

Restoring degraded urban rivers in the Quebec Policy context, proposing non-structural solutions and convincing decision makers

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Urban rivers are often very degraded due to long term neglect. There is a growing consensus that classic structural approaches to river risk management cannot solve issues over the long term. However, policies in Quebec are design to facilitate structural interventions in rivers and are not adapted to other techniques of river restoration. In consequence, most river interventions are limited to reactions to erosion and flooding risks and are rarely thought to restore the stream itself to mitigate future hazards. As consultants, we are often involved in the diagnosis and solution proposal for degraded streams where bank stabilizations are failing. Generalized bed and bank erosion in a stream is costly for municipalities and a growing number of administrators are ready to hear about innovative solutions although there is no provincial guide to implement these methods.

We will present various case studies to illustrate the actual context of river restoration in Quebec and show how the local political motivations dictate the possible solutions to erosion and flooding. After having commissioned a diagnostic study of an urban river hydraulics and morphology, most administrations will go forward with the implementation of innovative solutions at small scale in the most degraded sectors where classical structural solutions are failing. However, one administration was convinced to restore progressively almost four kilometers of a stream and to take this opportunity to create a linear park for the citizens. These projects are probably the first hints at a broader provincial shift in river management in Quebec.

Biography

Geneviève Marquis obtained a PhD. Degree in Geography from the University of Montreal for her thesis about bedload sediment transport in gravel bed rivers. As a postdoctoral fellow, she investigated suspended sediment dynamics in the Fraser River. She joined the JFSA team in 2013 as an hydrogeomorphologist to share her expertise about rivers.