



## NSERC HYDRONET SYMPOSIUM

April 9<sup>th</sup> to 11<sup>th</sup>, 2013  
Delta Centre-ville (Régence A)  
777 University Street  
Montreal, Quebec

### AGENDA

#### Tuesday, April 9<sup>th</sup>, 2013

- 08:00 *Introduction: Today and the Days to Come.* **D. Boisclair**, Université de Montréal.
- 08:20 *Decision Tools in Support of Fish Passage.* **R. McLaughlin**, Associate Professor, University of Guelph.
- 08:40 *Brook Trout Habitat Loss by Hydroelectric Project: Lessons learned from habitat compensation methods.* **F. Burton**, Project Director, and M. Gendron, Environnement Illimité inc.
- 09:00 *The Implementation of Mobile Hydroacoustic Surveys in Determining Fish Distributions in Fast Flowing Fluvial Environments - Its application in assessing an instream hydrokinetic turbine project.* **K. Jacobs**, M. Gendron, Environnement Illimité inc.; and I. Hamad, Renewable Energy Research.
- 09:20 COFFEE BREAK AND POSTER SESSION
- SPECIAL SESSION “CHALLENGES AND SOLUTIONS TO SUSTAINABLE HYDROPOWER AROUND THE WORLD”**
- 09:50 *Sustainable Development of Hydropower – Case-studies and perspectives in Norway.* **A. Harby**, Director, Centre for Environmental Design of Renewable Energy (CEDREN), Norway.
- 10:30 *Challenges and Solutions to Sustainable Hydropower in Canada.* **T. Toner**, Director, Environmental Services, Nova-Scotia Power, Canada.
- 11:10 *Hydropower Development in the Mekong Basin – From a Canadian Private Environmental Consultancy Experience.* **G. Bruce**, President and Partner, Hatfield Canada, Laos.
- 11:50 Discussion
- 12:00 LUNCH

- 13:00 *Entrainment Vulnerability of Bull Trout and Burbot at the Mica Dam (Kinbasket Reservoir, BC).* **E.G. Martins**, L.F.G. Gutowsky, Carleton University; P.M. Harrison, University of Waterloo; M. Langford, D. Zhu, University of Alberta; D. A. Patterson, Fisheries and Oceans Canada; A. Leake, BC Hydro; M. Power, University of Waterloo; and S. J. Cooke, Carleton University.
- 13:20 *Home Range and Spatial Behaviour of Burbot (Lota lota) in a Hydropower Reservoir in Southeastern B.C.* **P.M. Harrison**, University of Waterloo; L.F.G. Gutowsky, E.G. Martins, Carleton University; D. Patterson, Fisheries and Oceans Canada; A. Leake, BC Hydro; S.J. Cooke, Carleton University; and M. Power, University of Waterloo.
- 13:40 *The Spatial Ecology of Adfluvial Bull Trout in a Large Hydropower Reservoir.* **L.F.G. Gutowsky**, Carleton University; P.M. Harrison, University of Waterloo; E.G. Martins, Carleton University; D. Patterson, Fisheries and Oceans Canada; A. Leake, BC Hydro; M. Power, University of Waterloo; and S.J. Cooke, Carleton University.
- 14:00 *Computational Fluid Dynamic Modeling of the Seton, Carpenter and Downtown Reservoirs on the Bridge and Seton River Systems.* **M.T. Langford**, A.B. Baki, D.Z. Zhu, University of Alberta.
- 14:20 COFFEE BREAK AND POSTER SESSION
- 14:50 *Estimation and Modeling of Fish Production in Reservoirs.* **D. Boisclair**, Theme Leader, Université de Montréal, and G. Rose, Memorial University of Newfoundland.
- 15:10 *Comparative Analysis of Sampling Methods to Develop Habitat-Use Models of Fish Productivity in the Littoral Zone of Reservoirs.* **N.A. Satre**, G. Bourque and D. Boisclair, Université de Montréal.
- 15:30 *Geostatistical Estimates of Pelagic Fish Production in Freshwater Ecosystems.* **R.A. Pollom** and G.A. Rose, Memorial University of Newfoundland.
- 15:50 *Acoustic Size Spectra of Fishes: Spatial and Temporal Variation within a Hydropower Reservoir along the Winnipeg River.* **L. Wheeland** and G.A. Rose, Memorial University of Newfoundland.
- 16:10 Discussion
- 18:00 COCKTAILS SPONSORED BY ENVIRONNEMENT ILLIMITÉ, INC. (FireGrill Restaurant and Bar, 1490 Stanley, Montréal).

### **Wednesday, April 10<sup>th</sup>, 2013**

- 08:00 *Nutrient and Species Richness as Drivers of Fish Productivity in Canadian Waters.* **J.B. Rasmussen**, Theme Leader, University of Lethbridge.
- 08:50 *Establishing the Link between Fish Biodiversity, Species Richness and Biomass Production in Freshwater Ecosystems.* **P.A. Lennox** and J.B. Rasmussen, University of Lethbridge.
- 09:10 *Characterizing the Impact of Dams on the Thermal Regime of the Fourchue River (Quebec).* **A. Maheu**, A. St-Hilaire, L. Beaupré, A. Daigle, Institut national de la recherche scientifique; and D. Caissie, Fisheries and Oceans Canada.

- 09:30 *Thermal Modeling of the Fourchue River: Deterministic Model versus Statistical Model.* **L. Beaupré**, A. St-Hilaire, A. Daigle et N. Bergeron, Institut National de la Recherche Scientifique
- 09:50 Discussion
- 10:00 COFFEE BREAK AND POSTER SESSION
- 10:30 *Year 3 Advances in Two Components of the Integrated SNG Program: Geomorphic Impacts and Flow Regime Alteration. Context and introduction to the approaches followed.* **M. Lapointe**, Theme Leader, McGill University.
- 10:50 *Using Natural Flow Classes to Estimate Hydrologic Alteration by Dams across Canada, a HydroNet Study.* **F. McLaughlin** and M. Lapointe, McGill University.
- 11:10 *Remote Sensing of River Structure in the Context of Mapping Hydraulic Habitat at the Reach Scale.* **F. Hugue** and M. Lapointe, McGill University.
- 11:30 *Geomorphic Controls on Physical Habitat Variability in a Hydropeaking System.* **A. Tamminga**, H. Buehler, L. Winterhalt, and B. Eaton, University of British Columbia.
- 11:50 Discussion
- 12:00 LUNCH
- SPECIAL SESSION “**INTER-NETWORKING**”
- 13:00 *NSERC Canadian Network for Aquatic Ecosystem Services.* **P.R. Peres-Neto**. Université du Québec à Montréal.
- 13:30 *The Canadian Aquatic Invasive Species Network II.* **L. Johnson**, Université Laval.
- 14:00 Discussion
- 14:20 COFFEE BREAK AND POSTER SESSION
- 14:50 *How does Flow Regulation Affect Riverine Fishes?* **R. Cunjak**, Theme Leader, Canadian Rivers Institute, University of New Brunswick; R.G. Randall, K.D. Clarke, Fisheries and Oceans Canada; and F. Hicks, University of Alberta.
- 15:10 *River Ice Observations on Small Regulated and Unregulated Streams in New Brunswick, Canada.* **J. Nafziger**, University of Alberta; P. Thoms, Canadian Rivers Institute, University of New Brunswick; J. Banack, F. Hicks, University of Alberta; and R. Cunjak, Canadian Rivers Institute, University of New Brunswick.
- 15:30 *The Effects of Flow Regulation on the Dynamic Winter Ice Processes of the Kananaskis River.* **S. Emmer**, J. Nafziger, F. Hicks, M. Loewen and V. McFarlane, University of Alberta.
- 15:50 *Winter Condition of Atlantic Salmon Parr and Pre-Smolts Experiencing Hydropeaking Flow Regimes.* **S. Vue**, Canadian Rivers Institute, University of New Brunswick; K. D. Clarke, Fisheries and Oceans Canada; and R.A. Cunjak, Canadian Rivers Institute, University of New Brunswick.

- 16:10 *The Behavioural, Physiological and Morphological Responses of Fishes to Streamflow Regulation and the Consequent Effects on Population Dynamics*. **A.R. Hards**, R. Cunjak, T. Benfey, and J. Houlihan, University of New Brunswick.
- 16:30 Discussion
- 18:00 SOCIAL EVENT FOR THE COMMITTEE OF YOUNG RESEARCHERS AT BIÈRES ET COMPAGNIE (4350, rue Saint-Denis).

**Thursday, April 11<sup>th</sup>, 2013**

- 08:30 *Genetic Diversity Analysis of Bull Trout (Salvelinus confluentus) in the Upper Lillooet River Basin, British Columbia: Enhancing our Understanding of the Effects of Hydropower Development and Operations on Fish Populations*. **C.M. Bettles**, SNC Lavalin Environment; and E.B. Taylor, University of British Columbia.
- 08:50 *Innovative Lake Trout Spawning and Incubation Investigations and New Information Related to the Effects of Winter Drawdown on Lake Trout in Northern Reservoirs*. **B. Schonewille**, B. Snow and P. Tobler, EDI Environmental Dynamics Inc.
- 09:10 *Field and Laboratory Assessment of Turning Pool Hydraulics in a Vertical Slot Fishway Relative to Fish Passage*. **A. Marriner**, A.B. Baki, D.Z. Zhu, University of Alberta; J.D. Thiem, S.J. Cooke, Carleton University; C. Katopodis, Katopodis Ecohydraulics Ltd.
- 09:30 *Biological Evaluation of Upstream Lake Sturgeon Passage at the Vianney-Legendre Fishway*. **J.D. Thiem**, Carleton University.
- 09:50 Discussion
- 10:00 COFFEE BREAK AND POSTER SESSION
- 10:30 *NSERC HydroNet: a Glimpse into the Future*. **D. Boisclair**, Université de Montréal, S.J. Cooke, Carleton University, R. Mclaughlin, University of Guelph, G. Bourque, I. Dolinsek, G. Guénard, G. Lanthier, and C. Senay, Université de Montréal.
- 11:30 Discussion
- 12:00 MEETING ADJOURNED
- 13:00 BOARD OF DIRECTORS MEETING (Royer Meeting Room)
- SCIENCE ADVISORY COMMITTEE MEETING (Vitré Conference Room)
- SPECIAL SESSION “**KNOWLEDGE TRANSFER FROM FUNDAMENTAL RESEARCH TO HYDROPOWER DEVELOPMENT**”: Discussion between guest speakers, students and post-doctoral fellows (St-Laurent Conference Room).
- 15:00 COMMITTEE OF YOUNG RESEARCHERS MEETING (St-Laurent Conference Room).

## POSTER SESSION

*Long-term Variation in Food Sources and Fish Trophic Position in a Natural and Regulated River of Northern Ontario.* **J.M. Brush**, University of Waterloo; K.E. Smokorowski, K.D. Clarke, Fisheries and Oceans Canada; J. Marty, St. Lawrence River Institute; and M. Power, University of Waterloo.

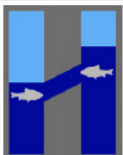
*Nutrient Variability across Diverse Geographical Regions of Canada in Regulated and Reference Rivers.* **C. Good**, and J.B. Rasmussen, University of Lethbridge.

*Fish Living in a Regulated River with Hydro-Peaking Operations have Better Swimming Stress Responses.* **S. Harvey-Lavoie**, and D. Boisclair, Université de Montréal.

*Comparison of Longitudinal Patterns in Fish Growth Rates between a Regulated and Natural River.* **B. Kelly**, University of Waterloo; K. Smokorowski, Fisheries and Oceans Canada; and M. Power, University of Waterloo.

*Electrofishing versus Visual Surveying Methods for the Estimation of Fish Community Structure.* **C.J. Macnaughton**, S. Harvey-Lavoie, C. Senay, G. Lanthier, G. Bourque, D. Boisclair and P. Legendre, Université de Montréal.

*Quantifying Fish Avoidance of Small Acoustic Survey Vessels in Canadian Lakes and Reservoirs.* **L. Wheeland** and G.A. Rose, Fisheries and Marine Institute of Memorial University of Newfoundland.



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