

Assessing How Variable Flow Regimes Influence the Feeding Ecology of Fishes and Food Web Structure of River Communities



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Rationale: *Disturbances, such as dam construction and flow alteration to meet growing energy demands have the potential to modify the function and biological integrity of aquatic ecosystems. To date, few long-term data sets have examined the role of natural and anthropogenic factors influencing the function and structure of river communities.*

Description: *Fish and invertebrates were collected in summer 2011 and 2012 from the Magpie River (Wawa, Ontario) and Batchawana River (Sault Saint Marie, Ontario) as part of a 10 year study to assess spatial and temporal variation in feeding ecology and food web structure in response to variable hydrological conditions and climatic factors, using stomach contents and stable isotopes. Samples were also collected on the West Salmon River, Cold Spring Pond, Twillick Brook and Twillick Pond in south-central Newfoundland in summer of 2010 and spring and summer 2011 and 2012.*

Outcomes:

- *An understanding of factors affecting fish feeding ecology and overall food web structure on regulated and unregulated rivers, and between regulated rivers with different operating regimes.*

Benefits from this research

Gaining an understanding of long-term changes in fish feeding ecology and food web structure in response to variable hydrological conditions can provide important insights for conservation and management of river communities.



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