Enhancing Source Water Protection in Rural Regions: Exploring the Role of Governance and Capacity Building

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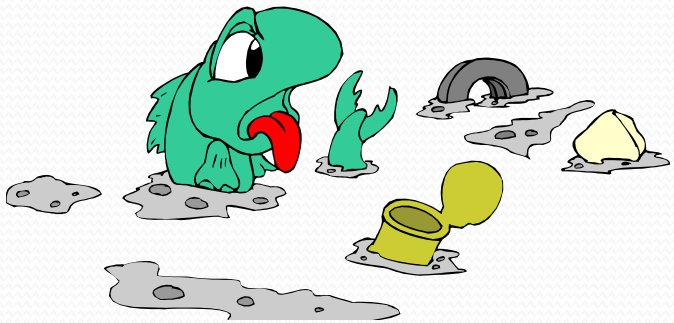
Why Protect Drinking Water at the Source?

- "Crisis with water is in fact a management problem, rather than a scarcity problem" (OECD, 2011)



- A lack of SWP can pose both human and environmental risks

Economic Importance

- Walkerton was estimated as costing over $64.5 million (not including the unquantifiable cost of human life)
- Lessens filtration and treatment costs
- Ratio of benefits of avoiding contamination to the costs of source protection programs ranges from 5:1 to 200:1 (USEPA)

Clean Water Act, 2006

Related Provincial and Municipal Legislation

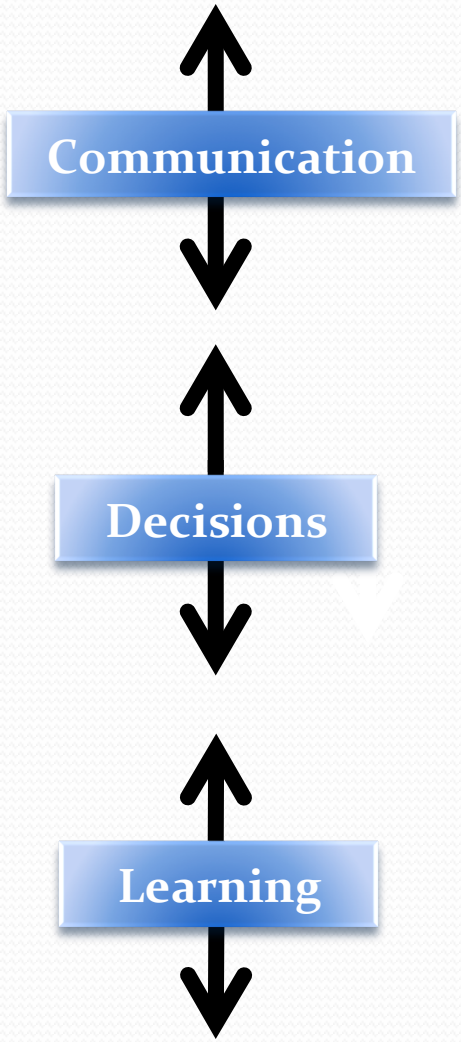
- Municipal Official Plans and By Laws
- Planning Act
- Provincial Policy Statement
- Oak Ridges Moraine Conservation Act
- The Niagara Escarpment Plan
- Greenbelt Act
- Places to Grow Act
- Nutrient Management Act
- Building Code Act

Other Water Related Ontario Legislation

- **Ministry of the Environment and Climate Change**
  - Water Opportunities and Water Conservation Act
  - Environmental Protection Act
  - Ontario Water Resources Act
  - Safe Drinking Water Act
  - Environmental Assessment Act
  - Environmental Bill of Rights
- **Ministry of Environment & Ministry of Agriculture & Food**
  - Nutrient Management Act
- **Ministry of Natural Resources**
  - Lakes and Rivers Improvement Act
  - Public Lands Act

(North Bay - Mattawa Conservation Authority, n.d)

Governance Under the CWA



Ministry of the Environment and Climate Change

Source Protection Authority

Source Protection Committee

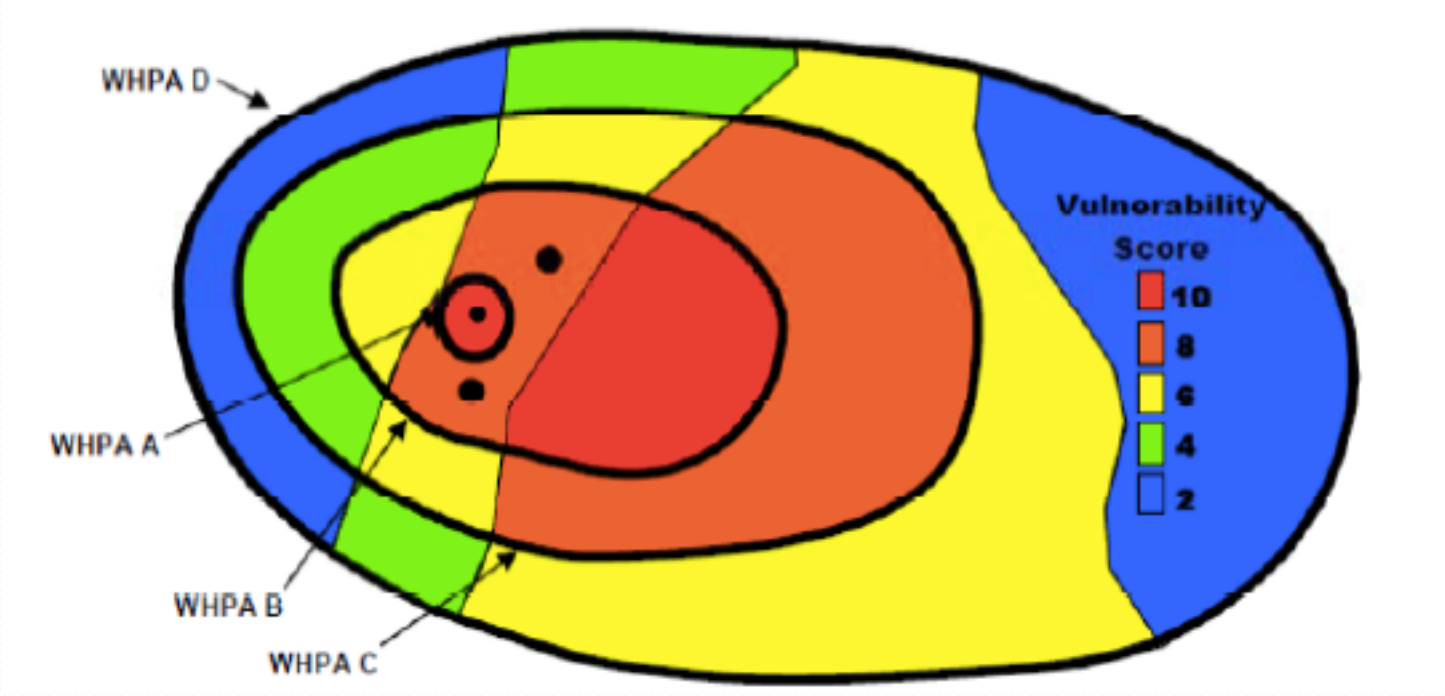
- 1/3 agricultural
- 1/3 municipal
- 1/3 community groups
- First Nations

Municipalities

Implementation

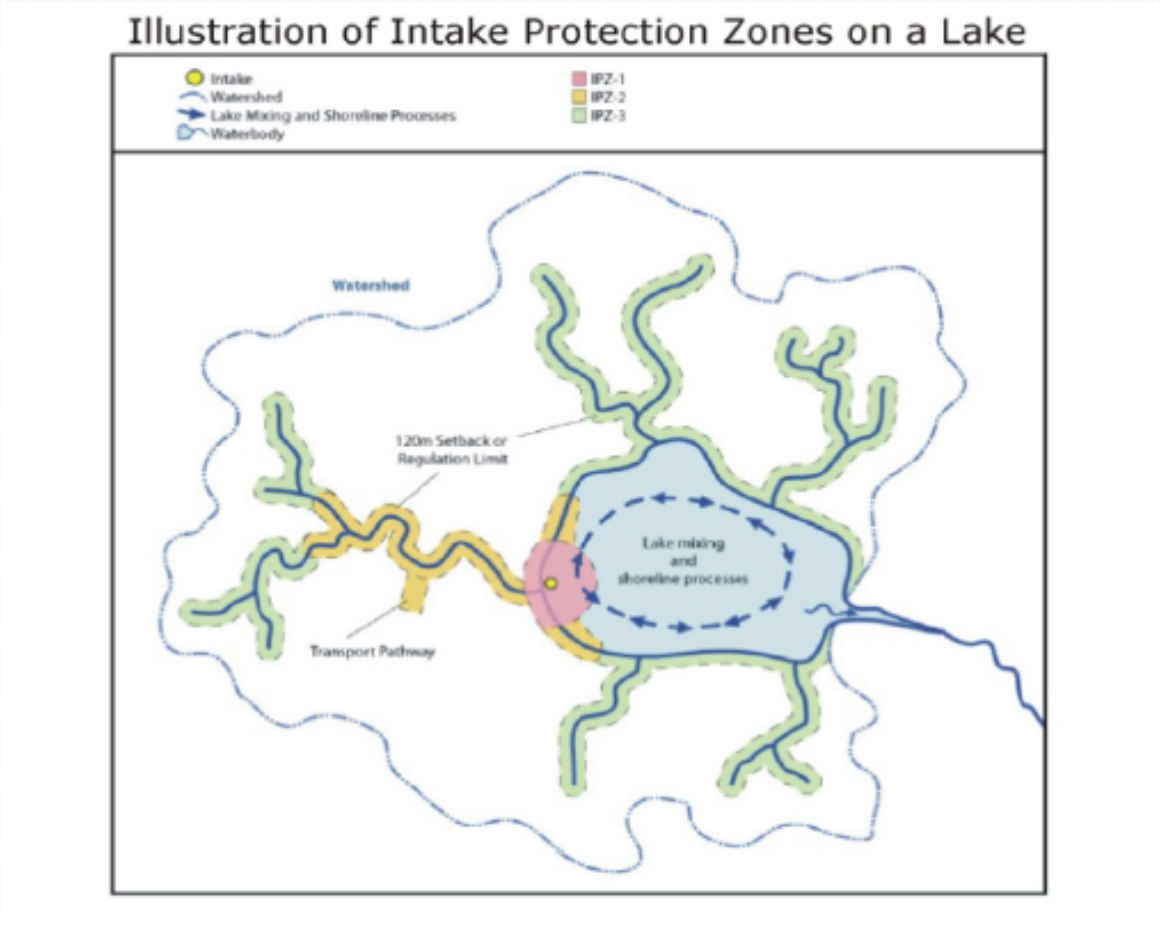
(MOE, 2007)

Wellhead Protection Area



(Cataraqui Region Conservation Authority; Cataraqui Source Protection Committee, 2011)

Intake Protection Zones

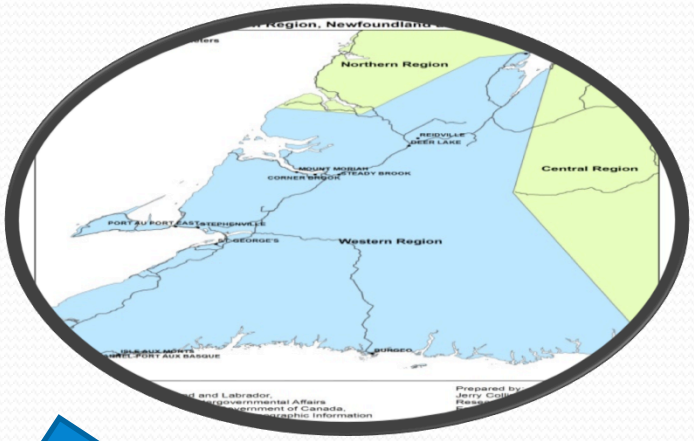


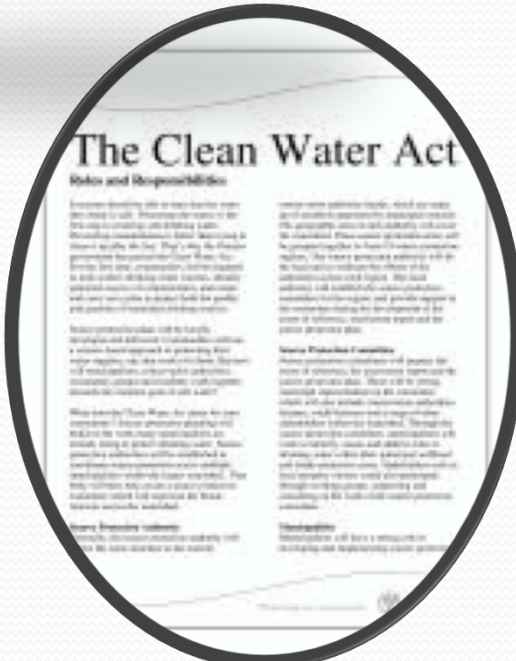
(Cataraqui Region Conservation Authority; Cataraqui Source Protection Committee, 2011)

Research Questions

- What have been the successes and challenges with source water protection planning and implementation of source protection plans in ON?
- Did the source water protection planning process in ON build capacity for water and watershed governance, particularly in rural areas?
- What would be the potential benefits and challenges for rural regions in other provinces in Canada if they were to adopt a similar planning and implementation process?

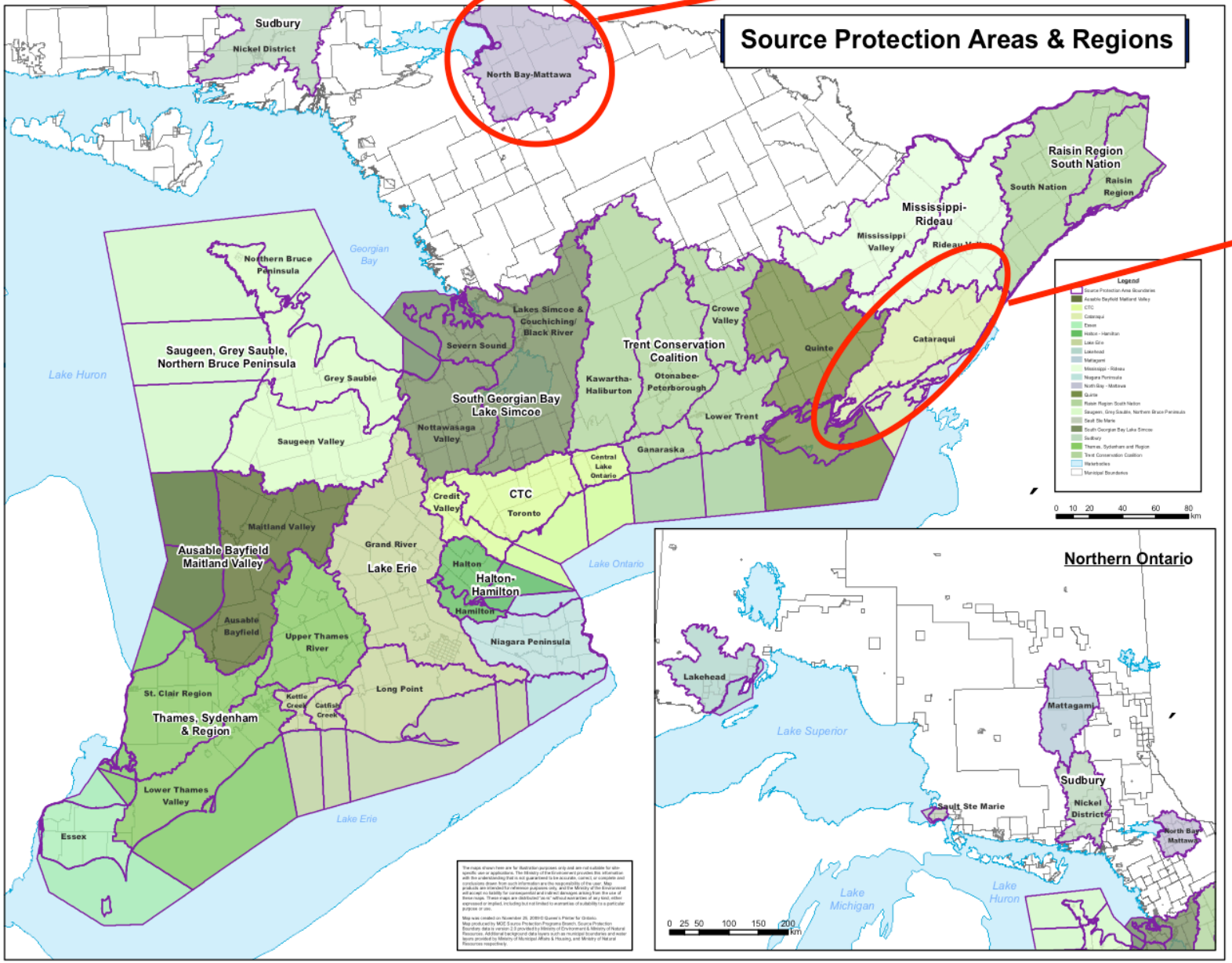
Methodology





Theoretical Underpinnings

Governance	• Legislated process/ organized structure • Integration • Right actors at the table • Shared ownership and accountability • Knowledge sharing and learning • Public participation	• Trust building and transparency • Fairness • Adequate resources and capacity • Common benefit evident • Evaluation, adaptability, and flexibility
Capacity	• Institutional • Financial	• Social • Technical/human
SWP Best Practices	• Scope • Integration • Improvement of water quality	• Decreased contamination risks • Water quantity safeguarded
Policy Transfer	• Policy context • Policy problem	• Policy being transferred



North Bay-Mattawa Source Protection Area

Cataraqui Source Protection Area

Preliminary Findings

- Great for baseline information gathering and data sharing
- Great for communication
- Legislation provides needed teeth
- Conservation Authorities the “honest brokers”

Planning for the Future

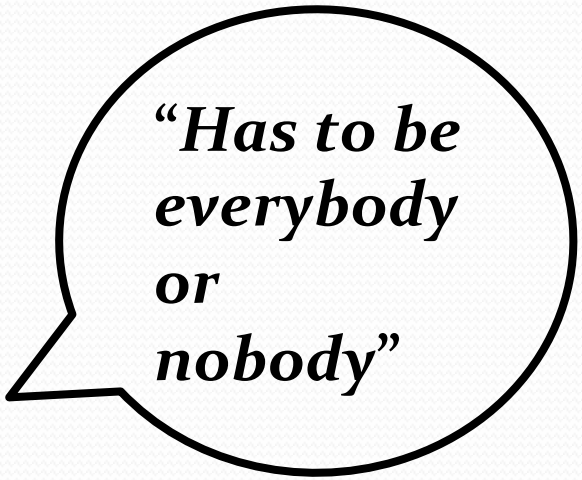
- Annual reporting important function
- Keeping science updated is imperative
- Emerging issues not under prescribed *drinking water threats* list (e.g. pharmaceuticals)
- Source water protection versus watershed management
- Uncertainty of implementation funding has municipalities “hand cuffed”

Rural?

- Current process excludes <u>mandatory</u> (can opt in) protection for:
  - Private wells
  - First Nation communities
- No mandatory protection but it will “rub off”

Trout Creek Groundwater Study Pilot

- Unserviced village part of the Municipality of Powassan with clusters of individual wells
- Hydrogeological studies (travel assessments) undertaken to identify WHPA's
- Any septic system within 100m of any well in Trout Creek was automatically identified as a *significant risk* based on MOECC technical criteria
- Serious concern regarding impacts on house re-sale, withdrew from the plan

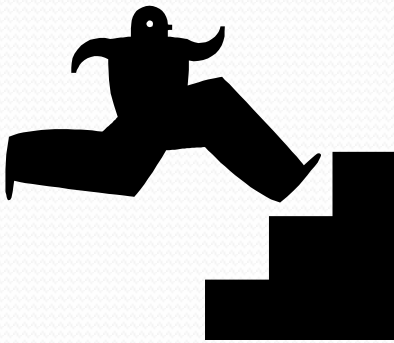


(North Bay - Mattawa Conservation Authority, 2013)

Policy Transfer for Rural Ontario

- Should the CWA expand into unserviced rural areas?
- How could drinking water source protection plans be prepared for unserviced rural areas in Ontario?
  - Just settlements areas (i.e.. villages, hamlets, towns)?
- Considerations:
  - Extent and reliability of private water treatment is variable
  - Impact on housing prices
  - Continued funding for implementation measures
  - Etc.....

Next Steps



- Completion of fi
  - Analysis
- Paper 1- ON find
- Phase 2 of resear
- Paper 2- Transfe ural areas
- Paper 3- Final fir r rural regions in Canada
- Final dissertation/defense

Questions??

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