Peterborough County

Watershed Plan

Equivalent

"Phase 1: Background Review"

Presentation to Council

March 19, 2025

Peterborough County

MONTROSE ENVIRONMENTAL

Presenters and Key Consulting Team Members

Mariëtte Pushkar
Principal Fluvial Geomorphologist, Project Manager
Montrose Environmental

Margot Ursic
Engagement Specialist, Natural Heritage Lead
Grounded Solutions

Scheckenberger & Associates

- **Ron Scheckenberger**, Senior Water Engineer & Advisor

Montrose Environmental

- **Daron Abbey**, Groundwater Lead
- **Scott Robinson**, Surface Water & Flood Hazard Lead.
- **John McDonald**, Fluvial Geomorphology Lead & Project Coordinator
- **Matt Wilkinson**, GIS Lead
- **Kayla Goguen**, Fluvial Processes Specialist & Engagement Support

And other supporting personnel

County Project Team

Iain Mudd

Director of Planning, Development & Public Works

County of Peterborough

Keziah Holden

General Manager, Planning

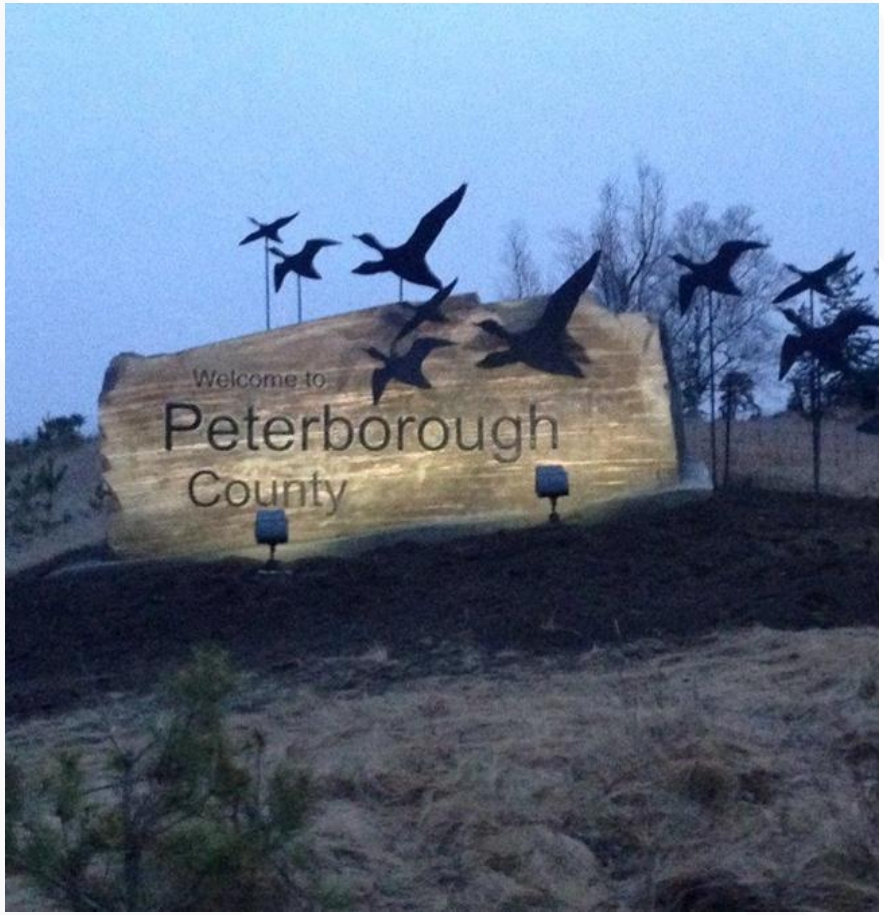
County of Peterborough

Doug Saccoccia

General Manager, Engineering & Construction

County of Peterborough

And other supporting personnel



Presentation Outline

1. Why have a Watershed Plan?
2. What is a Watershed Plan “Equivalent”?
3. Overview of the Project Phasing and Engagement
4. Overview of Preliminary Findings
5. Next Steps and Anticipated Outcomes

Why have a Watershed Plan?

Why have a Watershed Plan: Technical Rationale

Figure 1 - A simple watershed with the boundary determined at the watershed divide

- Watersheds are areas of land that drain rainfall runoff and snowmelt into waterways toward a single, common, outlet.
- Watershed and subwatershed study areas are identified based on local topography and drainage.
- Watershed Plans study the water and natural systems within their boundaries and assess their responses to proposed land use changes and other stressors.
- **As such, studies using these boundaries are important to support environmentally sound land use planning at various scales**.

Why have a Watershed Plan: Policy Rationale

- *4.2.1 Planning authorities shall protect, improve or restore the quality and quantity of water by: (a) using the **watershed as the ecologically meaningful scale for integrated and long-term planning**, which can be a foundation for considering cumulative impacts of development;…*

- *4.2.3 Municipalities are encouraged to undertake, and large and fast-growing municipalities shall undertake **watershed planning to inform planning for sewage and water services and stormwater management**, including low impact development, and the protection, improvement or restoration of the quality and quantity of water.*

Why have a Watershed Plan: Why now?

The Watershed Plan is a priority action item in the County's 2023-2026 Strategic Plan because of growth pressures in various areas across the County.

A County-wide Watershed Plan will:

- provide a basis and framework for future subwatershed studies based on local priorities, and
- support growth, infrastructure planning, and restoration efforts across the County in a sustainable and environmentally responsible manner.

What is a Watershed Plan “Equivalent”?

Why is it called a Watershed Plan “Equivalent”?

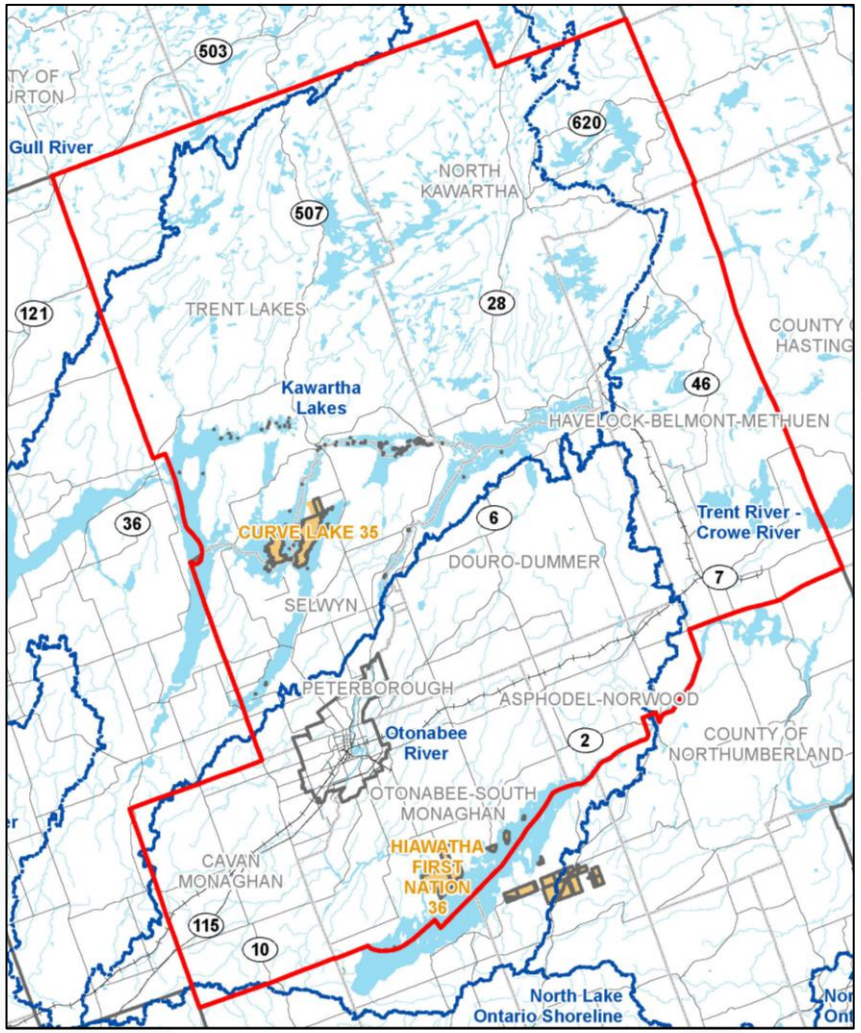
Primary Secondary Tertiary

Watersheds in Ontario are categorized as primary (e.g., St. Lawrence), secondary (e.g., Lake Ontario), tertiary (e.g., Otonabee River) and quaternary.

- Peterborough County is responsible for watershed planning at the tertiary and quaternary level.
- The County is almost 4,000 square kilometres largely covered by rivers, lakes, woodlands and wetlands, with increasing development pressures in the south.
- A Watershed Plan "Equivalent" is a high-level plan informed by existing desktop sources (i.e., no new field work or modelling) intended to support official planning (as allowed by the Province).

What is involved in a Watershed Plan “Equivalent”?

- Synthesis and assessment of technical information from available mapping and other desktop sources.
- Engagement with local staff, agencies and communities on their local knowledge and understanding of issues.
- High-level assessment of environmental features and sensitivities (e.g., at tertiary watershed scale).
- Development of high-level planning and management recommendations that consider anticipated land use changes and climate change.

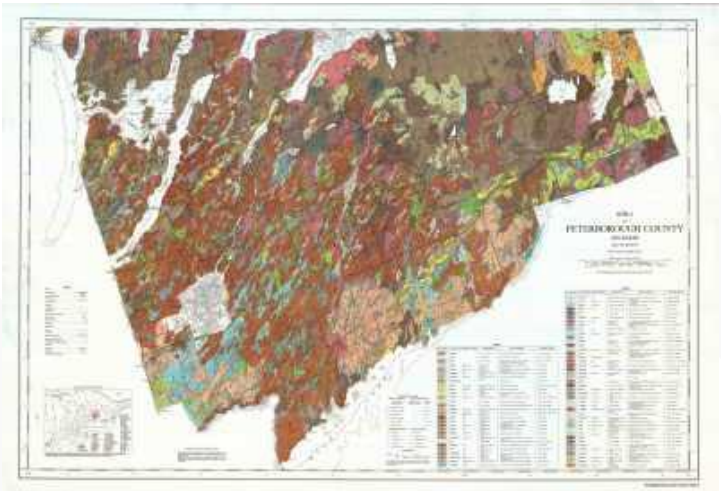


Watershed Plan Study Area (Montrose Environmental)

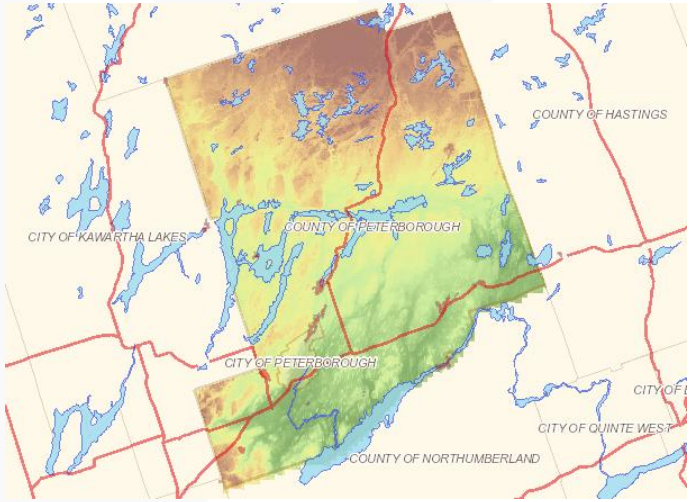
What will this Watershed Plan "Equivalent" be based on?

Technical assessments by different disciplines that consider the following in an integrated way:

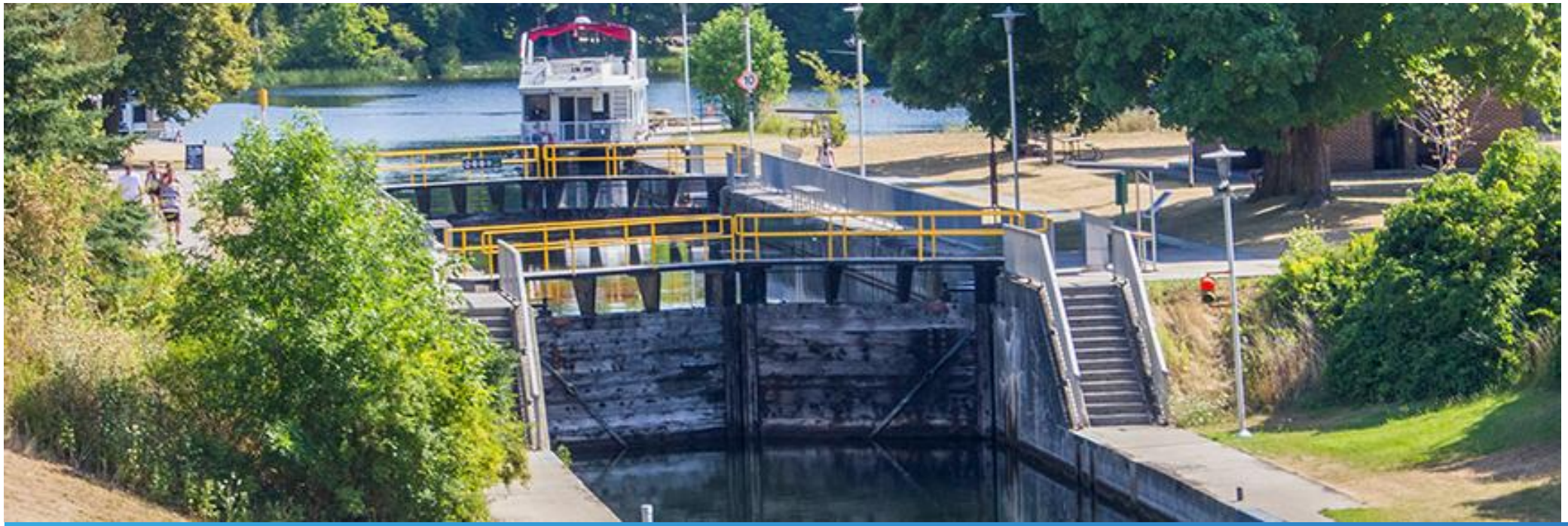
- Current and planned land cover types
- Groundwater and Source Water Protection
- Drainage systems and surface water quality
- Topography, slopes and soils
- Natural hazards and erosion
- Aquatic systems (fish habitat)
- Terrestrial systems (woodlands, wetlands, wildlife habitat, species-at-risk)



Soils mapping (Province of Ontario Open Data)



LiDAR mapping (Peterborough County – Public GIS)



Overview of the Project

Peterborough County Watershed Plan: Project Phasing

PHASE 1

Project Launch and Background Review

KEY DELIVERABLES

Phase 1 Technical Memo

- **A. Watershed and Subwatershed Mapping**
- **B. Data Gap Analysis**
- **C. Work Plan Confirmation**
- **D. Phase 1 Engagement**

PHASE 2

Watershed Characterization and Planning Strategies

KEY DELIVERABLES

Phase 2 Technical Memo

- **A. Plan Vision, Goals and Objectives**
- **B. Preliminary Natural Heritage System (NHS) and Water Resource System (WRS)**
- **C. Planning Strategies**
- **D. Phase 2 Engagement**

PHASE 3

Watershed Planning and Management Recommendations

KEY DELIVERABLES

Draft & Final Watershed Plan

- **A. Cumulative Impact Assessment**
- **B. Management and Monitoring Recommendations**
- **C. Future Subwatershed Study Priorities**
- **D. Policy Recommendations**
- **E. Phase 3 Engagement**

September 2024 – March 2025 | March – September 2025 | September – December 2025

Peterborough County Watershed Plan: Engagement

PHASE 1

Project Launch and Background Review

Draft Mapping and Gap Analysis Sessions

A. Council
B. Technical Advisory Committee (TAC)
C. First Nations
D. External Parties

PHASE 2

Watershed Characterization and Planning Strategies

Draft Watershed Characterization Sessions

A. TAC
B. First Nations
C. External Parties

PHASE 3

Watershed Planning and Management Recommendations

Draft Watershed Management Strategy Sessions

A. TAC
B. First Nations
C. External Parties
D. Council

September 2024 – March 2025 | March – September 2025 | September – December 2025

Engagement: Technical Advisory Committee (TAC)

TAC mandate

1. Confirm the consulting team has all the available and relevant information and is engaging with all the appropriate parties.
2. Provide input to draft deliverables at key points throughout the process to ensure the Final Watershed Plan has the support of participating jurisdictions.

TAC membership

Municipalities

- County of Peterborough
- Municipality of Trent Lakes
- Township of Asphodel-Norwood
- Township of Cavan Monaghan
- Township of Douro-Dummer
- Township of Havelock-Belmont-Methuen
- Township of North Kawartha
- Township of Otonabee-South Monaghan
- Township of Selwyn
- City of Peterborough

Local First Nations

- Curve Lake First Nation
- Hiawatha First Nation

Local Conservation Authorities

- Crowe Valley Conservation Authority (CVCA)
- Ganaraska Region Conservation Authority (GRCA)
- Otonabee Region Conservation Authority (ORCA)
- Kawartha Region Conservation Authority (KRCA)

Engagement: First Nations and Local Organizations

WILLIAMS TREATIES FIRST NATIONS NOT ON THE TAC

- Alderville First Nation
- Beausoleil First Nation
- Chippewas of Rama First Nation
- Mississaugas of Scugog Island First Nation

GOVERNMENTAL AGENCIES AND INSTIUTIONS

- Peterborough Public Health
- Ministry of Natural Resources (Peterborough)
- Ministry of Environment, Conservation and Parks (Peterborough)
- Trent Severn Waterway at Parks Canada
- Trent University, School of the Environment

UTILITIES

- Ontario Waterpower
- Peterborough Utilities Inc.

AGRICULTURAL FEDERATION

- Peterborough County Federation of Agriculture - Ontario Federation of Agriculture (PCFA)

LAKE AND COTTAGE ASSOCIATIONS

- Big Cedar Lake Road Committee (South Shore)
- Big Cedar Lake Stewardship Association
- Birchcliff Property Owners Association of Douro-Dummer, Inc.
- Buckhorn Sands Property Owners Association

LAKE AND COTTAGE ASSOCIATIONS

- Coon Lake Cottagers
- Chandos Lake Property Owners Association
- Eels Lake Cottagers
- Federation of Ontario Cottagers' Associations Inc (Peterborough)
- Jack's Lake Association
- Julian Lake Cottagers
- Juniper Point Cottage Owners’ Association
- Kawartha Lake Stewards Association
- Kawartha Park Cottagers Association
- Long Lake, Loucks Lake Cottager's Association
- Looncall Lake Cottagers Association
- North Kawartha Lakes Association
- Rice Lake Tourism Association
- Sandy Point Road Association
- Stoney Lake Cottagers
- Upper Stoney Lake Association
- Wolf Lake Cottage Association

OTHER LOCAL ORGANIZATIONS

- Baxter Creek Watershed Alliance
- Environment Council for Clear, Stony and White Lakes (ECCSWL)
- Peterborough Field Naturalists
- Kawartha Land Trust
- Mun. of Trent Lakes Environmental Advisory Committee (EAC) - Shoreline Sub-Committee

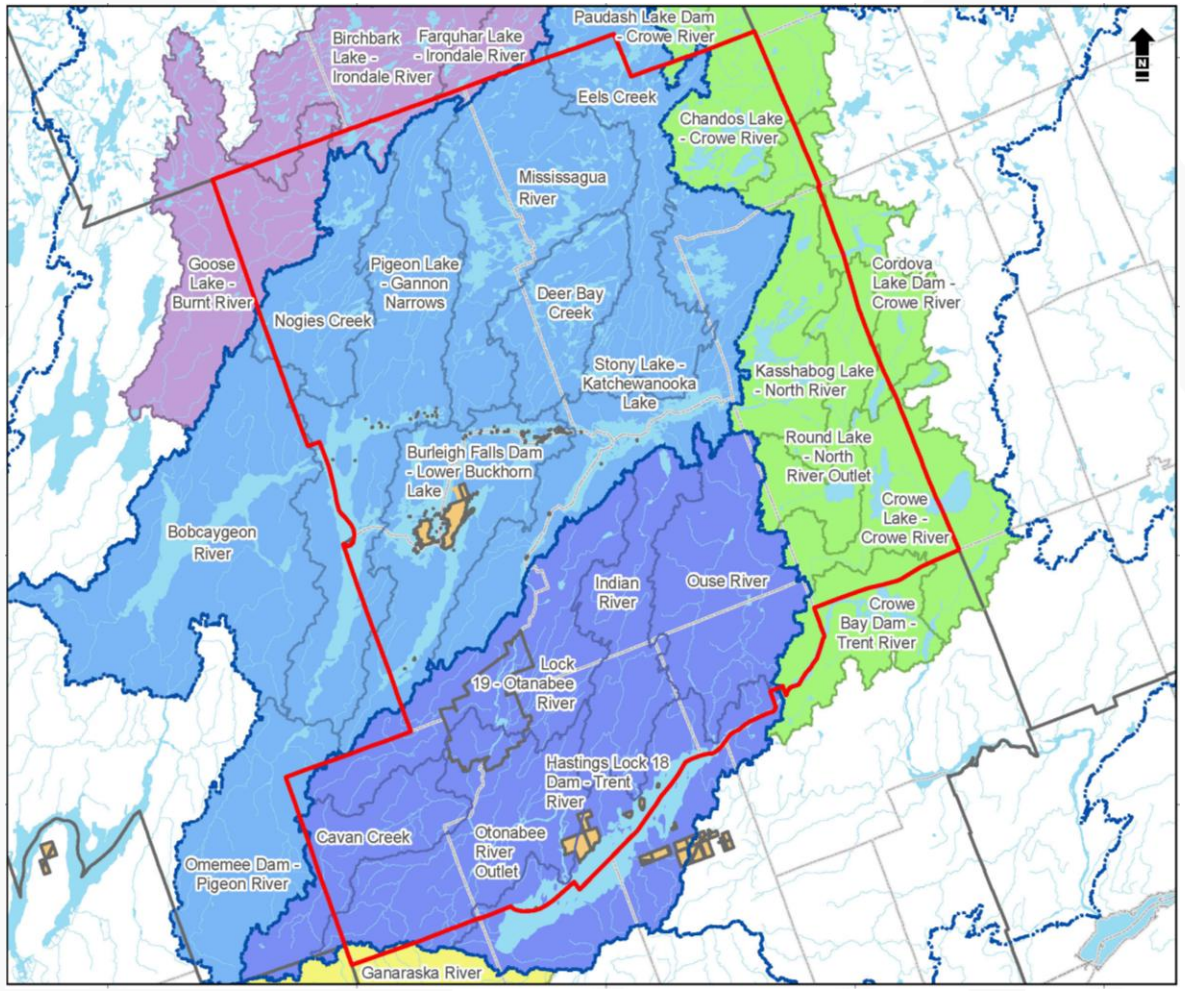
Overview of Preliminary Findings

Preliminary Findings: Subwatersheds in the Study Area

There are 5 tertiary watersheds overlapping with the County

- Gull River
- Kawartha Lakes
- North Lake Ontario Shoreline
- Otonabee River
- Trent River – Crowe River

and 26 quaternary subwatersheds within these systems.



Tertiary and Quaternary Subwatersheds (Montrose Environmental)

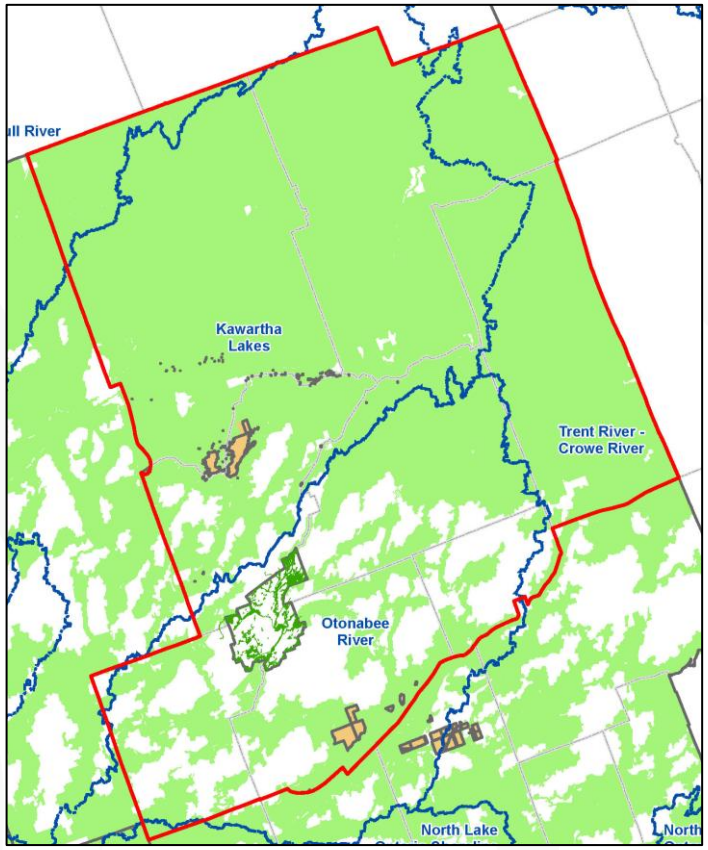
Preliminary Findings: Available Information

Across the County there is good, high-level coverage of:

- hydrogeologic (groundwater) mapping
- soils, topography and major watercourses
- land use mapping
- high-level Natural Heritage System mapping (e.g., woodlands, wetlands, fish habitat)
- aquatic and terrestrial Species-at-Risk (SAR)
- a few types of Significant Wildlife Habitat (SWH)

In the southern part of the County there is good, high-level coverage of:

- groundwater monitoring wells, reporting, and modelling
- vegetation community mapping (i.e., GRCA and KRCA)

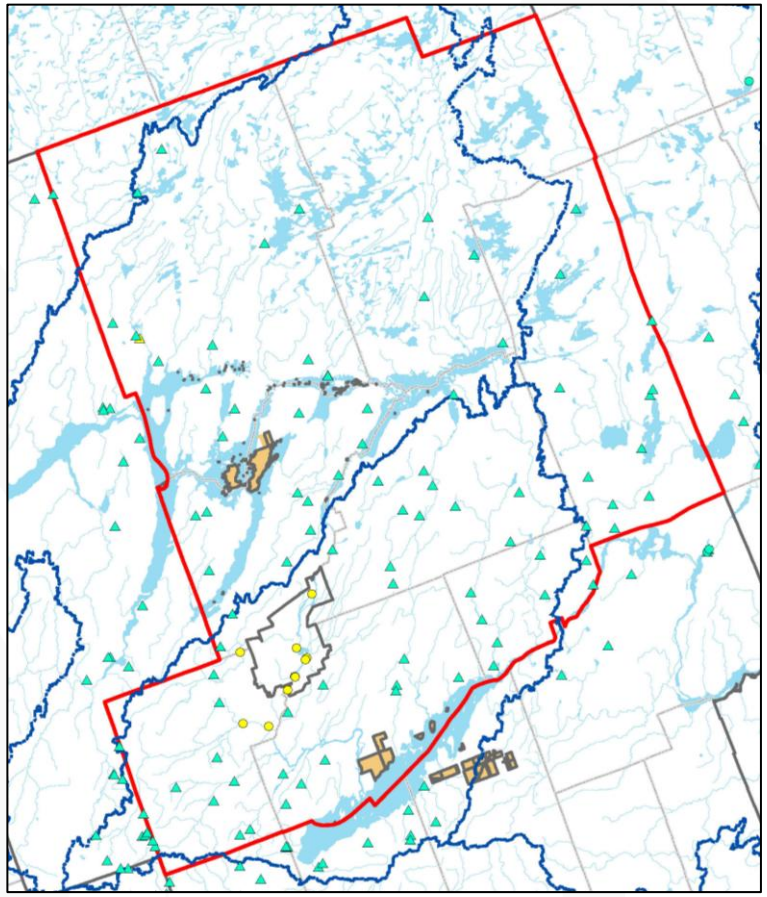


Provincial Natural Heritage System (Montrose Environmental)

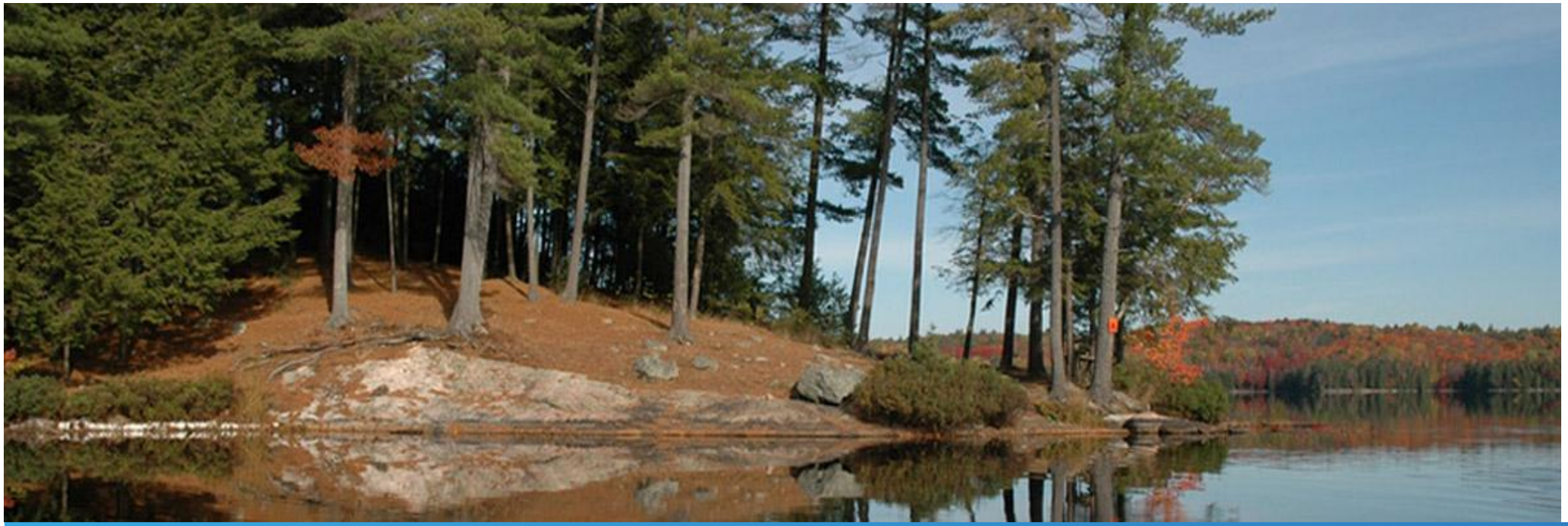
Preliminary Findings: Key Gaps

Key data gaps include:

- limited erosion mapping
- limited groundwater monitoring wells, reporting, modelling, and water quality stations in the northern part of the County
- no floodplain mapping for CVCA and GRCA
- no surface water quality monitoring stations in the northern half of the County
- no vegetation community mapping for ORCA or CVCA jurisdictions



Confirmed groundwater (green tringles) and surface water (yellow triangles) monitoring stations (Montrose Environmental)



Next Steps and Anticipated Outcomes

Status of Key Tasks by Study Phase

Phase 1: Background Review

1. Confirm study area watershed and subwatershed boundaries **DONE**
2. Data gap analysis and confirm work plan **DONE**
3. Engage with Council, Technical Advisory Committee (TAC), First Nations and other interested agencies and organizations in the community **IN PROGRESS**

Phase 2: Watershed Characterization **TO DO NEXT …**

1. Develop watershed vision, goals, objectives, and targets
2. Characterize existing conditions (Water Resource System and Natural Heritage System)
3. Recommend planning strategies
4. Engage with the Technical Advisory Committee (TAC), First Nations and other interested agencies and organizations in the community

What will the Watershed Plan "Equivalent" Achieve?

1. Inform future updates to the County's and local municipality Official Plans in accordance with Provincial direction (including confirming preliminary Water Resource System and Natural Heritage System).

2. Collaborate with the local municipalities, conservation authorities, First Nations and others in the community to develop a framework for future, more detailed, subwatershed planning at the local scale.

3. Provide high-level planning and technical guidance to help
    a. protect water resource and natural heritage systems,
    b. sustainably manage land use and growth in a context of climate change, and
    c. consider cumulative, cross-jurisdictional, and cross-watershed impacts.

Thank-you for your time.

Any comments or questions?