



# Policy Brief 4

## *Public Perception, Awareness and Demand of Drinking Water In Rural Newfoundland and Labrador*

### SUMMARY

It is evident that drinking water is an important issue to the residents of Newfoundland and Labrador (NL). The majority of community administrators surveyed believe their communities' public drinking water is adequate. However, consultations with municipal leaders found that many residents do not drink publically supplied drinking water due to a distaste or distrust of the water. Furthermore, there is little public education at the local level surrounding potential contaminants in untreated drinking water. Community administrators and local decision makers also require more education regarding their drinking water systems. Lastly, the research indicated that it is not common practice in rural NL to conserve drinking water, or for local decision makers to be aware of general water usage data in their town. Overall, there is a need for greater education for both residents and local actors alike on water issues.

### BACKGROUND

The public's perceptions, awareness, and demands of drinking water systems refer to residents' attitudes and behaviours in relation to their drinking water. According to the Oxford dictionary, perception is defined as a way to become aware of something through the senses, or through regarding, understanding or interpreting something. Though public perceptions of drinking water do not always coincide with provincial water quality ratings, these perceptions are one indicator of water quality and do influence the operations of drinking water systems and drinking water security. As discussed in Goldhar, Bell, and Wolf (2013), in Labrador, water security (e.g. access, availability, quality and preference) is a concern and will be exacerbated by climate change. Public awareness is further discussed in this brief in terms of how community administrators view drinking water quality and the ways in which NL residents' use publically supplied drinking water. The findings in this brief are based on the results of the 2013-2014 research study entitled *Exploring Solutions for Sustainable Rural Drinking Water Systems*.

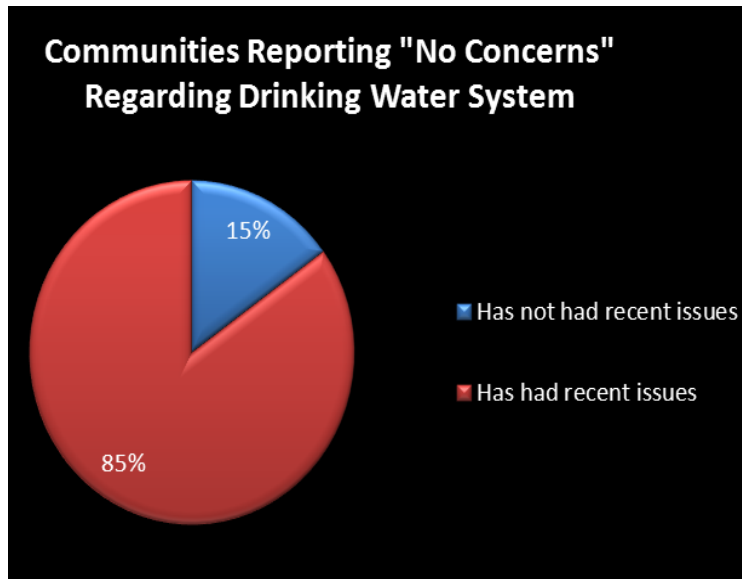
### AREAS OF CONCERN

#### **PERCEPTIONS OF DRINKING WATER**

Through a scan of media reports in NL we found that drinking water issues receive frequent coverage and, therefore, are mainstream issues. Headlines related to drinking water are most commonly about water treatment facility upgrades and the provision of funding for drinking water related expenses. Other common themes in the media relate to frequent or long term boil water advisories, and water contaminations. The majority of community administrators surveyed believed their drinking water was "drinkable from tap" and self-reported a positive opinion of drinking water in their towns. During

consultations with municipal leaders, however, it was suggested that due to a distaste of chlorine and discoloured water, and, in some cases, concerns regarding disinfectant by-products, many residents choose alternative drinking water sources such as bottled water and untreated springs. Issues with operations, such as over chlorinating in order to keep chlorine residual to provincial standards throughout the system, sometimes result in the chlorine taste at the beginning of the line being overwhelming for residents. Education on the need for treatment of drinking water is lacking, as well as ways to reduce chlorine taste in tap water. This poses a risk to citizens' health as they turn to alternative sources.

**LOCAL ADMINISTRATORS' AWARENESS**



After surveys revealed a low level of concern by community administrators about their drinking water systems, a cross comparison with provincial data was conducted. The results demonstrated that there was not a firm grasp at the local level of the drinking water issues in their communities. For example 27/40 communities that said they had "no concerns with

their drinking water system" had no current DWQI ranking in Winter 2014 due to THMs/HAA's that exceeded federal guidelines or the presence of a boil water advisory. Also, approximately 1/3 of all community administrators from communities of 1,000 residents or less did not know the level of certification of their water operator. During consultations, municipal leaders often noted that they would be interested in more educational opportunities in relation to drinking water.

**WATER USE AND CONSERVATION EFFORTS**

Many communities of 1,000 residents or less indicated that there were high water users in their community such as schools and fish plants. The majority of communities of 1,000 residents or less with high water users indicated that they charged these high water users a lump sum for their water. Water metering was uncommon in rural NL, and non-existent in terms of residential metering (with the exception of pilot projects). There were some communities that had enacted conservation by-laws or implemented water conservation technologies in public buildings; however these examples were the exception not the norm. Generally, water conservation and methods to fully account for water use were very limited in rural NL, even in communities expressing water shortage issues. This suggests an undervaluation of water and lack of awareness of the benefits of water conservation.

## POLICY RECOMMENDATIONS

- PERCEPTIONS OF DRINKING WATER**
1. Offer more (and diverse) public outreach and education opportunities in various mediums concerning drinking water issues (e.g. source water protection, risks associated with untreated spring water collection, DBPs, home treatment options and conservation).
- LOCAL ADMINISTRATORS' AWARENESS**
2. Provide greater education and capacity building opportunities concerning best practices on the management of drinking water systems for decision makers such as mayors, councillors and town staff.
  3. Increase opportunities for multi-level governance and dialogue at the local, regional and provincial scale, bringing together all levels of government as well as representation from other stakeholders such as non-governmental and industry groups. This would involve creating venues for integration, coordination and sharing information concerning water related matters.
- WATER USE AND CONSERVATION EFFORTS**
4. Improve water conservation programs and policies.
  5. Include full cost accounting and appropriate pricing for water services in fiscal framework discussions.

## FUTURE RESEARCH NEEDED

1. Contributing factors to water shortages in NL communities as well as potential solutions.
2. Resident perceptions (e.g. risks, preferences) and uses of drinking water (e.g. types of water sources and consumption levels).
3. Feasibility of and options for water conservation programs and related outreach activities.
4. Accurate full cost accounting for drinking water service provision.



## SOURCES FOR FURTHER READINGS

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## ABOUT THIS POLICY BRIEF

This policy brief is part of a two-year research project entitled *Exploring Solutions for Sustainable Rural Drinking Water Systems*. This project focused on communities of 1,000 residents or less in rural Newfoundland and Labrador (NL) and the unique challenges these communities face concerning their drinking water systems. The project also explored appropriate solutions to identified challenges. The scope of this interdisciplinary project was large, exploring four main components of drinking water systems: 1) source water quality and quantity; 2) infrastructure and operations; 3) public perceptions, awareness and demand; and 4) policy and governance. It is important to acknowledge that these aspects of the drinking water system are interrelated.

This research was led by Dr. Kelly Vodden (Memorial University, Grenfell Campus) in collaboration with Municipalities Newfoundland and Labrador (MNL) and Professional Municipal Administrators (PMA). Funding support from the *Harris Centre – RBC Water Research and Outreach Fund* and the *Mitacs-Accelerate* internship program is gratefully acknowledged. Please see the project website for the full list of partners as well as associated reports and resources: <http://nlwater.ruralresilience.ca>

For the full final report for this project that includes more information on all topics discussed in this brief, please see: [http://www.mun.ca/harriscentre/Rural Water Report.pdf](http://www.mun.ca/harriscentre/Rural_Water_Report.pdf)

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