Classification of Municipal Residential Water Systems in Southern Ontario

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Introduction

- The county-based arrangement of Lower-Tier/Upper-Tier municipal government in Southern Ontario originated with the Baldwin Act (1849).
- Within this environment, it is assumed that the most common type of municipal-residential water system (MRWS) developed was full integrated drinking water and wastewater services to one service area.
- However, beginning with The Municipality of Metropolitan Toronto Act (1953), it is hypothesized that regional municipalities (1960-70s) and amalgamation (1990-2000s) have created more complex water systems.
- The purpose of this poster is to present a classification scheme for MRWS in order to understand the types of water systems currently in place in Southern Ontario.

Methods

- Using a list of municipalities in Ontario (MMAH, 2013) and definitions from the Municipal Act (2001), the governance structure of MRWS were organized, counted and classified.
- Using definitions from the Safe Drinking Water Act (2002) and two datasets from the Ministry of Environment, the technical structure of MRWS were organized, counted and classified.
- Using two proposed structural classification schemes for governance and technical structures, MRWS are classified and counted.
- Results are presented in both tabular and GIS map formats.

Results

- Governance Structures
- Technical Structures

Results - MRWS

- Classification yielded six types of governance structures, seven types of technical structures and twenty-one types of MRWS.
- The most common type of governance structure is lower-tier (exclusive) while the most common type of technical structure is complex.
- Results show that integrated technical structures are only located in ST and LT(E) municipalities while complex technical structures are located in all types of governance structures but predominantly in regions and ST municipalities.
- It appears likely that MRWS have become more complex with municipal restructuring, future research should examine the relative performance of each type of system for the betterment of Ontario’s water.

References


