date TBA)
- **IAGLR 2018**: Toronto, ON (dates TBA)
- **Canadian Geophysical Union Meeting**, June 10-14, Niagra Falls, ON
- **Association for the Society of Limnology and Oceanography**, June 10-15, Victoria, BC.

- **International Statistical Ecology Conference**, July 2-6 2018, St. Andrews, Scotland
- **ELLS-IAGLR 2018**: September 23-28, 2018, Evian, France
- **2018 Geological Society of America Meeting**, November 4-7, Indiana, IL
- **2018 Meeting for the Canadian Society for Ecology and Evolution**, July 22-26, Guelph, ON 

Recent Citings

Do you have recent publications from the last 6 to 12 months that you'd like highlighted in the the next issue? Send it to comms@socanlimnol.ca.

Anderson, P.J., Warrack, S., Langen, V., Challis, J.K., Hanson, M.L. and Rennie, M.D. 2017. **Microplastic contamination in Lake Winnipeg, Canada**. Environmental Pollution 225: 233–231. Doi: <http://doi.org/10.1016/j.envpol.2017.02.072>

Azan, S. S. E., and S. E. Arnott. 2017. **The effects of *Bythotrephes longimanus* and calcium decline on crustacean zooplankton communities in Canadian Shield lakes**. Hydrobiologia. 785: 307-325. DOI: [10.1007/s10750-016-2934-0](https://doi.org/10.1007/s10750-016-2934-0)

Hampton, S.E. and (many) others. **Ecology under lake ice**. Ecology Letters 20(1): 98-111. doi: [10.1111/ele.12699](https://doi.org/10.1111/ele.12699)

Isben, M, Fernando, E M, Kumar, A, and Kirkwood, A E. 2017. **Prevalence of antibiotic resistance genes in bacterial communities associated with *Cladophora glomerata* mats along the nearshore of Lake Ontario**. Canadian Journal of Microbiology 63(5): 439-449. doi: [10.1139/cjm-2016-0803](https://doi.org/10.1139/cjm-2016-0803).

Jokela, A. M., S. E. Arnott, and B. E. Beisner. 2017. **Biotic resistance of impact: a native predator (*Chaoborus*) influences the impact of an invasive predator (*Bythotrephes*) in temperate lakes**. Biological Invasions 19(5):1495-1515.

[doi:10.1007/s10530-017-1374-8](https://doi.org/10.1007/s10530-017-1374-8)

Murray, L., Rennie, M.D., Svendsen, J.C. and Enders, E.C. 2017. **Respirometry increases cortisol levels in rainbow trout *Oncorhynchus mykiss*: implications for measurements of metabolic rate**. Journal of Fish Biology 90: 2206–2213. doi: [10.1111/jfb.13292](https://doi.org/10.1111/jfb.13292)


Schindler, DW., Carpenter, SR, Chapra, SC, Hecky, RE and Orihel, DM.

Reducing phosphorus to curb eutrophication is a success.

Environmental Science and Technology, 50(17): 8923-8929. doi: [10.1021/acs.est.6b02204](https://doi.org/10.1021/acs.est.6b02204)

Schiff SL, Tsuji J, Wu L, Venkiteswaran JJ, Molot LA, Elgood RJ, Paterson MJ, Neufeld JD. 2017. **Millions of Boreal Shield Lakes can be used to Probe Archaean Ocean Biogeochemistry**. Scientific Reports 7: 46708, doi: [10.1038/srep46708](https://doi.org/10.1038/srep46708).

Venkiteswaran JJ, Schiff SL, Paterson MJ, Flinn NAP, Shao H, Elgood RJ. **Changing Nitrogen Deposition with Low $\delta^{15}\text{N-NH}_4^+$ and $\delta^{15}\text{N-NO}_3^-$ values at the Experimental Lakes Area, northwestern Ontario, Canada**. FACETS 2: 249-266, doi: [10.1139/facets-2016-0060](https://doi.org/10.1139/facets-2016-0060).

Verschoor M, Powe C, McQuay E, Schiff SL, Venkiteswaran JJ, Li J, Molot LA. **Internal iron loading and warm temperatures are pre-conditions for cyanobacterial dominance in embayments along Georgian Bay, Great Lakes**. Canadian Journal of Fisheries and Aquatic Sciences. doi: [10.1139/cjfas-2016-0377](https://doi.org/10.1139/cjfas-2016-0377). 

Let your fellow members know what research you have been up to!

Send us your citations for the next SCL issue, along with any other story ideas, photos or contributions to: comms@socanlimnol.ca.

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