1st NSERC Hydronet Symposium, Winnipeg Delta

March 29th and 30th, 2011

*Hydraulic Modelling Options for Newfoundland HydroNet sites*

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Ice processes can have a significant effect on fish and egg survival in small, steep streams, especially if anchor ice formation is evident. Only a handful of studies have characterized the hydraulics of small (<70m width), steep streams under winter conditions so that the effects of ice on fish can be better understood. In the fall of 2010 four study sites were selected as part of NSERC Hydronet Project SNG 3.4 – Winter Stressors for Fish in Rivers. This talk focuses on options for modelling ice processes at these four sites, including a discussion of the available models and their limitations. Modelling options for different ice covers including typical floating ice covers and non-typical ice covers which may occur on small, steep streams are discussed. Finally, the potential effects of streamflow regulation on the ice regime of the study streams are discussed.