



## NSERC HYDRONET 2<sup>ND</sup> ANNUAL SYMPOSIUM

March 20<sup>th</sup> to 22<sup>nd</sup>, 2012

in partnership with BC Hydro, Ecofish Research Ltd. and Hemmera  
BC Hydro, Centre Auditorium, 6911 Southpoint Drive  
Burnaby, British Columbia

### Tuesday, March 20<sup>th</sup>, 2012

- 08:00 *Welcome* (D. Boisclair, Université de Montréal)
- 08:05 **Opening remarks:** Danielle Melchior, BC Hydro, Site C Director
- 08:10 *Evaluating Flow Ramping Effects at Run-of-River Hydroelectric Projects* (A. Lewis\*, K. Healey, P. Gibeau, Ecofish Research Ltd.; and S. Babakaiff, Ministry of Forests, Lands and Natural Resource Operations)
- 08:30 *Standardized Methods for the Long-Term Monitoring of Run-of-River Hydropower Facilities in British Columbia and the Yukon: Summary and Preliminary Results* (A. Harwood\*, A. Lewis, and S. Faulkner, Ecofish Research Ltd.)
- 08:50 *HydroNet's Network Structure* (D. Boisclair, U Montréal)
- 09:20 *Productive Capacity of Fish Habitats* (D. Boisclair, U Montréal)
- 09:40 Discussion
- 10:00 COFFEE BREAK
- 10:20 *Nutrients as Chemical Drivers of Fish Productivity: Comparing Regional Differences in Fish Biomass – Total Phosphorus Relationships for Lakes and Rivers* (J.B. Rasmussen, University of Lethbridge)
- 10:40 *Flow regimes of natural versus regulated rivers.* (M. Lapointe, McGill University)
- 11:00 *Understanding the Relation between Geomorphic Processes and Aquatic Ecosystems* (B.C. Eaton\*, University of British Columbia; and M.F. Lapointe, McGill U)
- 11:20 *Winter Stressors for Fish in Rivers* (F. Hicks and M. Loewen\*, University of Alberta)
- 11:40 Discussion
- 12:00 LUNCH
- 13:00 *Flow Regime and Fish Community Density* (C.J. Macnaughton\*, G. Bourque, and D. Boisclair, U Montréal)
- 13:20 *Can Measurements of Stress Biomarkers of a Top Predator Help Assess the Effects of High Daily Flow Variations in a Hydro-Peaking River?* (S. Harvey-Lavoie\* and D. Boisclair, U Montréal)
- 13:40 *Variability of Fish Production: Nutrients as Chemical Drivers across Diverse Regions* (C. God\* and J.B. Rasmussen, U Lethbridge)

- 14:00 *Flow Regimes of Natural versus Regulated Rivers across Canada: Project Proposal and Preliminary Results* (F. McLaughlin\* and M. Lapointe, McGill U)
- 14:20 *Physical Habitat below a Hydro-peaking Dam: Examining Progressive Downstream Change and the Role of Tributaries* (L. Winterhalt\*, B.C. Eaton, UBC; and M. Lapointe, McGill U)
- 14:40 *Use of Remote Sensing and Modelling to Assess Morphologic Change as a Result of a Hydro-peaking Dam* (H. Buehler\*, B. Eaton, UBC; and M. Lapointe, McGill U)
- 15:00 COFFEE BREAK
- 15:20 *Mapping Fish Habitat Downstream of Hydro-dams in Canada: Estimation of Possible Long-term Modifications and Assessment of the Current Hydraulic Geometry Conditions* (F. Hugue\*, M. Lapointe, M. Kalcska, McGill U; and B.C. Eaton, UBC)
- 15:40 *River Ice Observations on Small Regulated and Unregulated Streams in Newfoundland, New Brunswick and Alberta, Canada* (J. Nafziger\*, J. Morley, S. Emmer, F. Hicks and M. Loewen, U Alberta)
- 16:00 *Modelling Instream Flow Effects on Juvenile Salmonid Capacity in Small Streams: Do Habitat Suitability Curves Systematically Underestimate Optimal Flows?* (J. Rosenfeld, B.C. Ministry of Environment)
- 16:20 Discussion
- 18:00 COCKTAILS AT THE KEG, sponsored by Ecofish Research Ltd. (800 Columbia St., New Westminster)

### **Wednesday, March 21<sup>st</sup>, 2012**

- 08:00 *How does flow regulation affect riverine fishes?* (R.A. Cunjak, University of New Brunswick – Canadian Rivers Institute)
- 08:20 *Fish Passage in Canada – State of the Science with Particular Reference to Lake Sturgeon* (S.J. Cooke\*, J.D. Thiem, C. Hatry, Carleton University; D. Zhu, U Alberta; J. Dawson, Carleton U; K. Smokorowski, K. Clarke, DFO; C. Katopodis, Katopodis Ecohydraulics Ltd.; P. Dumont, D. Hatin, Ministère des Ressources naturelles et de la Faune; A. Haro, T. Castro-Santos, USGC; R. Wilson, and A. Gleiss, Swansea University)
- 08:40 *Survival of Incubating Atlantic Salmon Eggs as a Function of Hyporheic Water Quality and Flow Regulation* (P. Thoms\*, T. Linannsaari, A. Fraser, UNB; R. Randall, DFO; and R.A. Cunjak, UNB-CRI)
- 09:00 *Winter Condition of Atlantic Salmon Parr and Pre-smolts Experiencing Variable Stream Flows* (S. Vue\*, UNB-CRI; K. Clarke, DFO; and R.A. Cunjak, UNB-CRI)
- 09:20 *Effects of Hydroelectric Dam Ramping Rate Regimes on the Length-Weight Relationships of Four Freshwater Fish Species* (B. Kelly\*, University of Waterloo; K. Smokorowski, DFO; and M. Power, U Waterloo)
- 09:40 *Biology of Lake Sturgeon (Acipenser fulvescens) Spawning below a Dam on the Richelieu River, Quebec: Endocrinology, Behaviour, and Egg Deposition* (J.D. Thiem\*, Carleton U; P. Dumont, D. Hatin, MRNF; G. Van Der Kraak, University of Guelph; and S.J. Cooke, Carleton U)
- 10:00 COFFEE BREAK

- 10:20 *Trends in Fish Passage in Canada and a Case Study on Redhorse (Moxostoma sp.) Passage at a Vertical Slot Fishway* (C. Hatry\*, Carleton U; K. Smokorowski, DFO; and S.J. Cooke, Carleton U)
- 10:40 *A Field Study of the Hydraulics at the Vianney-Legendre Vertical Slot Fishway, near St. Ours, Quebec* (A. Marriner\* and D. Zhu, U Alberta)
- 11:00 Discussion
- 11:20 *Mesoscale Modeling of Littoral Habitats in Reservoirs* (D. Boisclair, U Montréal)
- 11:40 *Productivity of Freshwater Ecosystems: An Acoustics Approach* (G. Rose\*, L. Wheeland, and R.A. Pollom, Marine Institute of Memorial University)
- 12:00 LUNCH
- 13:00 *Hydroacoustic Mapping of Fish Habitat Use in a Hydropower Reservoir* (L. Wheeland\*, R.A. Pollom and G.A. Rose, Memorial U)
- 13:20 *Using Hydroacoustics to Spatially Quantify Productive Capacity in Freshwater Ecosystems* (R.A. Pollom, Memorial U)
- 13:40 Discussion
- 14:00 *Entrainment Vulnerability of Bull Trout and Burbot at the Mica Dam (Kinbasket Reservoir, B.C.)* (E.G. Martins\*, Carleton U; P.M. Harrison, U Waterloo; L.F.G. Gutowsky, S.J. Cooke, Carleton U; M. Power, U Waterloo; and D.A. Patterson, DFO)
- 14:20 *TBD* (D.Z. Zhu, U Alberta)
- 14:40 COFFEE BREAK
- 15:00 *Adfluvial Adult Bull Trout (Salvelinus confluentus) Depth Distribution and Diel Vertical Migration across Multiple Seasons* (L.F.G. Gutowsky\*, Carleton U; P.M. Harrison, U Waterloo; E.G. Martins, Carleton U; A. Leake, BC Hydro; M. Power, U Waterloo; and S.J. Cooke, Carleton U)
- 15:20 *Seasonal Shifts in Diel Vertical Migration (DVM) and Activity Patterns of Burbot (Lota lota) in a Large Hydropower Reservoir: Implications for Entrainment Risk* (P.M. Harrison\*, U Waterloo; L.F.G. Gutowsky, E.G. Martins, Carleton U; D.A. Patterson, DFO; S.J.C. Cooke, Carleton U; and M. Power, U Waterloo)
- 15:40 *Reservoir Thermal Structures in Kinbasket Reservoir* (C.B. Robertson\*, M.T. Langford, and D.Z. Zhu, U Alberta)
- 16:00 *Computational Fluid Dynamic Modeling of Headpond Hydraulics and Bed Shear Stress at Aberfeldie Dam on the Bull River, British Columbia* (M.T. Langford\*, M.R. Islam, C.B. Robertson and D.Z. Zhu, U Alberta)
- 16:20 *Some Hydraulic Aspects of Nature-like Fishpasses under a Fish Habitat Compensation Project* (A.B. Baki\*, D.Z. Zhu, G. Courtice and N. Rajaratnam, U Alberta)
- 16:40 Discussion
- 19:00 ADMINISTRATIVE BANQUET for the Board of Directors, Science Advisory and Research Management Committees, sponsored by Hemmera.

**Thursday, March 22<sup>nd</sup>, 2012**

- 08:00 *Water Use Planning Program in British Columbia*
- 08:10 *Life before Water Use Planning* (H. Smith, Chubra-Smith Holdings)
- 08:40 *Life during Water Use Planning* (D. Ohlson, Compass RM)
- 09:10 *Life after Water Use Planning* (P. Higgins and A. Leake, BC Hydro)
- 09:40 Discussion
- 10:00 COFFEE BREAK
- 10:20 *Using Stable Isotopes and Stomach Content Data to Compare the Food Webs of a Regulated and Unregulated River of South-Central Newfoundland* (J.M. Brush\*, M. Power, U Waterloo; J. Marty, St. Lawrence River Institute; K.D. Clarke and K.E. Smokorowski, DFO)
- 10:40 *Low Stream Flows: Making Decisions in an Uncertain Climate* (D. Turner\*, Simon Fraser University; M. Bradford, DFO; J. Venditti and R. Peterman, SFU)
- 11:00 Discussion
- 12:00 LUNCH
- 13:00 Meeting of the BOARD OF DIRECTORS (Edmonds Tower, Floor 13, Fraser Meeting Room)  
Meeting of the SCIENCE ADVISORY COMMITTEE (Edmonds Tower, Floor 10, Meeting Room 1)  
Meeting of the COMMITTEE OF YOUNG RESEARCHERS (Edmonds Tower, Floor 11, Meeting Rooms 1 & 2)
- 13:30 Joint meeting of the BOARD OF DIRECTORS and the RESEARCH MANAGEMENT COMMITTEE (Edmonds Tower, Floor 13, Fraser Meeting Room)

**Friday, March 23<sup>rd</sup>, 2012**

- 08:00 GRADUATE STUDENT TRAINING SESSION: Basic programming in R (Delta Burnaby, Firenze/Venezia Room)

**Directions from the Delta Burnaby to BC Hydro**

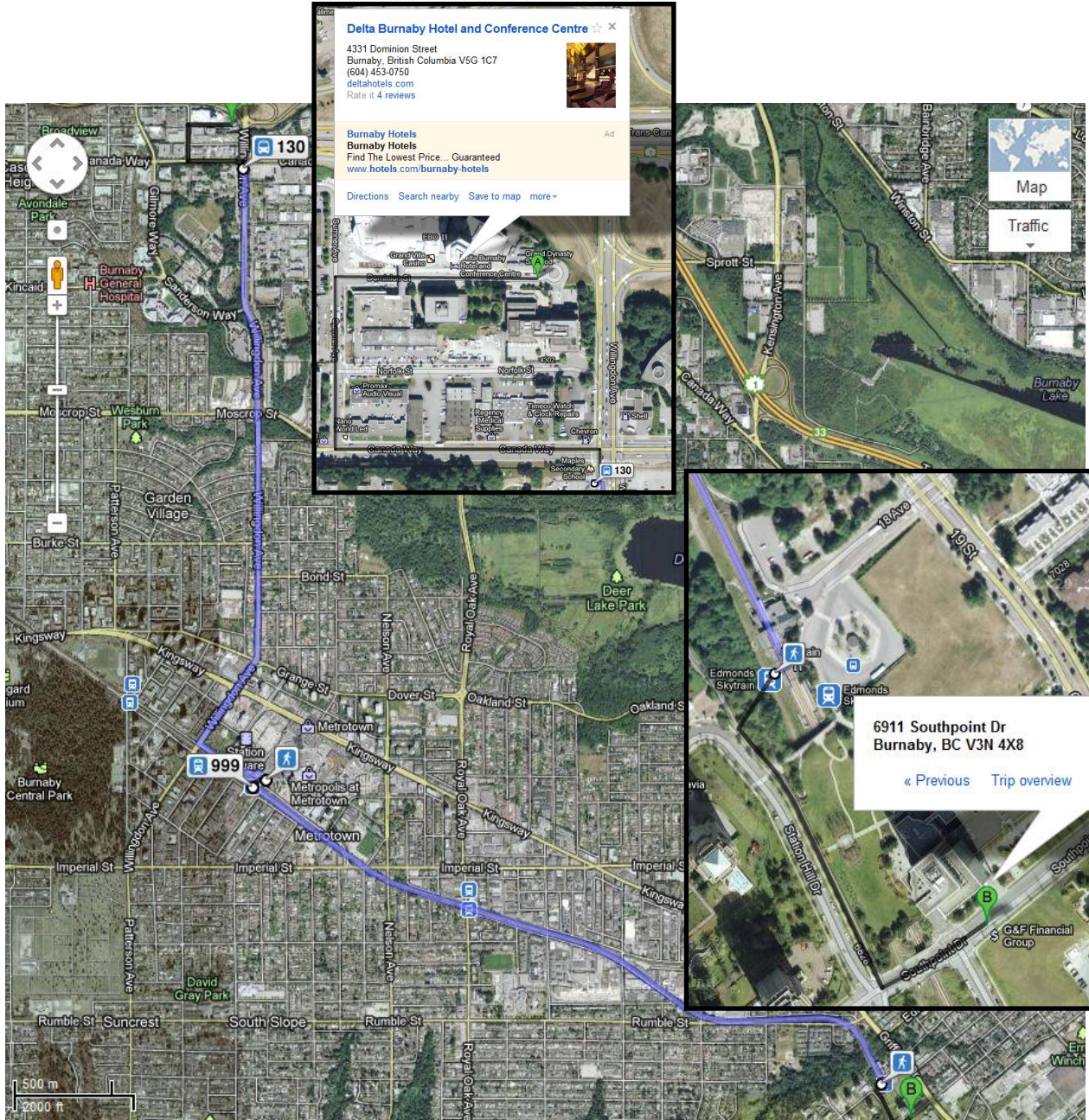
Walk to the 130 Bus stop on Willingdon Ave, corner Canada Way

- West on Dominion Street
- Left on Summer Ave
- Left on Canada Way
- Right on Willingdon Ave S.

Take the 130 Bus to the Metrotown Skytrain Station (999 on the map)

Take the Millennium Line train to VCC-Clark, or the Expo Line train to King George

Exit Edmonds Skytrain station and walk to BC Hydro, north 0.5 blocks through the green space pathway



**Delta Burnaby Hotel and Conference Centre**

4331 Dominion Street  
Burnaby, British Columbia V5G 1C7  
(604) 453-0750  
deltahotels.com  
Rate it 4 reviews



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Traffic

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« Previous Trip overview Next »