

# Rural Drinking Water in Newfoundland and Labrador

## Exploring Solutions for Sustainable Rural Drinking Water Systems

Sarah Minnes, MSc (Planning)  
Project Coordinator, PhD Student

Kelly Vodden, Associate Professor (Research)  
Principal Investigator



# About the Project

What are we trying to do and why?



# Our Research Project



- 💧 Risks and challenges influencing drinking water quality and availability
- 💧 Emphasis on communities of 1,000 residents or less in NL
- 💧 What is working, factors for success, possible solutions and future research



# Major Components of Research



- ◆ Source water quality and quantity
- ◆ Infrastructure and operations
- ◆ Policies and governance
- ◆ Public perception, awareness, and demand

(Annual Report, 2012)



# How?

- 🍋 Literature Review
- 🍋 Media Scan
- 🍋 Legislation and Policy Review (DPSIR)
- 🍋 Policy workshop
- 🍋 Municipal Surveys and Consultations
- 🍋 Case Studies





# Kittiwake



# Kootenays



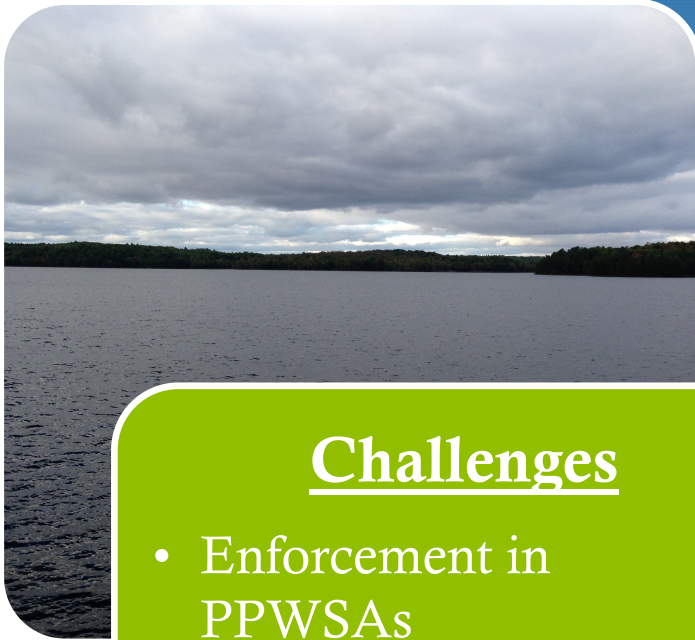


# Major Challenges and Preliminary Identified Solutions





# Source Water Quality & Quantity



## Challenges

- Enforcement in PPWSAs
- Inter- municipal cooperation
- Citizen buy in/ ownership



## Potential Solutions

- Mandatory watershed based source water protection
- Community based monitoring programs
- Proactive land use planning

# Infrastructure & Operations

Source: Paula Dawe



## Challenges

- Ageing infrastructure
- Asset management
- Uncertified water operators
- Unoccupied buildings and fish plant closures
- Full cost accounting



## Potential Solutions

- Asset management plans and procedures
- Regional water operators
- Mandatory water operator certification
- Water metering/conservation programs

# Policy & Governance



## Challenges

- Drinking Water Quality Index
- Frequent/long term BWAs
- Optional for municipalities/LSDs to protect their public water supply area
- Unclear multi-level governance coordination

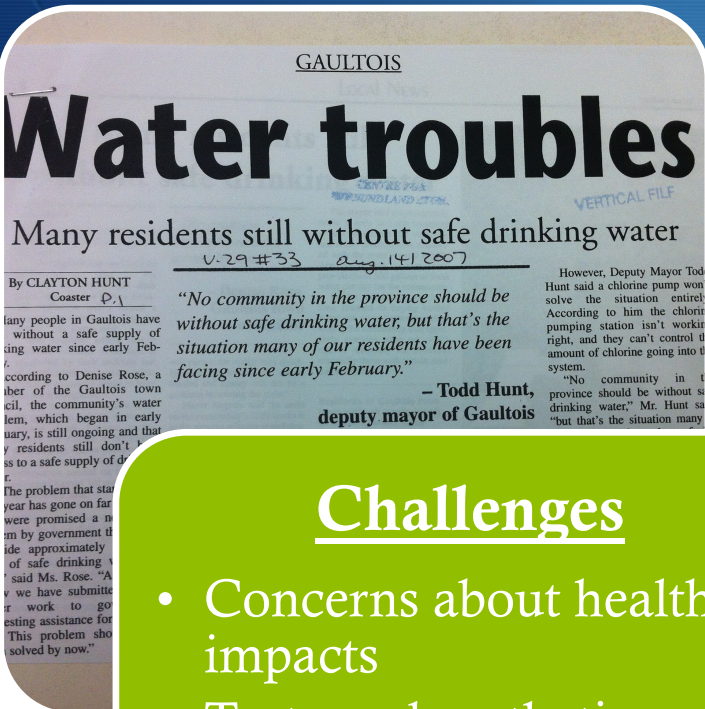


## Potential Solutions

- Re-evaluation of the DWQI
- Expected length/severity of BWA provided to residents
- Greater involvement of municipal actors in provincial interdepartmental groups



# Public Perception, Awareness & Demand



## Challenges

- Concerns about health impacts
- Taste and aesthetic concerns
- High per capita water use
- Poor communication when on a BWA

## Potential Solutions

- Public education programs
  - Untreated drinking water risks
  - Conservation efforts
- Better communication practices when on a BWA

# Areas for Future Research

## Public Perception, Awareness & Demand

- Public perceptions and use of water
- Appropriate outreach activities for water education and conservation efforts

## Infrastructure & Operations

- Cost benefit analysis of water metering and other alternatives
- Research into remote technologies

## Policy & Governance

- Research into how to improve the DWQI
- New governance options for source water protection in rural areas

## Source Water Quality & Quantity

- Baseline studies on all drinking water supplies

# Thank you!

And stay in touch!

- Visit our website: <http://nlwater.ruralresilience.ca>
- Contact Sarah Minnes,  
Project Coordinator,  
Environmental Policy  
Institute,  
Grenfell Campus  
[sminnes@grenfell.mun.ca](mailto:sminnes@grenfell.mun.ca)

GRENFELL  
CAMPUS



Funding support  
from the Harris  
Centre – RBC  
Water Research  
and Outreach  
Fund is gratefully  
acknowledged



# Closing Discussion

- ◆ Any questions?  
Comments? Concerns?
- ◆ Do any of you do  
research in rural  
communities?
  - ◆ What kinds of drinking  
water challenges have you  
encountered?
  - ◆ Solutions?