How does flow regulation affect riverine fishes?

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Abstract

Our group’s integrated research program is focused on the response of fishes to regulated flow regimes. Using a combination of field-based and laboratory studies, our students are testing predictions that deal with the consequences of river flow regulation on egg/alevin survival and development, as well as seasonal changes in growth and physiological condition of juvenile and adult stages of fishes. While focused on flow variation, concomitant changes in physicochemical environmental attributes (e.g., dissolved oxygen, water temperature, ice dynamics) are also being investigated to assess their importance in measuring biological response. Much of the work is being carried out in Maritime rivers with a focus on Atlantic salmon *(Salmo salar)*. However, comparative studies at HydroNet sites in central Canada, and with other riverine species, is planned for the next few years. Collectively, such studies are fundamental to quantifying juvenile recruitment and the potential impacts of anthropogenic activities on fish population dynamics.