

Environmental Flow Negotiations for Proposed Waterpower Sites in Northeastern Ontario, 2005 - 2015

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Northeastern Ontario is blessed with rivers that are attractive for hydropower potential, and many sites were identified and actively pursued by waterpower proponents and entrepreneurs over the past 15 years. Many sites are new proposals while existing sites are examined with an eye for upgrading facilities and replacing dated infrastructure. In total more than 30 sites were “on the books” in Northeastern Ontario and the Ministry of Natural Resources & Forestry regional and district staff were heavily involved in these projects.

Much of the work involved the determination of environmental flows below dams or in bypass reaches for these proposed projects. Valued ecosystem components (VEC's) and social economic concerns (SEC's) would be identified, and a flow or flows would be suggested to accommodate these important natural resource features. The literature was reviewed and MNRF Research Scientists were consulted and flow duration criteria such as monthly Q_{80} values or median baseflow discharges were put forth as environmental flows.

In every case, the suggested environmental flow component of these projects became a negotiation, often requiring multiple meetings or conference calls to settle on a discharge value or values in m^3/s . Often the challenge was to find a balance between the protection of the water resource and the economic realities of modern day hydropower development and operations.

This presentation will describe the history, and the successes and failures of trying to settle on environmental flows for a few hydroelectric sites in Northeastern Ontario, most notably sites on the White River, Kapuskasing River, and Newpost Creek. It is important to recognize that environmental flows play a very important role, but they are only one of many moving pieces in any proposed waterpower development project.

Biography

Rich Pyrcce has been a Regional Hydrologist with Ministry of Natural Resources & Forestry in South Porcupine, Ontario since May 2005. Much of his work has been focused on river flows and water levels associated with proposed or existing hydroelectric dam projects. Rich holds degrees from Brock University, Wilfrid Laurier University, and the University of Western Ontario. He was an Adjunct Professor in the Geography Department at Nipissing University from 2012 to 2015. Prior to coming to the MNRF, he worked as a Fluvial Geomorphologist / Hydrologist at the Watershed Science Centre at Trent University, from 2002 to 2005.