



Adapting the social-cultural component of the ELOHA Framework for the Wolastoq | St. John River

Lessons Learned Report



Canadian
Rivers Institute



Lessons Learned: Adapting the social-cultural components of the ELOHA framework for Wolastoq | St. John River

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Cover Photo: Graeme Stewart-Robertson

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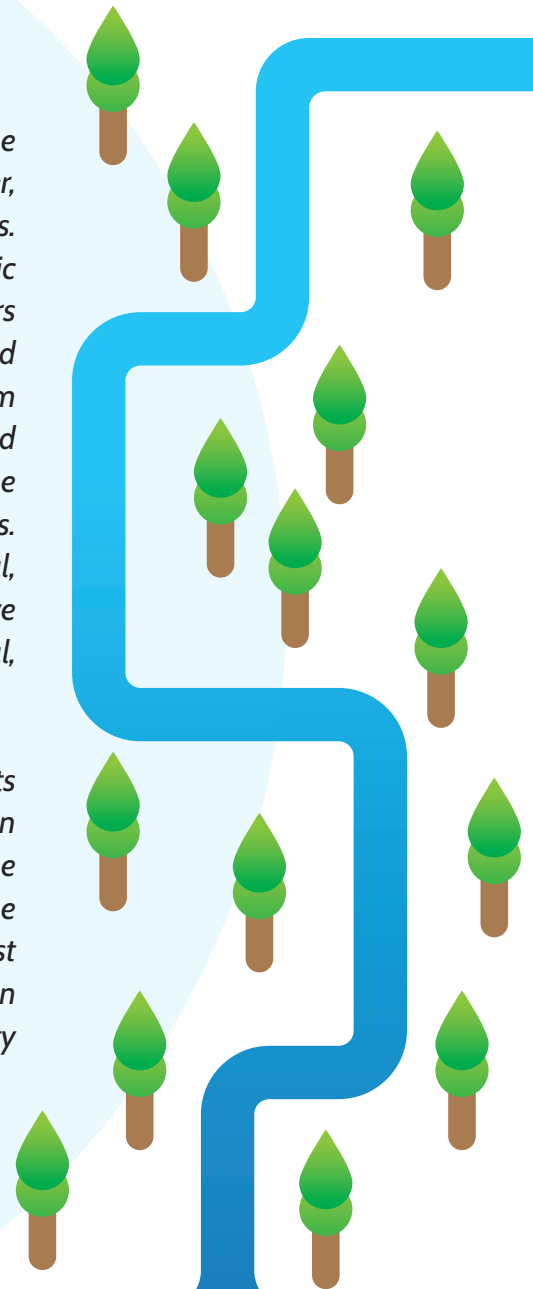
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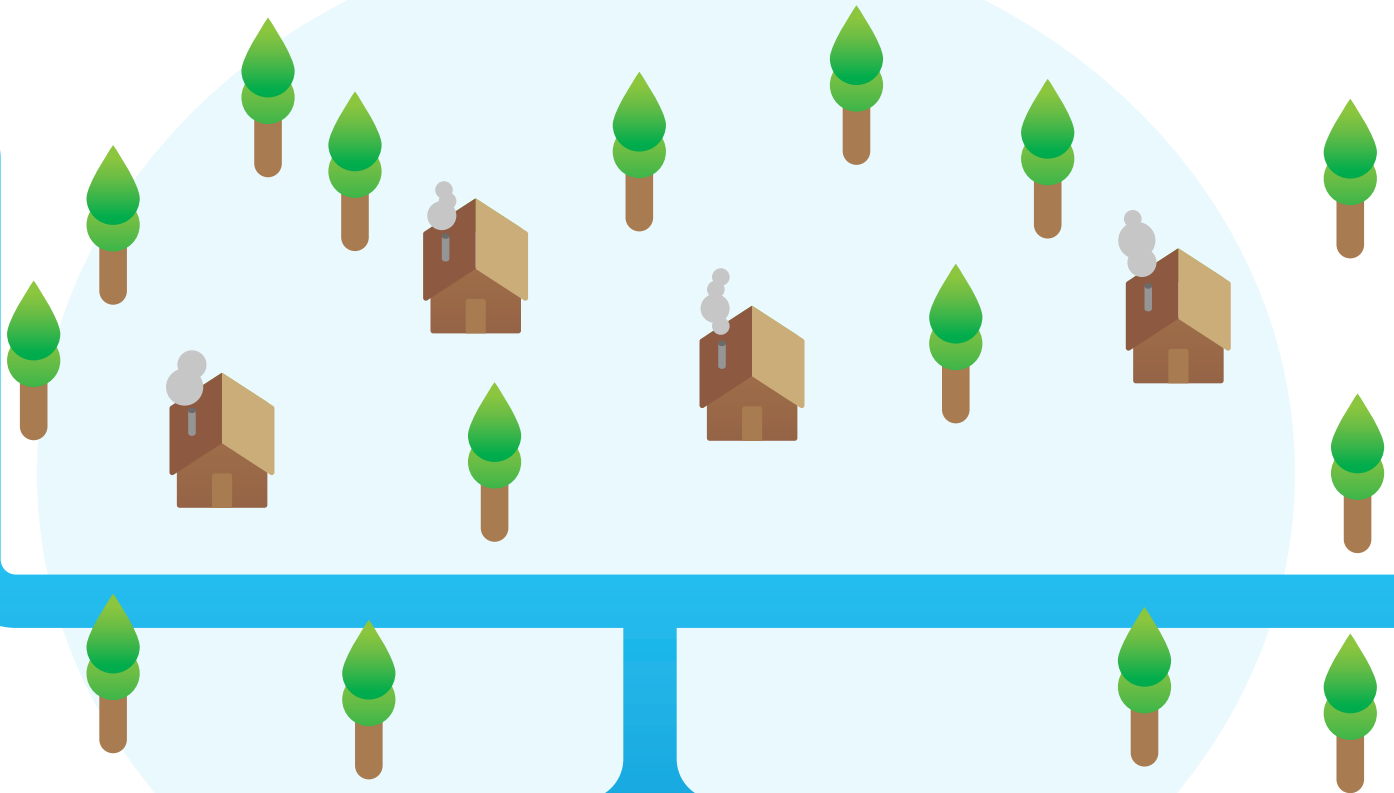
*This document presents challenges and successes from the adaptation of an ELOHA model to the Wolastoq | St. John River, offering key lessons learned and recommendations to aid researchers. **The Ecological Limits of Hydrologic Alteration (ELOHA)** is a holistic framework that pairs the ecological and human requirements of rivers to determine environmental flows or e-flows (quality, quantity, and timing of flows that is needed), and it can be used to inform management decisions. The framework uses environmental and socio-cultural inputs to determine the priorities for the river from the perspective of maintaining both ecological integrity and societal needs. The findings from the ELOHA model can support municipal, provincial, and federal actors as they take steps towards adopting comprehensive watershed management approaches that considers environmental, social, cultural, and economic issues.*

Since 2012, the river system has seen a flurry of activity including its prioritization as a national working area by the federal government. An array of stakeholders and rights holders from the headwaters to the Bay of Fundy are now working together to ensure a healthy river for the human and biotic communities that rely on it. Guided by the best available science, these actors are engaging in dialogues and action along the river to put us on a path towards a future where community stewardship prevails and nature thrives. Today, the Wolastoq | St. John River is a Canadian Heritage River and national historic site of Canada. It is home to many endangered and migratory species, and provides recreational, social, and cultural opportunities to the communities along its length.

Wolastoq | St. John River

The 55 000 km² Wolastoq | St. John River watershed is tri-national, bi-provincial, and the second largest watershed on the Eastern seaboard of North America that represents the traditional territory of the Wolastoqey First Nation. The Wolastoq | St. John River impacts our region's environmental, cultural, economic and recreational landscape.





Indigenous Peoples first arrived on the banks of the Wolastoq | St. John River circa 9,500 BCE. The intrinsic relationship the Wolastoqiyik shared with their natural environment continued to evolve and shape the landscape and human history along the river for centuries. The 17th century marked the arrival of Europeans and the onset of a profound landscape shift, which impacted the Wolastoqiyik's existing relationship with the watershed. French explorers attempted, and partially succeeded in developing farmland and mills throughout the watershed. By the 18th century, British colonists had arrived, settled, and claimed the watershed as their own, though the Peace and Friendship Treaties did not involve the ceding of traditional territory or resources to

these colonists. Rapid colonization would occur from the 1880s to the 1950s, along with industrialization from the 1920s, generating major changes and pollution issues along the river. During the 1980s-2000s, the implementation of more stringent regulations and the evolution of various practices and technologies allowed the river's water quality to undergo marked improvements. However, an inter-jurisdictional approach to the management of the watershed remained non-existent, and little communication took place between Rights holders, stakeholders, and jurisdictions.

Sustainable Watershed Management



Photo Credit: Graeme Stewart-Robertson

The key lessons learned and recommendations in this document are focused on the application of ELOHA and frameworks for watershed management. The social-cultural component of the ELOHA framework is very complicated given the different social and cultural priorities across different regions, which has sometimes led to incomplete application in other jurisdictions. This report describes the challenges and successes associated with determining the social-cultural inputs in accordance with environmental flows for the adaptation of the ELOHA model to the Wolastoq | St. John River.

The future of Atlantic Canada's largest watershed depends upon developing a holistic approach to managing its incredible resources inter- and intra-jurisdictionally, including engagement from Indigenous, federal, provincial, and municipal partners. As jurisdictions across Canada increasingly move to adopt plans for the management of water resources, there is a general consensus that this all-encompassing approach, focused on both environmental and social-cultural concerns, is needed on the Wolastoq. Momentum is growing throughout our watershed to build integrated approaches to support science-based decision making, and to create new, inclusive and transparent coordination mechanisms.

The ELOHA model adaptation process is a holistic tool that will provide groups, agencies, and industry with the foundation for building sustainable watershed management practices as a means to protect and enhance the Wolastoq | St. John River and the entirety of the watershed. The ELOHA framework is tailored to river systems under human modification, including impounded rivers, and has not been fully implemented elsewhere in Canada. Our results are a significant contribution towards watershed goals and can be effective to ensure the mainstreaming of holistic watershed management practises.

In this report the challenges and successes encountered during adaptation of the ELOHA model in New Brunswick are explored, emphasizing the issues that may be encountered and providing researchers and decision makers at the municipal, provincial, and federal levels across Canada and internationally with support for the inclusion of environmental and social perspectives in water resource management. .

Lessons Learned and Recommendations

This section of the report examines the successes, challenges, and lessons learned by the St. John River Society (SJRS) throughout the duration of our project developing contributions to support the growing interest in development of holistic approaches to watershed management. In the three years of continuing to adapt the ELOHA framework in New Brunswick, a notable number of recommendations have arisen that may contribute to the success of future watershed management efforts.



Language

- ◆ *Appoint an interdisciplinary advisory committee to guide high-level decisions and ensure that concise, accurate, and appropriate language will be developed to support rights holder and stakeholder engagement efforts in areas where a diverse audience is expected. Allocate a sufficient amount of time for project staff to receive and integrate feedback from the advisory committee.*
- ◆ *Where appropriate, engage with Indigenous communities regarding vocabulary prior to beginning any activities. In the Wolastoq | St. John River context, this consideration resulted in contributions from the Wolastoqey Nation in New Brunswick.*
- ◆ *Consider language needs and accessibility prior to conducting stakeholder engagement activities to maximize participation. New Brunswick's bilingual status supports a need to provide stakeholder engagement opportunities in both English and French.*
- ◆ *Allocate sufficient time for the translation of project outputs when determining deadlines.*

Geography



- ◆ *Watershed management can be difficult when there is a vast geographic extent being accounted for, especially when it intersects multiple provinces and countries. Partnership between watershed groups, provincial and federal bodies, and Indigenous communities is imperative to support management and regulation of international waterways. In the Wolastoq | St. John River context, this consideration resulted in a partnership with L'Organisme de bassin versant du fleuve Saint-Jean, located in Quebec. Our project could have further benefited from establishing similar partnerships with organizations in Maine.*
- ◆ *Familiarization with the geographic extent of your watershed prior to establishing a timeline for the production and completion of any project components that will be created using GIS technology.*
- ◆ *Consider the differences between physical and virtual mapping, and the related challenges that come with conducting participatory exercises with stakeholders that use one or both formats.*
- ◆ *Ensure that your project staff consists of one or more members familiar with GIS platforms.*



Collaboration & Partnership

- ◆ *Utilize existing watershed networks to achieve a strong rate of participation and success during stakeholder engagement activities. A strong alliance of local watershed groups is a useful resource when seeking a diverse stakeholder cohort to yield substantial results.*
- ◆ *Create opportunities for federal and provincial regulators to participate as project partners or advisory committee members when appropriate. This promotes a positive relationship between your organization and the project funders, and can further strengthen the network of non-profit organizations, Indigenous communities, provincial and federal bodies operating within the watershed. In the Wolastoq | St. John River context, this was practised through the involvement of the Government of New Brunswick and the department of Environment and Climate Change Canada (ECCC).*

Stakeholder Engagement



- ◆ *Anticipate a wide range of feedback when surveys are used as stakeholder engagement tools, particularly when those surveys ask for participant responses that are based on personal experiences and emotions. Ensure that your project staff have sufficient time to consider and account for all varieties of responses, and control the response range by keeping survey questions concise.*
- ◆ *Use social media platforms as a means of communicating and sharing stakeholder engagement opportunities with the public to increase the rate and diversity of participants.*
- ◆ *When stakeholder engagement exercises require a considerable amount of time and effort on the participant's behalf (i.e., virtual or in-person sessions), prepare the participants by ensuring that their expected contribution is communicated in full. Project staff should match these expectations by providing support, guidance, and accommodations based on the needs of each participant.*
- ◆ *When conducting virtual stakeholder engagement workshops that utilize an online software, explore the program prior to understand its limitations and challenges. Perform a dry-run with dummy responses to ensure the outputs will meet the needs of the planned analysis. Use this foresight to prepare participants and project staff accordingly, particularly when engagement is being practiced in rural areas where internet capacity may be limited.*



Project Management

- ◆ *Include a clearly defined list of expectations regarding deliverables when developing contracts that will be used to outsource particular project components that can benefit from external professional contribution. This ensures that data acquisition and analysis remain streamlined while reducing the project staff's workload.*
- ◆ *Develop a strong work plan that details specific actions and expected results on a quarterly basis to ensure project staff remain on-track in their movement towards the target deadline.*
- ◆ *Schedule recurring meetings for the project management team to promote ongoing communication and collaboration with project staff, and routine evaluation of work plan objectives.*



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