



EXECUTIVE SUMMARY

A Regional Approach to Drinking Water Management: NL-BC Comparative Water Systems Study

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Introduction

Water is recognized as a basic human right, a critical service, a fundamental for sustainability, and a building block for resilience. In Canada, rural areas face unique challenges when it comes to drinking water management (e.g., multi-use watersheds, low population density, lack of economies of scale). Not only are these challenges in the present, but these unique issues are also important in terms of future adaptation and can act as barriers to future community and regional resilience. Research indicates that while managing drinking water is a critical issue for rural Canada, current management approaches appear to be ill equipped to address this issue, particularly in the context of regional resilience. In this report we propose a new approach to managing drinking water, using the regional scale and incorporating best practices related to regional development, new regionalism, regional resilience, water management, and sustainable infrastructure.

Key characteristics of our proposed approach are:

- 1. A self-identified working region**
- 2. Collaborative efforts**
- 3. Flexibility in institutional and governance structure**
- 4. Inclusive participation**
- 5. Tailor made approaches**
- 6. Integrated decision making**
- 7. Innovation and creativity**
- 8. Adaptation**

The future feasibility of this approach was explored in two rural case study regions on opposite ends of Canada where drinking water has been highlighted as a key local issue: the Kittiwake region of Newfoundland and Labrador and the Kootenay region of British Columbia. **Our research objectives were to:**

- 1. Examine and compare the current approach to drinking water management in two case study regions.**
- 2. Compare existing approaches against indicators of new regionalism.**
- 3. Seek feedback from the case study regions on the feasibility of the proposed new regionalist approach and how such an approach might (or might not) address existing challenges.**

Methods

We used a comparative case study approach to gather, synthesize, and compare data between two rural regions. The case study approach allowed us to develop and test our proposed new regional approach to drinking water management in a complex, real time situation and to identify and match drinking water challenges and potential solutions using multiple sources of information. Specific methods include a literature review, content analysis of documents related to drinking water (e.g., plans, policies, regulations), as well as focus groups and key informant interviews.

Results and Discussion

Past research found similarities in drinking water challenges between the Kittiwake region of Newfoundland and Labrador and the Kootenay region of British Columbia, as well as some initial successes in working as a region, including some sporadic examples of approaches that exemplify characteristics of a new regionalist approach. Through our case study investigation what we found was not a definitive response with respect to the feasibility and benefits of a new regional approach, but rather an additional gap between theory and practice. However, what is clear from our research is that, while the case study regions are at opposing ends of the country, and despite governance and regulatory differences, the Kootenay and the Kittiwake regions share common experiences and challenges related to the management of drinking water. Common local level challenges between the two regions included: engineering issues; data management; infrastructure issues, and capacity issues, particularly human and financial. Beyond issues of management, in both regions there were also issues with perceptions surrounding drinking water and health, chlorinated water, the use of untreated water sources (e.g., roadside springs), and sometimes friction or a lack of strategic coordination between the local and provincial level actors. What is less clear is the applicability and feasibility of applying the proposed new regionalist approach to address these challenges.

Our proposed approach takes a holistic, and coordinated perspective. It recognizes links and interdependencies within a larger scale system – a single community drinking water system not only relates to the surrounding environment and development of that community, but to the surrounding region as well. From a theoretical perspective, taking such an approach to managing drinking water that acknowledges and thoughtfully considers these links has the potential to address many of the existing challenges in drinking water systems and rural regions more generally by improving efficiencies, fostering collaboration, and helping to build regional resilience.

Our proposed new regionalist approach was not initially well received in the case study regions, suggesting a failure on our part to portray the information in a sufficiently comprehensive and tangible fashion. The complexity and diversity of the institutional structures and individual systems also played a part in the approach's reception. However, further discussion of the purpose and ideas within our approach were met with recognition and interest. In some cases we found that certain elements included in our approach currently exist in practice, albeit in a largely uncoordinated fashion. For example, there are knowledge sharing networks for specific practitioners, however these networks are rarely integrated, despite the potential benefits of doing so. Many facets of our proposed approach were acknowledged in both regions as important to the management of drinking water systems. These facets include collaborative and inclusive governance; the need for databases and integrated data management with straightforward and open access; the need for knowledge sharing venues; and the need for sustained funding and more accurately priced water fees.

Despite these encouraging results, envisioning these elements i) together as a coordinated approach, and ii) at a deliberately undefined regional scale appeared difficult for key informants to conceptualize, particularly where different elements were applicable in

different contexts and at different scales. For example, sharing a drinking water operator may be of interest to small systems, while large systems may be more interested in a consolidated data sharing agreement or source water protection plan. Furthermore, where regional scale actions offered a possible solution it was noted that current institutional structures often have not explicitly supported, or have even actively blocked this type of approach. The concept of 'regional' itself presented an issue as a result of multiple, overlapping, regions. For example, our case study regions may be too large for some proposed elements (e.g., a regional water operator), but fine for other elements (e.g., knowledge sharing networks). Though the need or potential for regionalization was recognized in many cases, issues relating to equity and bad experiences in the past with regional efforts remain a stumbling block.

Finally, and perhaps most importantly, it was found that there appeared to be a number of steps missing between the current state of and context surrounding the single system management of drinking water and the proposed new regionalist approach. The information gathered from participants in both regions was important in identifying i) the gap between current realities and our theoretically informed new regionalist approach and ii) the potential to build on our initial conceptual design. It was by in large agreed upon that the current approach to drinking water management has challenges. However, while our proposed approach included a variety of possibilities, we failed to accurately capture two critical stages: i) the need to build a solid foundation of knowledge and understanding surrounding drinking water systems across the regions in question (e.g., the need for treatment, watershed dynamics and so on), and ii) the benefit of building the case for a regional approach, including specific, relevant examples prior to a more coordinated new regional approach.

Conclusions

Ultimately, the gap between the current and the proposed approach was simply too large to allow us to determine the potential or feasibility of a new regionalist approach to managing drinking water. A revised approach would have to include the necessary foundation building as well as various initial targeted regional-scale actions leading up to a coordinated, system-focused new regionalist approach. The challenge is the creation of an approach that is open and flexible enough to allow for it to be tailored and transferred across different places, but clear and concrete enough to be understood. We saw a need for flexibility, consideration of place, and mechanisms for adaptive governance. Overall, we need to develop more practical and tangible ways of outlining the proposed new regionalist approach. It was suggested by participants that it would be helpful if regional approaches were outlined in a scenario-based manual, which had different regional options depending on local needs. Furthermore, the approach must have mechanisms to deal with communities at different starting points and coming from different perspectives, while also maintaining an overall umbrella approach. In short we need to revise our approach in a way that is both flexible and open, but easily understood and applied to different regions. Is a new regionalist approach to managing drinking water feasible for rural regions? We have no definitive answer, but rather an indication that this is worth pursuing.