



# Compliance Management Framework for Private Onsite Wastewater System Reinspection Programs in the Lake Simcoe Watershed

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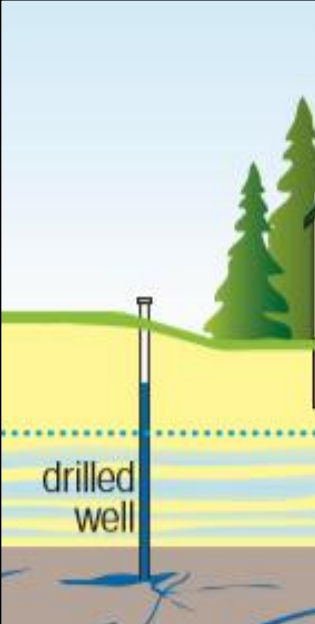
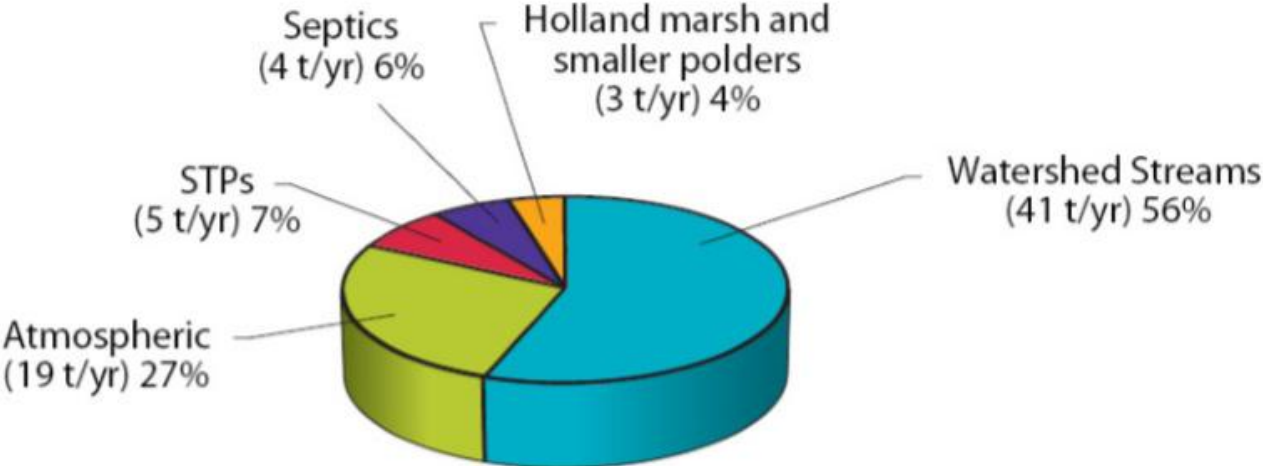
# Acknowledgements

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- ▶ Advisory Committee: Dr. Hugh Simpson
- ▶ Examination Graduate Faculty: Dr. Sheri Longboat
- ▶ Other: Dr. Nicolas Brunet, Dr. Sara Epp, Interviewees, Focus Group Participants



Ministry of the  
Environment, Conservation  
and Parks

# Lake Simcoe Phosphorus Sources



ect on water quality

## Research Goal

Improve the management capacity of Principal Authorities (PAs) who are responsible for the management of private onsite wastewater system (OSS) reinspection programs.

# Research Questions

What barriers are preventing homeowners from successfully maintaining their onsite septic systems?

Are there any key differences between mandatory and discretionary onsite septic system reinspection programs in Ontario?

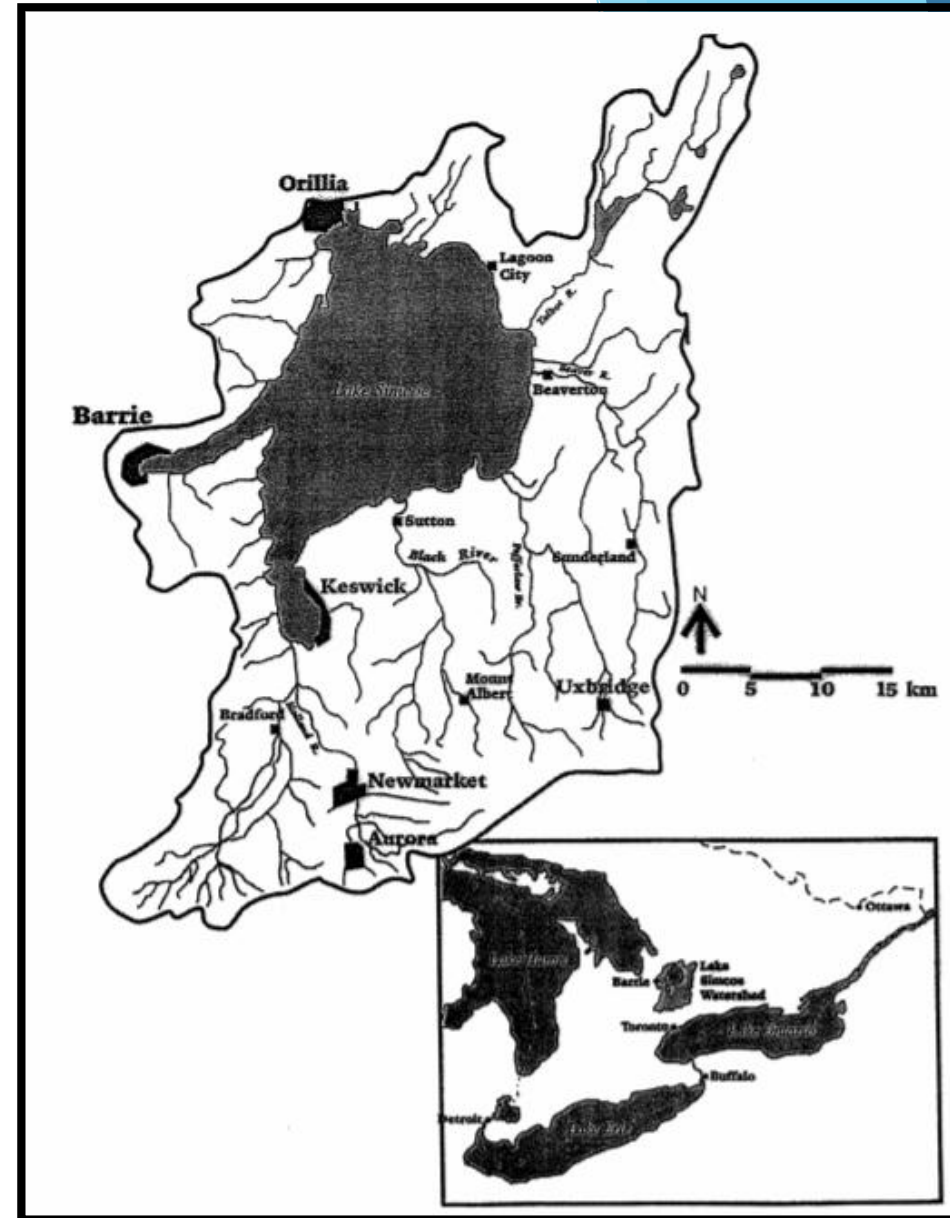
What social mechanisms are required, if any, for implementing onsite septic system reinspection programs in the Lake Simcoe watershed?

# Objectives

- Binalational jurisdictional scan of the Great Lakes watershed.
- Assess the quality of current mandatory OSS reinspection initiatives in the Lake Simcoe watershed.
- Determine management rationale for discretionary OSS reinspection programs
- Develop a compliance management framework for building management capacity for OSS reinspection programs.

# Literature Review

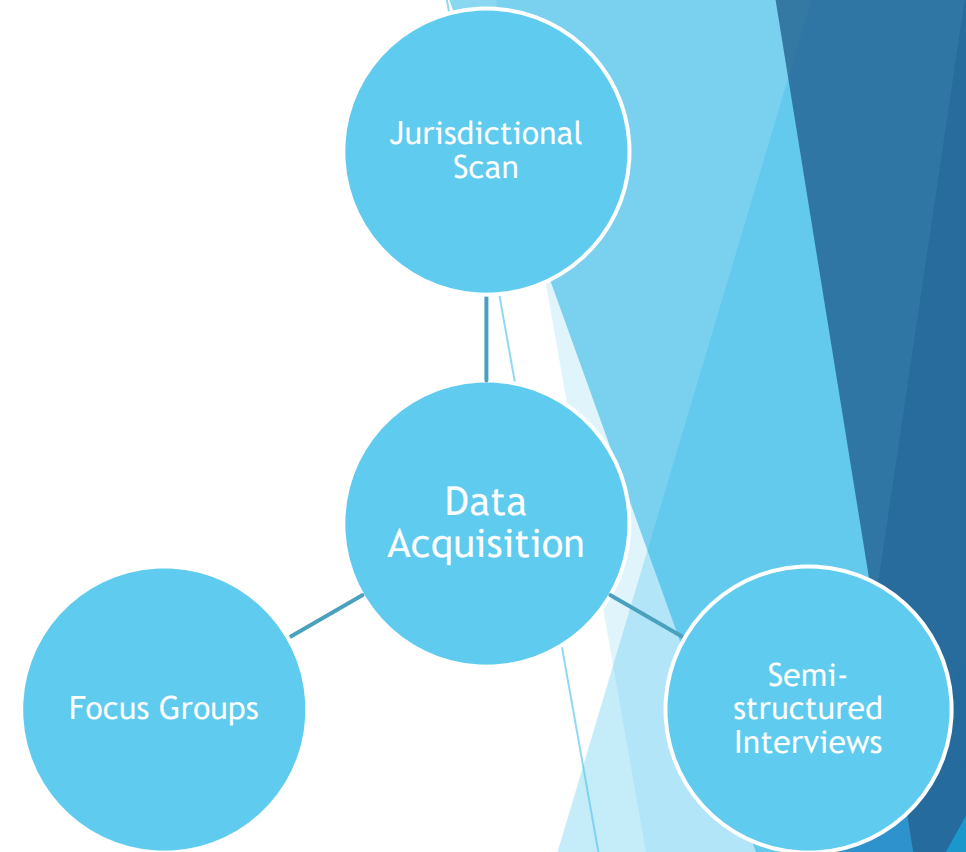
- ▶ Onsite Septic System (OSS) Management and Operations in Ontario
- ▶ Ontario Regulations
  - OBC, CWA, LSPP
- ▶ Collaboration and Cooperative Management (Mattessich, Murray-Close, Monsey, & Wilder Research Centre, 2001), (Innes & Booher, 2010).



(Vedachalam, Vanka, & Riha, 2015).

# Methods: Overview

- Jurisdictional Scan -- Case study approach
  - regional scales
- Purposive sampling using semi-structured interviews
- Focus Groups

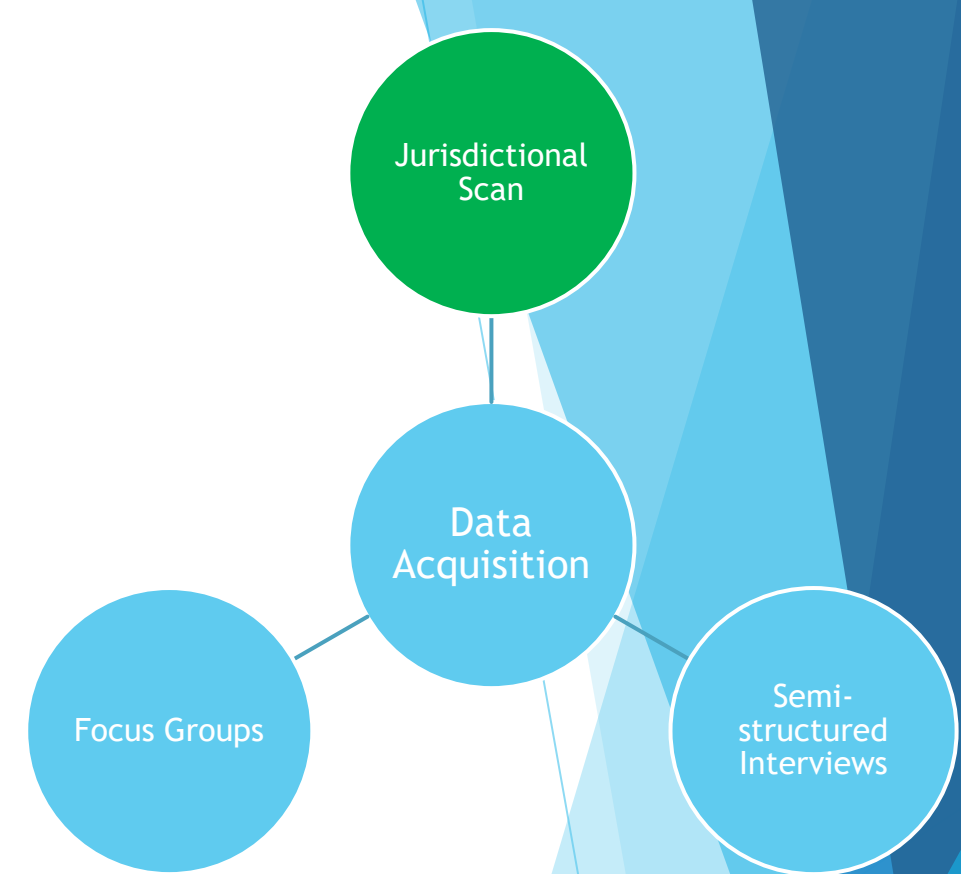


# Methods

## ▶ Jurisdictional Scan

1. Minnesota
2. Wisconsin
3. Pennsylvania

Approaches to inspection, maintenance and recordkeeping



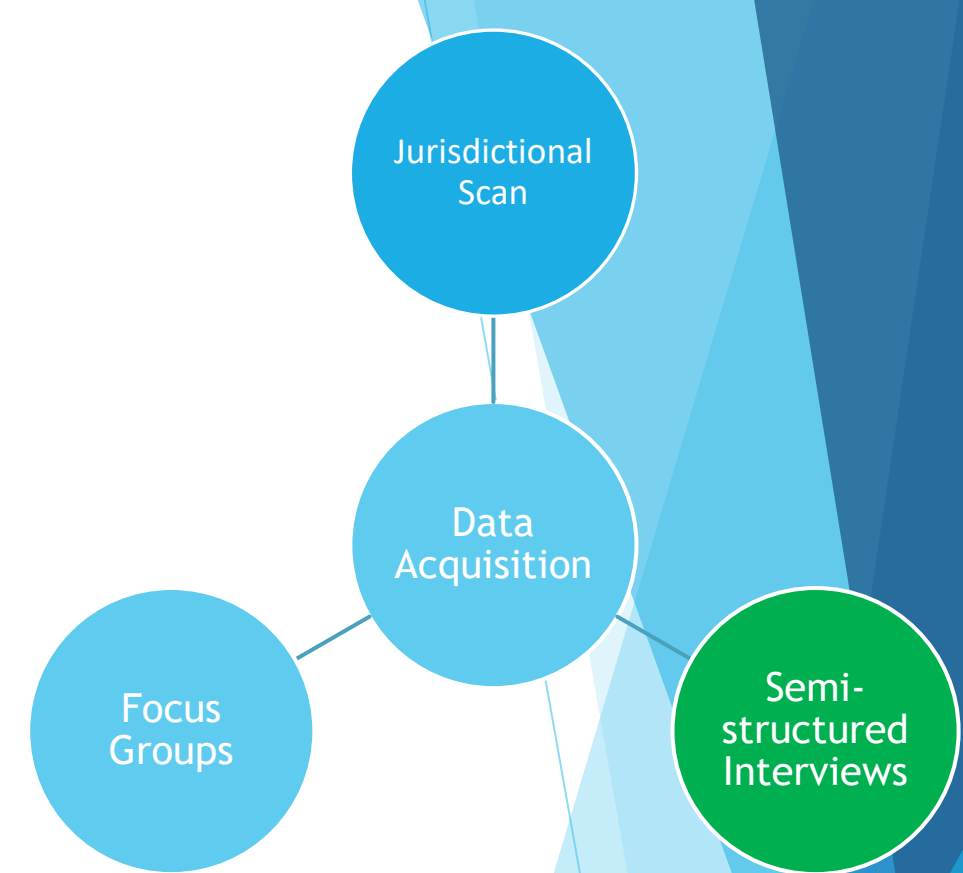
# Great Lakes Region

Image: Wikimedia Commons



# Methods

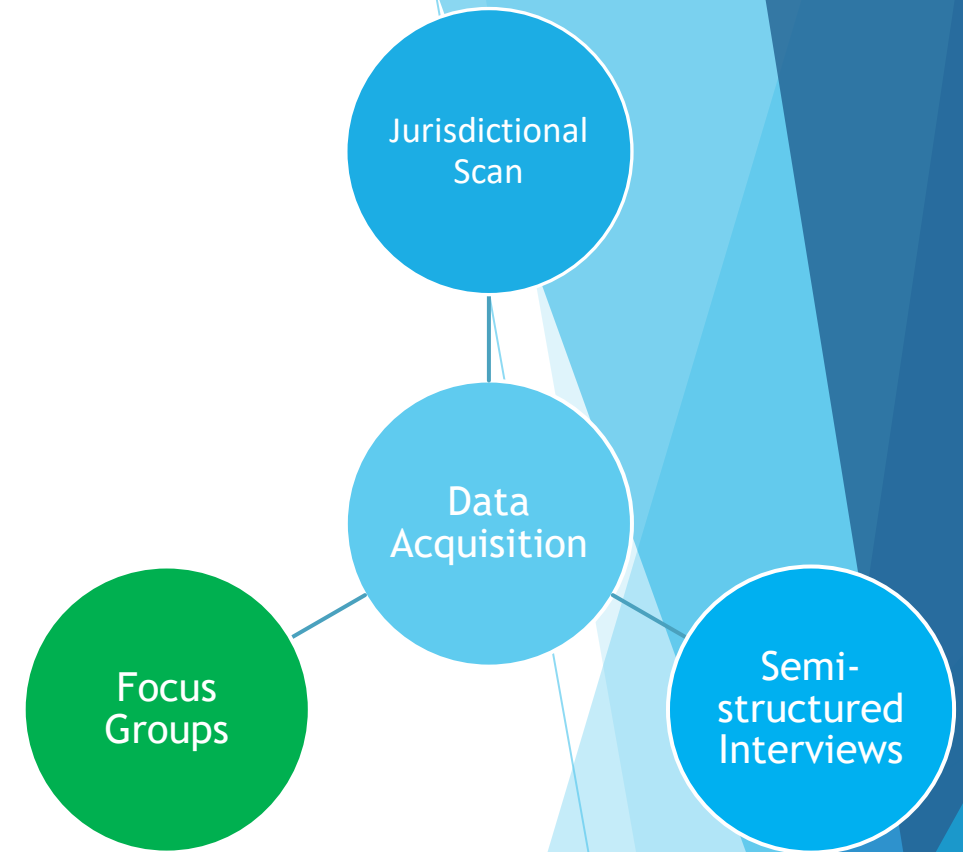
- **Semi-structured Interviews**
- **11 participants**
  - i. 9 program managers
  - ii. 3 system owners
- **Purposive sampling**
  - ▶ Informants targeted for specialized knowledge (Tongco, 2007).
- **Axial and open coding in Nvivo**
- **Limitations**



# Methods

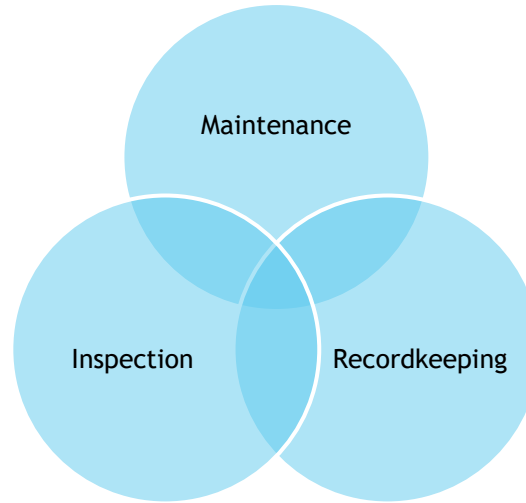
## ▶ Focus Groups

- To confirm that themes were valid and accepted across audiences with exposure and expertise to the subject area
- Post it note exercise to gain unbiased feedback
- Roundtable discussions, webinar



# Results

## ▶ Jurisdictional Scan



### United States

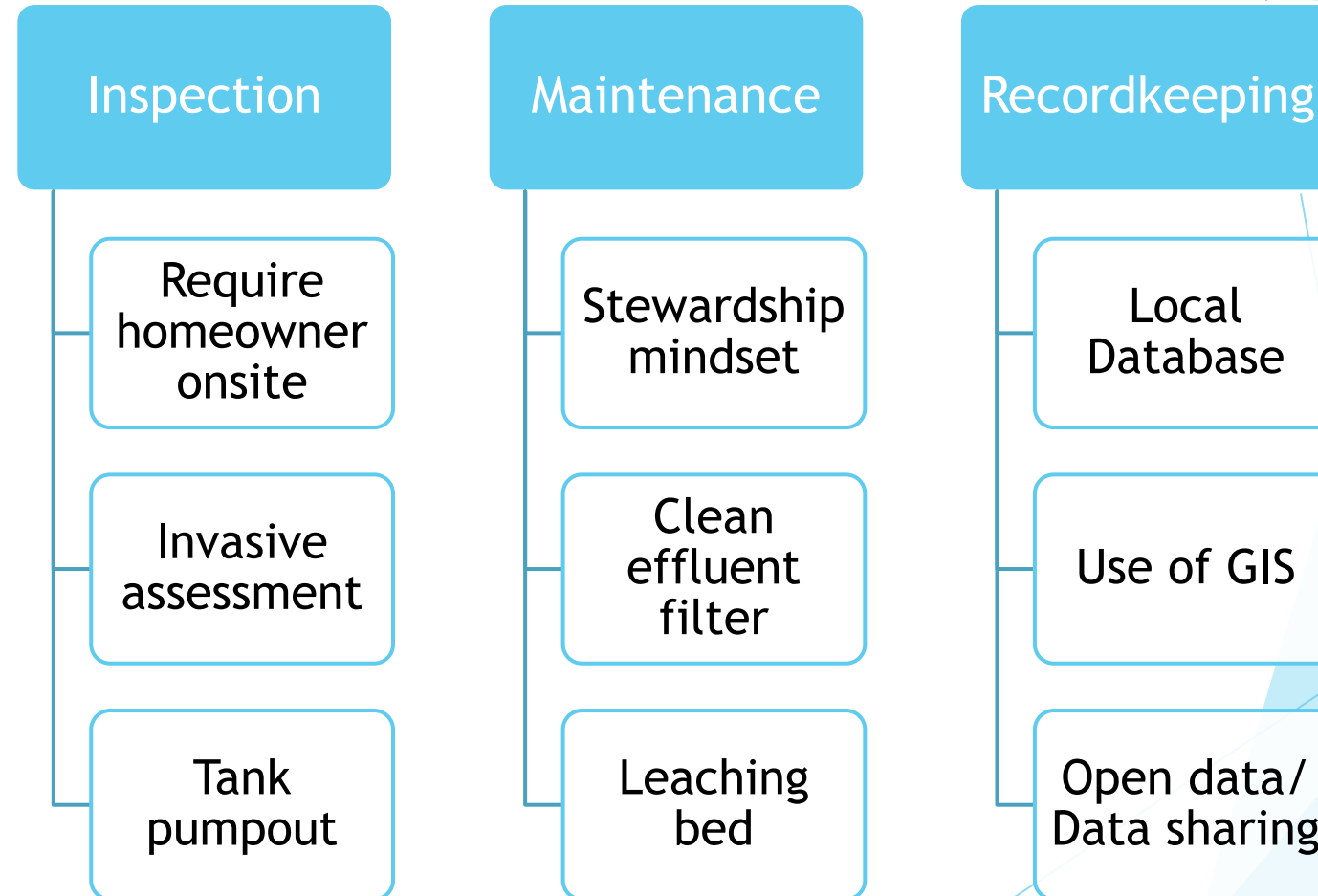
- Power for policy development at local level
- Local policies reflected in state-wide legislation
- Federal framework administered by US EPA

### Ontario

- Top-down approach to regulation
- Minimal support from higher power
- Minimal federal involvement

# Results

- ▶ Jurisdictional Scan
- ▶ Example:





# Results

## Semi-structured Interviews

Regulation

Community Disapproval

Incentives and Support

Community Support

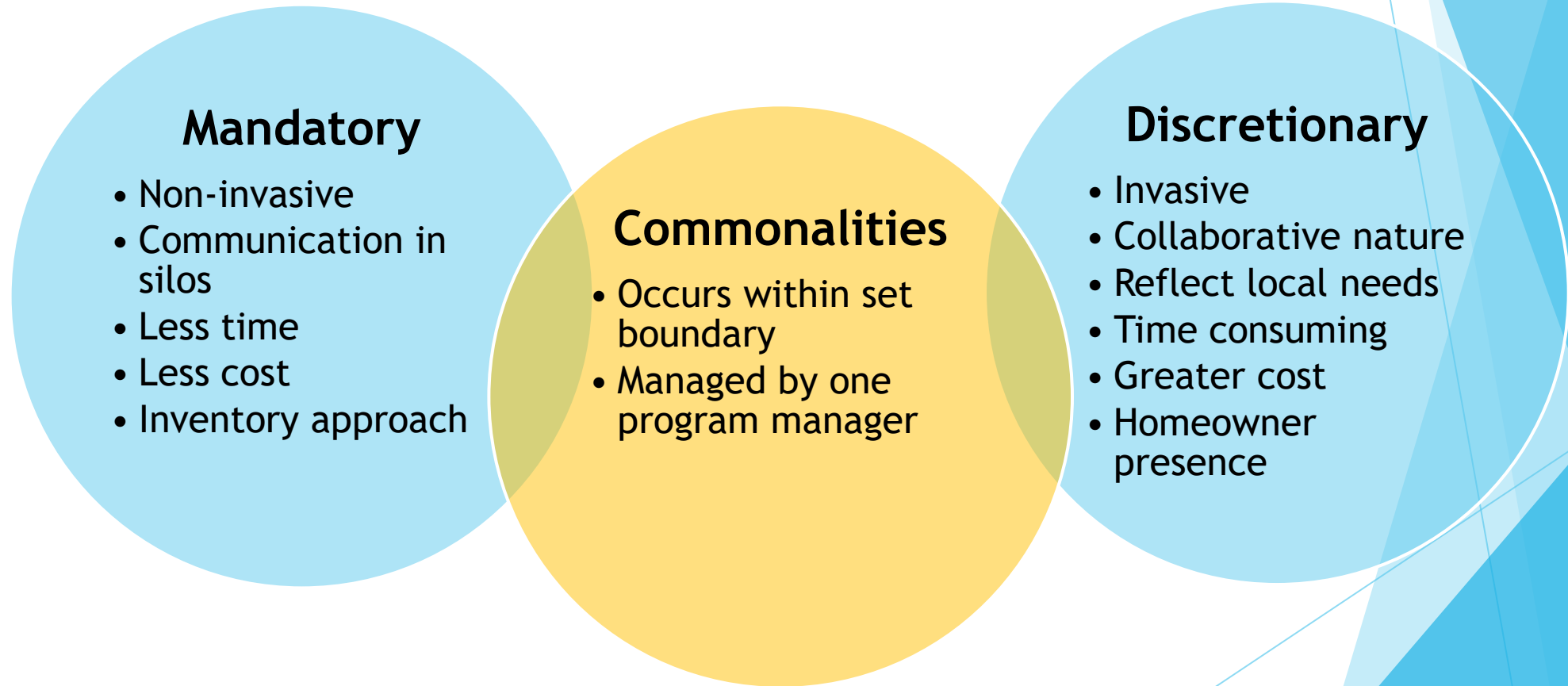
Education & Awareness

## Discussion: Overview

- Discretionary vs. mandated OSS reinspection programs
- Collaborative approach
- Compliance Management Framework

# Discussion

## ▶ Discretionary vs. Mandated Programs



# Discussion

- Collaborative approach
  - Increased communication
    - Between government agencies and local communities
  - Working together to achieve a common goal
- Incremental implementation
  - Collaborative initiatives are built cumulatively and do not form all at once (Mattessich, Murray-Close, Monsey, & Wilder Research Centre, 2001).

# Discussion

Regulation

Community Disapproval

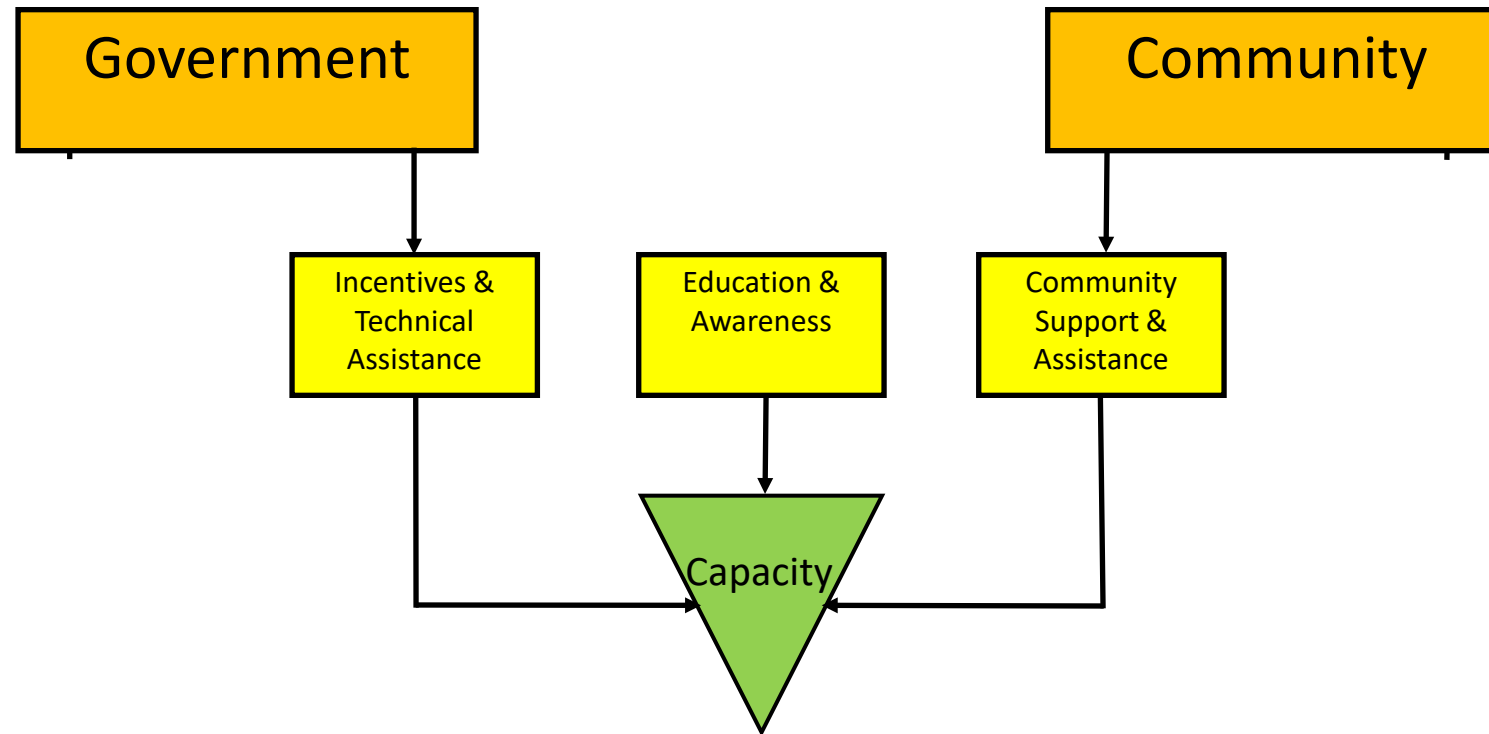
Incentives and Support

Community Support

Education & Awareness

## OSS Reinspection Program

# Discussion: Framework



# Conclusion

- Neglected OSS continue to threaten the Lake Simcoe watershed
- OSS are a viable solution for treating domestic human waste, if they are inspected and maintained
- OSS reinspection program staff are willing to adapt their management strategies but lack support
- Step forward: Incremental implementation of collaborative efforts, between government agencies, local communities, and homeowners

# Recommendations

1. Bottom up approach for OSS reinspection programs
2. Collaborative working relationships should be pursued between all OSS stakeholders
3. Incremental implementation for transitioning to local management applied
4. Agencies and community groups should consult work of other jurisdictions, (i.e. University of Minnesota), to inform best management practice development

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▶ Thank you

▶ Twitter: @CameronLCurran