Upper Thames River Conservation Authority

Watershed Strategy

(Watershed-based Resource Management Strategy)

Draft, December 2024

UPPER THAMES RIVER
CONSERVATION AUTHORITY

Preface

The **Watershed Strategy** has been prepared by the Upper Thames River Conservation Authority (UTRCA) to meet the requirements for a Watershed-based Resource Management Strategy as set out under Section 21.1 of the Conservation Authorities Act (CA Act) and Ontario Regulation 686/21(Mandatory Programs and Services). The Watershed Strategy was developed following Conservation Ontario's Guidance on the Conservation Authority Mandatory Watershed-based Resource Management Strategy, the Conservation Authorities Act and its regulations, and draft content from other conservation authorities.

The Watershed and Traditional Territory

The Upper Thames River watershed is within the traditional territory of the Attawandaron, Anishinaabeg, Haudenosaunee, and Lunaapeewak peoples, who have longstanding relationships to the land, water, and region of southwestern Ontario. The local First Nation communities of this area include Chippewas of the Thames First Nation, Oneida Nation of the Thames, Munsee Delaware Nation, and Delaware Nation at Moraviantown. In the region, there are 11 First Nation communities and a growing Indigenous urban population.

Acknowledgements

We value the significant historical and contemporary contributions of local and regional First Nations and all of the Original peoples of Turtle Island (North America). Municipal partners, Indigenous communities, UTRCA staff, and the UTRCA Board of Directors are sincerely appreciated for their valuable input and feedback during the development of the UTRCA Watershed Strategy.

Board Approval

The UTRCA Board of Directors provided final review and approval on December 17, 2024.

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Executive Summary

Section 12(1) Paragraph 3 of Ontario Regulation (O. Reg.) 686/21 requires all conservation authorities to develop a "Watershed-based Resource Management Strategy" (i.e., Watershed Strategy) by December 31, 2024, in accordance with Subsections 12(4)-(9), to carry out programs and services.

The purpose of the Watershed Strategy is to improve the efficiency and effectiveness of the conservation authority's mandatory programs and services under the Conservation Authorities (CA) Act (Province of Ontario 2023b) and, where the relevant agreements allow, its municipal and other programs and services in addressing watershed issues and priorities.

Through outreach with watershed municipalities, Indigenous communities, interest holders, and the public, the Upper Thames River Conservation Authority's (UTRCA) Watershed Strategy:

- Updates the inventory of UTRCA programs and services (UTRCA 2023), organized into seven strategic objectives, each of which has multiple program areas:
    - People and Talent,
    - Organizational Sustainability and Innovation,
    - Natural Hazards Management,
    - Drinking Water Source Protection,
    - Science and Stewardship,
    - Conservation Areas and Nature,
    - Empowerment and Engagement;
- Characterizes the watershed, including description of Indigenous communities with traditional territory in the watershed;
- Summarizes guiding and technical studies that directly inform and support the delivery of programs and services under Section 21.1 of the CA Act;
- Identifies and assesses nine watershed and seven corporate challenges, risks, and issues that impact the effective delivery of its mandatory and municipal programs and services;
- Identifies desirable future programs, services, and actions that could address the identified issues, challenges and risks and assist the UTRCA in delivering its mandatory and municipal programs and services in meeting its objectives and long-term goals if the opportunity arises and funding is available.

In addition, the UTRCA is undertaking a new strategic plan to identify priorities, goals and key performance indicators. Once those have been determined, operational plans with actions, timelines, and resources will be developed, with cost estimates and high-level work plan for their implementation. The work undertaken as part of the Watershed

Strategy will be incorporated into the development of these operational plans. The UTRCA will review the Watershed Strategy every four years to adapt its programs and priorities to evolving political and socio-economic matters and emerging environmental issues.

Aerial view of the Thames River and Pittock Reservoir in north Woodstock.

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1.0 Introduction

The Upper Thames River Conservation Authority (UTRCA) is a community-based environmental organization dedicated to achieving a healthy environment on behalf of the municipalities in the Upper Thames watershed. The formation of the UTRCA is described in the 1952 Upper Thames Valley Conservation Report (Department of Planning and Development, 1952). Established in 1947 at the request of its member watershed municipalities, the UTRCA was the sixth conservation authority formed under the Conservation Authorities Act (CA Act).

The UTRCA is one of 36 Conservation Authorities (CAs) in Ontario, governed by a Board of Directors (BOD). Representation on the BOD is outlined in an Order-in-Council and is based on the population of the municipalities within the UTRCA watershed. The UTRCA BOD is comprised of 15 members representing 17 participating municipalities, as shown in Table 1.

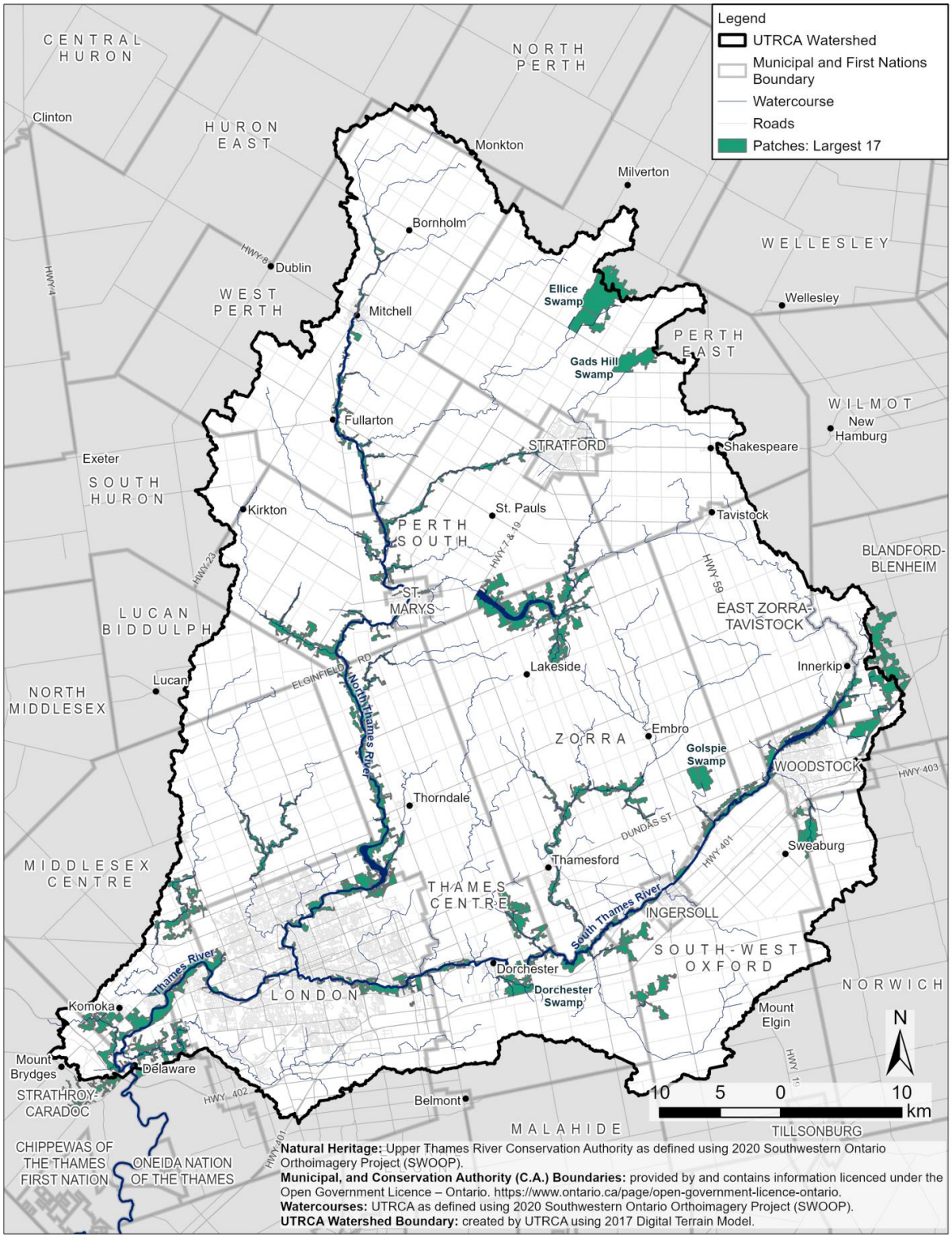
Table 1. Number of UTRCA Board Members by Municipality

Participating Municipality	Number of Members
City of London	4
Municipality of Middlesex Centre	1
Municipality of Thames Centre and Township of Lucan-Biddulph	1 (shared)
Township of Blandford-Blenheim and Township of East Zorra Tavistock	1 (shared)
Town of Ingersoll	1
Township of Norwich and Township of South-West Oxford	1 (shared)
City of Woodstock	1
Township of Zorra	1
Township of Perth East	1
Township of Perth South, Town of St. Marys, and Municipality of South Huron	1 (shared)
Municipality of West Perth	1
City of Stratford	1

UTRCA's BOD and staff work with a growing number of partners who share a concern for the future of the watershed's environment. These partners provide information, ideas, labour, and funding for UTRCA programs, services, and activities. The UTRCA administers its programs and services within a 3,430 square kilometre area, based on the upper watershed of the Thames River (Map 1) in southwestern Ontario.

The map shows the north and south branches of the Thames River that meet at the Forks of the Thames in the City of London. It also shows the 17 largest woodland/wetland areas including UTRCA owned sites Ellice Swamp and Gads Hill Swamp in Perth East, Golspie Swamp in Oxford County, and Dorchester Swamp in Thames Centre (Map 1).

Map 1. Upper Thames River watershed showing major watercourses and largest woodlands



1.1 Regulatory Framework / Legislative Background

The UTRCA has responsibilities under the Conservation Authorities Act.

1.1.1 Conservation Authorities Act

The CA Act of Ontario provides the mechanism for establishing and administering a conservation authority.

> The purpose of this Act is to provide for the organization and delivery of programs and services that further the conservation, restoration, development and management of natural resources in watersheds in Ontario.

Section 21.1 of the CA Act lists the Mandatory Programs and Services which must be delivered by all conservation authorities. They are described in more detail under Ontario Regulation (O. Reg.) 686/21.

Section 21.1.1 of the CA Act refers to the Municipal Programs and Services which conservation authorities are permitted to provide under agreement with its member municipalities.

Section 21.1.2 of the CA Act sets out the Other Programs and Services that conservation authorities are permitted to deliver.

The CA Act and accompanying regulations have been amended by the Province of Ontario since 2017. In 2022, the UTRCA developed an inventory of its programs and services and provided it to its municipal watershed partners and the Province.

In 2024, updates to the legislation (Province of Ontario 2023c) included Ontario Regulation 687/21 (Transition Plans and Agreements for Programs and Services under Section 21.1.2 of the Act), which introduced the concept of reorganizing the programs and services into the three categories shown below, with specific funding and budgetary restrictions, to conform to new legislative requirements.

- **Mandatory Programs and Services (Category 1)**: The UTRCA delivers mandatory programs and services as set out in the CA Act and Regulation 686/21. These programs and services are funded through provincial funding, municipal levy, and municipal special benefitting levies, with user fees for some services.
- **Municipal Programs and Services (Category 2):** UTRCA delivers some programs and services specifically on behalf of its member municipalities. Cost Apportioning Agreements have been established with the participating municipalities to fund those specific programs and services.

- **Other Programs and Services (Category 3):** UTRCA delivers other programs and services that are not considered mandatory or municipal. These programs are funded through municipal cost apportioning agreements and/or self-generated funds. They are part of a larger integrated watershed management model and directly support, contribute to, and enhance the delivery of mandatory and municipal programs and services, as well as influencing watershed health and contributing to UTRCA knowledge and expertise.

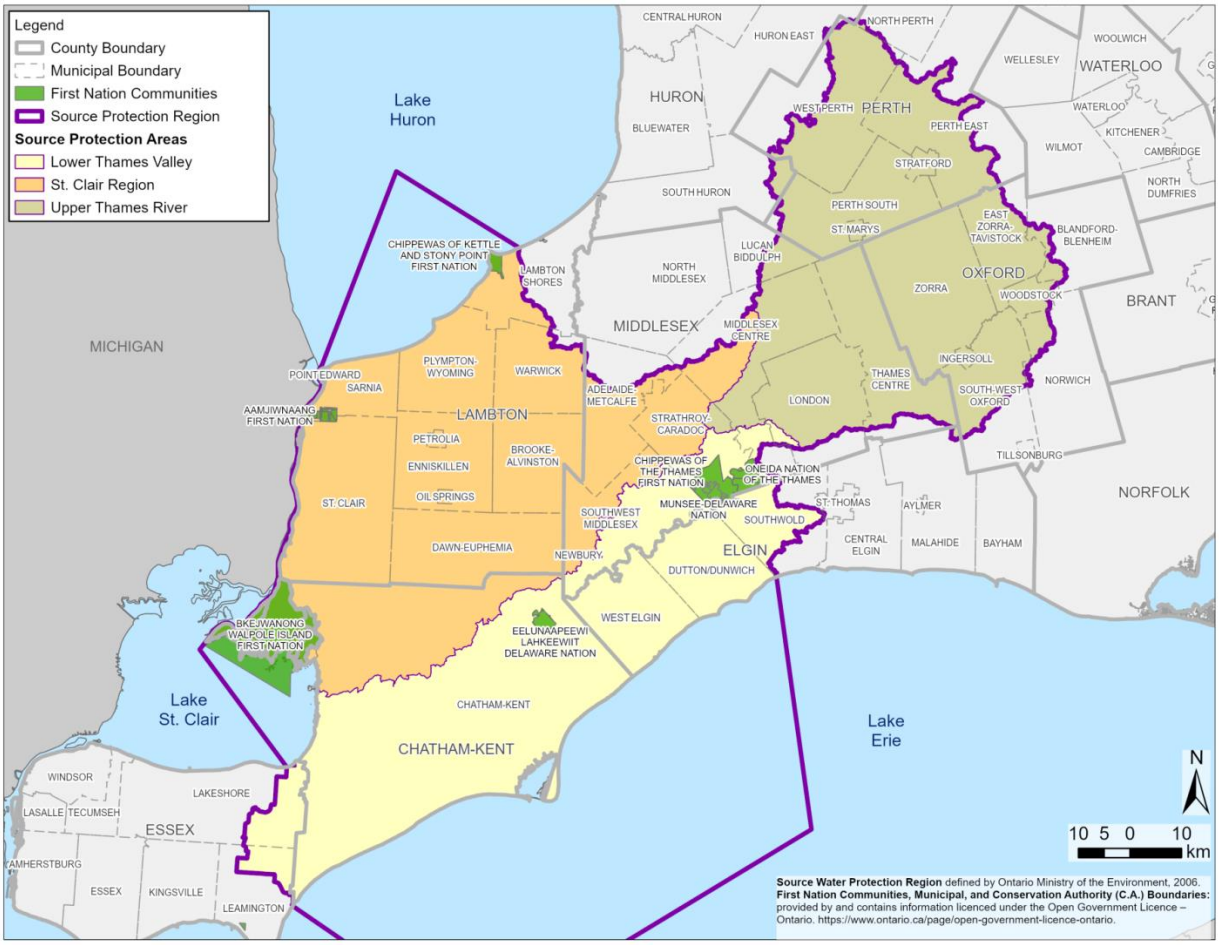
Furthermore, Section 12(1) Paragraph 3 of Ontario Regulation (O. Reg.) 686/21 requires all conservation authorities to develop a "Watershed-based Resource Management Strategy" (i.e., Watershed Strategy) by December 31, 2024, in accordance with Subsections 12(4)-(9) to carry out CA Programs and Services. The Watershed Strategy includes Mandatory Programs and Services provided by the CA. It may also include both Municipal Programs and Services and Other Programs and Services, where the relevant agreement permits the inclusion of these programs or services in the Watershed Strategy. Mandatory Programs and Services Regulation 686/21 identify two other pieces of provincial legislation with different areas of jurisdiction:

- Clean Water Act, 2006, and
- Planning Act.

1.1.1.1 Clean Water Act, 2006

The Clean Water Act (CWA) received Royal Assent in 2006 to ensure the protection of Ontario's existing and future municipal drinking water sources (Province of Ontario 2021). The CWA sets out a framework for drinking water source protection planning on a watershed basis. Under the Act, Source Protection Areas were established (Thames-Sydenham and Region Source Protection Committee 2011) based on the watershed boundaries of Ontario's 36 Conservation Authorities (LTVCA, SCCA, and UTRCA 2008). In this region, the Upper Thames River, Lower Thames Valley, and St. Clair Region Conservation Authorities entered a partnership, creating the 10,835 square kilometre Thames-Sydenham Source Protection Region (Map 2).

Map 2. Thames-Sydenham and Region Source Protection Region



1.1.1.2 Planning Act

As “public bodies,” conservation authorities are notified of policy documents and planning or development applications and use their local watershed expertise to provide input to provincial and municipal policy documents and applications submitted under the Planning Act (Province of Ontario 2023d). Furthermore, conservation authorities have provincially delegated responsibilities to represent provincial interests regarding natural hazards policy statements issued under Section 3 of the Planning Act, including the Provincial Planning Statement (Province of Ontario 2024a).

1.2 Purpose of Watershed Strategy

The Watershed Strategy sets out the UTRCA’s guiding principles and objectives and outlines the UTRCA’s mandatory programs and services as well as its municipal and other programs and services. The purpose of the Strategy is to improve the efficiency and effectiveness of the UTRCA’s mandatory programs and services and, where the relevant agreements allow, its municipal and other programs and services in addressing

watershed issues and priorities, and to reflect the organization's mandate under the CA Act.

Through outreach with watershed municipalities, Indigenous communities, interest holders, and the public, the UTRCA's Watershed Strategy updates the inventory of UTRCA programs and services, assessing resource conditions, trends, risks, and issues that impact the effective delivery of its mandatory and municipal programs and services. It also identifies desirable future programs, services, and actions that will assist the UTRCA in delivering its mandatory and municipal programs and services and meet its objectives and long-term goals.

1.3 Development of the Watershed Strategy (Framework)

The Watershed Strategy is a collaborative approach that used a six step, data-based framework (Conservation Ontario 2023) to inform planned actions as shown in Figure 1 and described below.

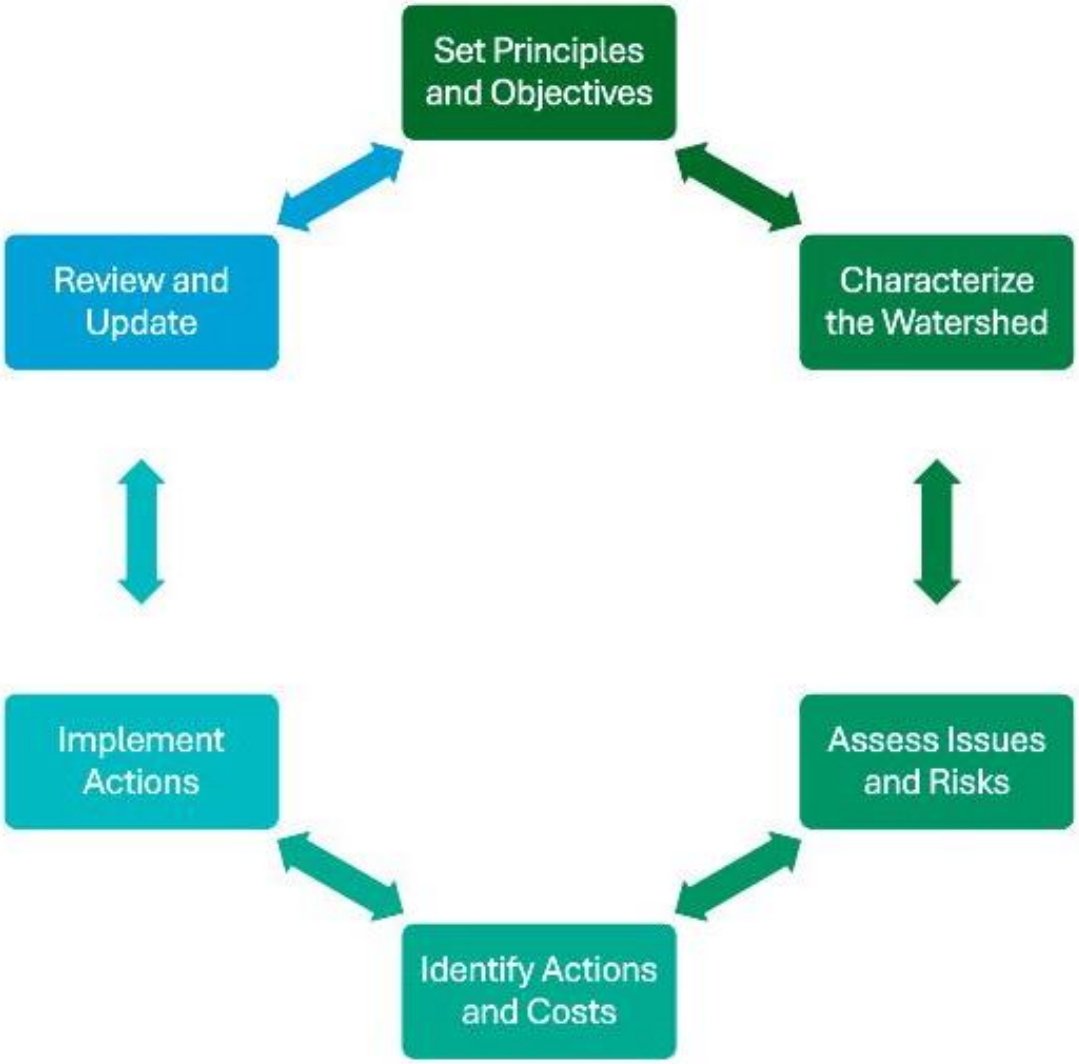
- **Set principles and objectives.** The Strategy followed the mission, vision, and values (i.e., guiding principles and objectives) established as part of the update to the UTRCA Strategic Plan, which inform the design and delivery of the programs and services the authority is required to provide under Section 21.1 of the CA Act.
    - **Characterize watershed**. The Strategy characterized the watershed, including a summary of existing technical studies, monitoring programs, and other information on the natural resources the authority relies on within its area of jurisdiction or in specific watersheds that directly inform and support the delivery of programs and services under Section 21.1 of the Act.
    - **Assess issues and risks**. The Strategy reviewed the authority's programs and services provided under Section 21.1 of the Act for the purpose of determining if the programs and services comply with the regulations made under clause 40 (1) (b) of the Act, and to identify issues and risks that limit the effectiveness of the delivery of these programs and services.
    - **Identify actions and costs.** The Strategy identified actions to address the issues and mitigate the risks identified by the review. Cost estimates for the implementation of the actions will be determined through annual workplans and budget process. The strategy outlines the UTRCA's mandatory (Category 1) programs and services and identifies issues and risks that may impact their effective delivery, as well as gaps in addressing those risks (i.e., where additional programs and services may be needed). The strategy also identifies UTRCA's municipal (Category 2) and other

(Category 3) programs and services, that are recommended to support the delivery of the mandatory programs and services.

- **Implement actions.** The Strategy will lead to the implementation of actions to address and mitigate the risks identified by the review.
- **Review and update**. The Strategy developed a process for its periodic review and update, which includes procedures to ensure interest holders and the public are consulted during the review and update process to support continuous improvement and/or maintenance of watershed health. These updates will become an ongoing part of the UTRCA programs and services.

The next sections describe these six steps in more detail.

Figure 1. Six Step Framework of the Watershed Strategy



Aerial view of a rural section of Medway Creek.

2.0 Strategic Direction – Set Principles and Objectives

The UTRCA has initiated a new Strategic Plan process. In December 2024, the Board of Directors approved the vision, mission, and values as the first phase of the process. Additional consultation to identify strategic priorities and operational planning will be completed in 2025. The 2024 / 2025 Draft Strategic Plan provides the UTRCA's vision, mission, and values.

2.1 Vision, Mission, and Values

Vision Statement
Communities engaged in a healthy, resilient environment.

Mission Statement
To conserve the watershed through science, education, policy, action, and experiences in nature.

Values
Leadership: We model and encourage sustainable, innovative stewardship of the watershed.

Collaboration: We partner to protect and promote a healthy environment and resilient communities.

Integrity: We act with transparency and accountability and root our work in science.

2.2 Guiding Principles

Guiding principles were established for the Watershed Strategy to guide the approach to UTRCA's decision-making and inform the design and delivery of its mandatory programs and services.

We believe:

- That sound development and resource management decisions are best made in an integrated watershed context to achieve a healthy and sustainable environment.
- That a healthy natural heritage system and water resource system provide the foundation of a sustainable and resilient community and provide nature-based solutions to challenges posed by climate change.
- In a collaborative approach that involves the community in our decision making and programs through direct community participation, successful partnerships, and effective communications and educational initiatives.

- In being accountable and transparent to all our interest holders for the decisions made, the effectiveness of our communications, and being fiscally responsible with the resources provided and the outcomes achieved.
- In offering valued programs, services, and experiences that respond to the needs and interests of the people served in a respectful and timely manner.
- That science-based decision making and adaptive management will allow us to ensure that our programs and services continue to protect people, property, and natural resources for generations to come.

2.3 Objectives and Program Areas

The programs and services offered by the UTRCA are organized to meet the current strategic objectives of the UTRCA (Figure 2). Seven objectives represent how the UTRCA achieves its mission, by informing the design and delivery of the UTRCA's mandatory programs and services, as well as the municipal and other programs and services that support the mandatory programs and services. Each objective has multiple program areas.

A brief description of the objective and the program area is provided below. The tables also identify the category of the program areas for each objective.

2.3.1 Objective: People and Talent

Providing and managing an efficient, adaptable, and trusted organization with a strong and skilled workforce and a culture of diversity, equity, and inclusion, contributing to responsive relationships, transparent decision making, and accountable results (Table 2).

Table 2. People and talent: program area and category

Program Area	Category of Programs and Services
Governance - Overall management, strategic planning, municipal and government relations, policy and program, development, issues management, partnership development and support for the Board of Directors	Mandatory (Category 1)
Corporate Services – Human resources employee recruitment, training, employee management, policy development and health and safety	Mandatory (Category 1)

2.3.2 Objective: Organizational Sustainability and Innovation

Implement organizational practices that are socially, environmentally, and economically sustainable, adaptive, and responsible (Table 3).

Table 3. Organizational sustainability and innovation: program area and category

Program Area	Category of Programs and Services
Asset and Risk Management - Asset management is the maintenance and control of operational assets and equipment (including software, systems, and services, as well as organization and people), to optimize the quality and utilization of these assets throughout their lifecycle, increase productivity, and reduce operational costs. Assets enable the delivery of programs and services.	Mandatory (Category 1)
Technology and Information Management - Data and information management and the creation and management of internal and public facing databases, geoportals, mapping and applications	Mandatory (Category 1)
Financial Management - Financial services include development of the annual budget, accounts payable and receivable, payroll, financial analysis, financial audit, administration of reserves and investments, asset management, financial reports for funding agencies, preparing and submitting reports to the Canada Revenue Agency, and administration of the benefits program. As a non-profit registered charity, UTRCA undertakes fundraising to support its conservation efforts.	Mandatory (Category 1)

2.3.3 Objective: Natural Hazards Management

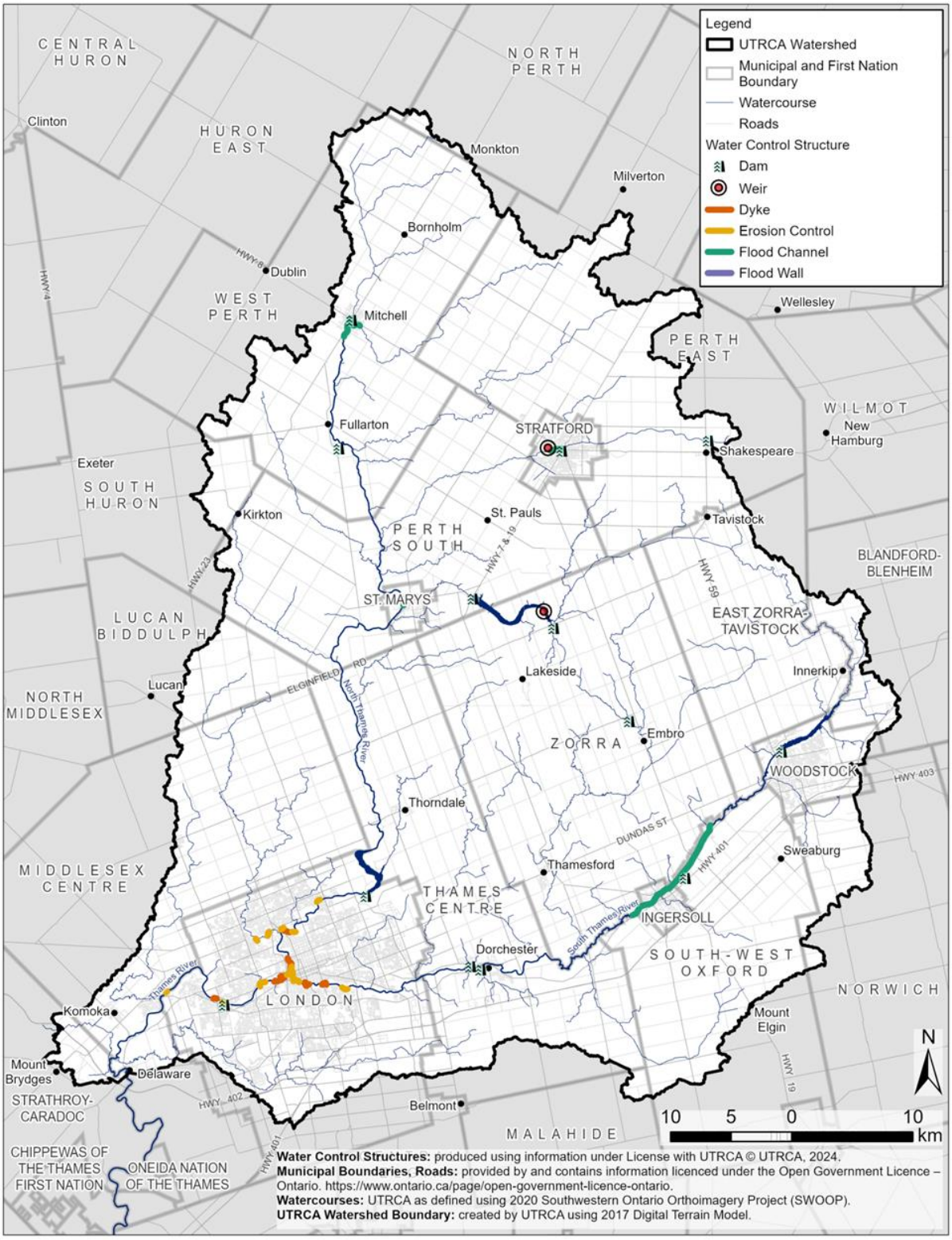
Protect people, property, and natural resources while supporting safe development that is in balance with the natural environment (Table 4).

Table 4. Natural hazards management: program area and category

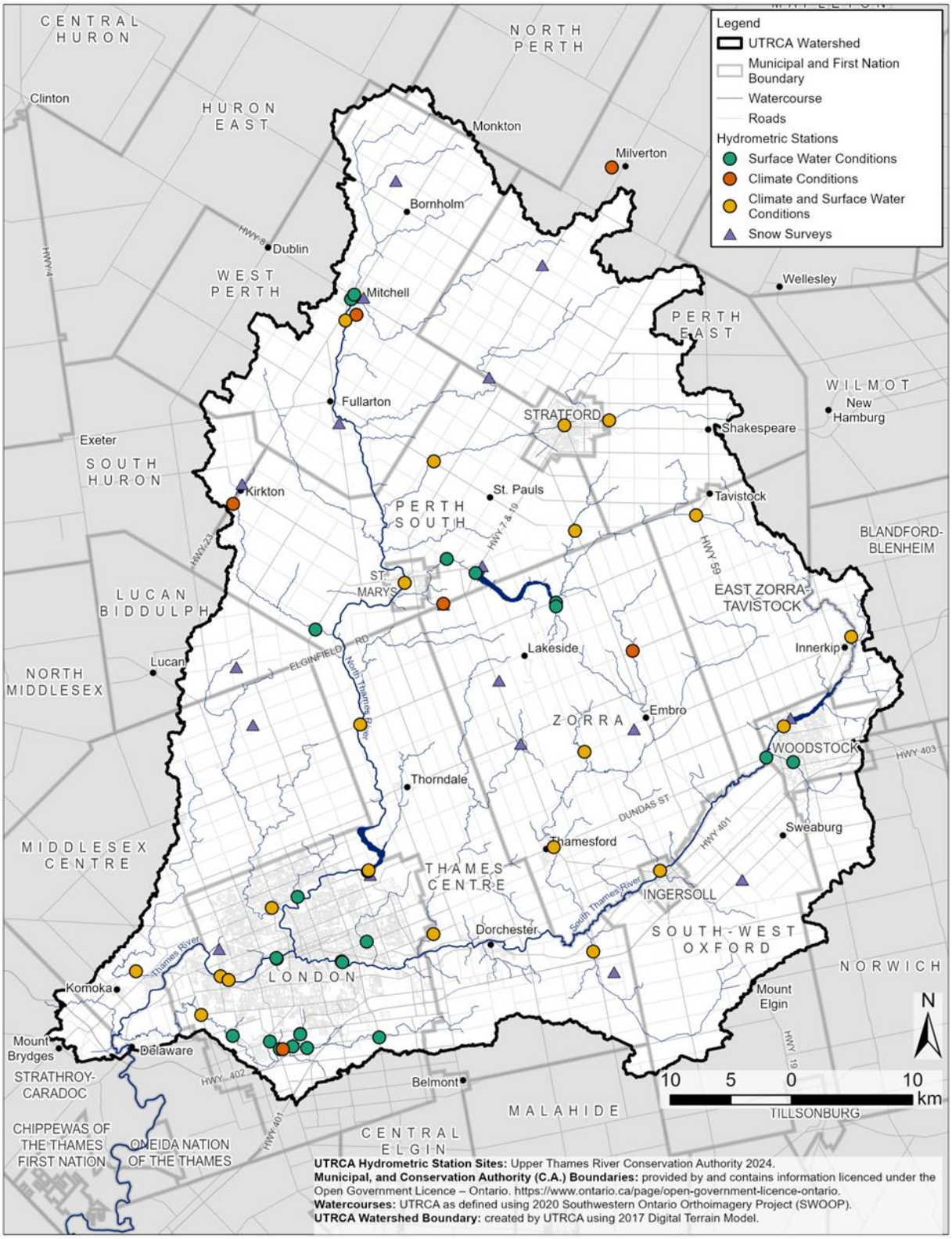
Program Area	Category of Programs and Services
Flood and Erosion Control Infrastructure – Operate and maintain flood control, flow augmentation and erosion control structures to help protect communities from natural hazards. Locations of flood and erosion control infrastructure are shown on Map 3.	Mandatory (Category 1)
Natural Hazard Mapping – Hydrologic and hydraulic models and analysis to develop flood hazard and erosion hazard mapping to help with natural hazards regulation, flood mitigation planning, flood forecasting, and low water occurrence. The modelling and mapping tools developed through the hazard and mapping program provide valuable information that can be used to further mitigate flood risks and lead to more flood resilient communities.	Mandatory (Category 1)
Flood Forecasting and Warning and Low Water Response – Collect, analyze and disseminate climate, snow and streamflow data to monitor high and low water conditions across the watershed Issue flood and drought advisories and warnings to municipalities, partners and the public. Location of UTRCA Hydrometric Stations are shown on Map 4.	Mandatory (Category 1)
Environmental Planning – CAs review municipal policy documents and development applications under the Planning Act and ensure they are consistent with the natural hazard policies of the Provincial Planning Statement (PPS). In this delegated role, conservation authorities represent the “Provincial Interest” in planning exercises with respect to natural hazards. The UTRCA provides technical information and advice to municipalities on circulated municipal land use planning applications (Official Plan and Zoning Bylaw Amendments, Subdivisions, Consents, Minor Variances, and Site Plan Agreements) and input on municipal land use planning documents (OP, Comprehensive Zoning By-Law).	Mandatory (Category 1)

Program Area	Category of Programs and Services
Environmental Regulations – Under the Conservation Authorities Act, the UTRCA administers O.Reg. 41/24 Prohibited Activities, Exemptions and Permits (Province of Ontario 2024). UTRCA staff conduct site inspections and review permit applications and associated technical reports, for development activities within or adjacent to watercourses, floodplains, unstable slopes, wetlands, and other hazardous sites. Regulated Areas maps are available on the UTRCA website.	Mandatory (Category 1)

Map 3. UTRCA Water Control Structures



Map 4. Location of UTRCA Hydrometric Stations



2.3.4 Objective: Drinking Water Source Protection

Protect municipal drinking water sources from contamination and overuse (Table 5).

Table 5. Drinking water source protection: program area and category

Program Area	Category of Programs and Services
Drinking Water Source Protection (DWSP) Source Protection Authority – Under the *Clean Water Act* the UTRCA is the lead Source Protection Authority for the Thames-Sydenham Source Protection Region. The UTRCA supports the Source Protection Committee and fulfills legislative requirements including Section 34, 35 and 51 amendments and Section 36 reviews of the Source Protection Plan (Thames-Sydenham and Region Source Protection Committee 2015) and Assessment Reports. The Upper Thames River Source Protection Area is shown on Map 2.	Mandatory (Category 1)
DWSP Risk Management Services – Carry out Part IV duties of the *Clean Water Act* on behalf of some municipalities through service agreements.	Municipal (Category 2)

2.3.5 Objective: Science and Stewardship

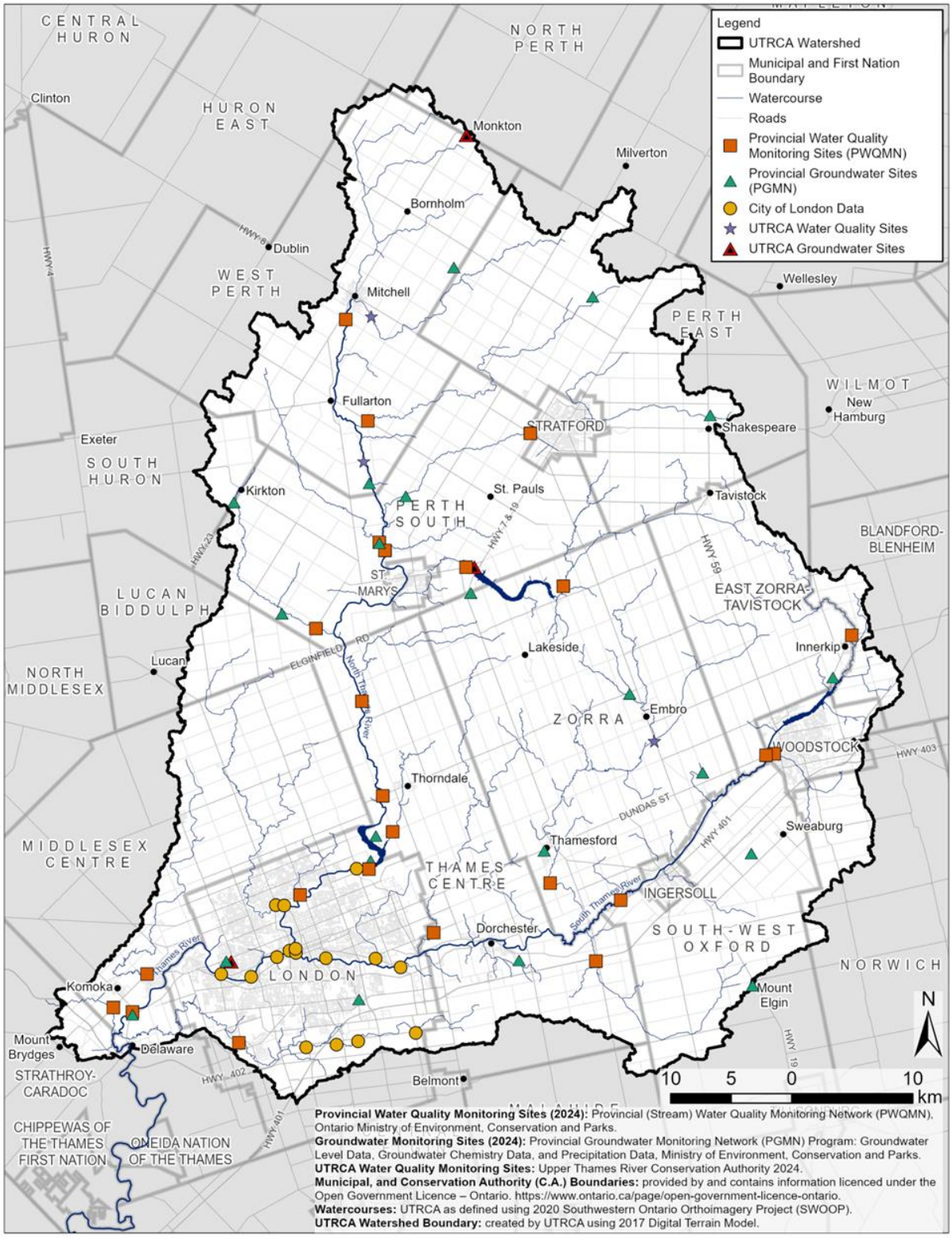
Use environmental science, collaborative research, and data to inform stewardship and restoration activities that protect ecosystem integrity and resilience (Table 6).

Table 6. Science and stewardship: program area and category

Program Area	Category of Programs and Services
Monitoring - Provincial Water Quality Monitoring – Supports the provincial stream monitoring program through data collection, analysis and reporting to create an understanding of water quality concerns. Locations of water quality monitoring stations are shown on Map 5.	Mandatory (Category 1)
Monitoring - Provincial Groundwater Monitoring - Support the provincial groundwater monitoring program through data collection, analysis and reporting to create a conceptual understanding of hydrogeological conditions. Locations of water quality monitoring stations are shown on Map 5.	Mandatory (Category 1)

Program Area	Category of Programs and Services
Monitoring - Municipal Subwatersheds – Under agreement, collect monitoring data, and provide analysis and reporting. Locations of water quality monitoring stations are shown on Map 5.	Municipal (Category 2)
Afforestation, Restoration, and Enhancement – Provide technical expertise, services, and cost-share opportunities for landowners across the watershed to facilitate the creation, enhancement, or restoration of natural areas. Additionally, the Forestry and Restoration Program supports in-stream restoration, wetland creation and restoration, prescribed prairie, meadow, and pollinator plantings, and controlled burning.	Other (Category 3)
Agricultural Stewardship – Work directly with watershed landowners providing technical resources, site visits, advice, and financial assistance. The UTRCA also delivers specially funded stewardship programs as opportunities arise and connects landowners to stewardship programs delivered by other organizations. This program supports efforts within the Forest and Restoration Program but also extends to soil conservation and nutrient management projects across the watershed.	Other (Category 3)
Monitoring – Other Programs – Support the provincial stream monitoring program through data collection, analysis and reporting to create an understanding of water quality concerns. Includes watershed wide water quality and ecological monitoring programs to report on watershed health for each of the 28 subwatersheds in the UTRCA. The data is used to evaluate and report on existing conditions within the watershed, establish priorities for protection and rehabilitation activities, and prioritize watershed projects. Sustained monitoring is important to assess long-term changes in washed health. Locations of water quality monitoring stations are shown on Map 5.	Other (Category 3)
Inventories and Research - Participate in collaborative research initiated by external partners such as universities, research associations, and municipalities where the UTRCA may provide land or field staff. Some of these research topics include: vegetative SAR research (e.g., Emerald Ash Borer, Oak Wilt, Spongy Moth, Wood Poppy, Butternut, American Chestnut, etc.), assisted tree migration, natural heritage systems studies, and natural cover analysis.	Other (Category 3)

Map 5. Location of Water Quality Monitoring Stations



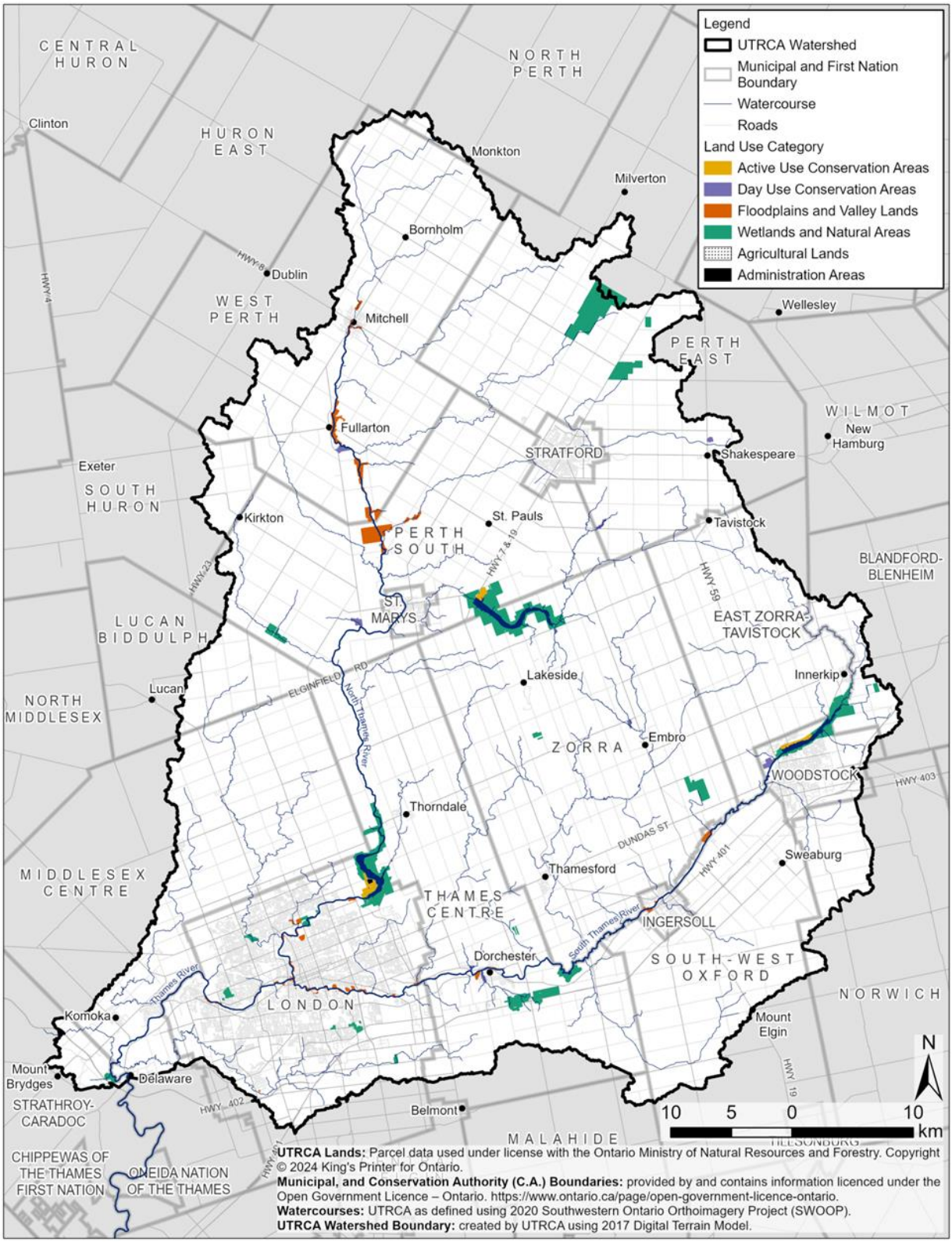
2.3.6 Objective: Conservation Areas and Nature

Enhance and maintain our network of parks and green spaces to protect the watershed's ecological integrity, promote a connected natural heritage system, and provide experiences that connect people with nature (Table 7).

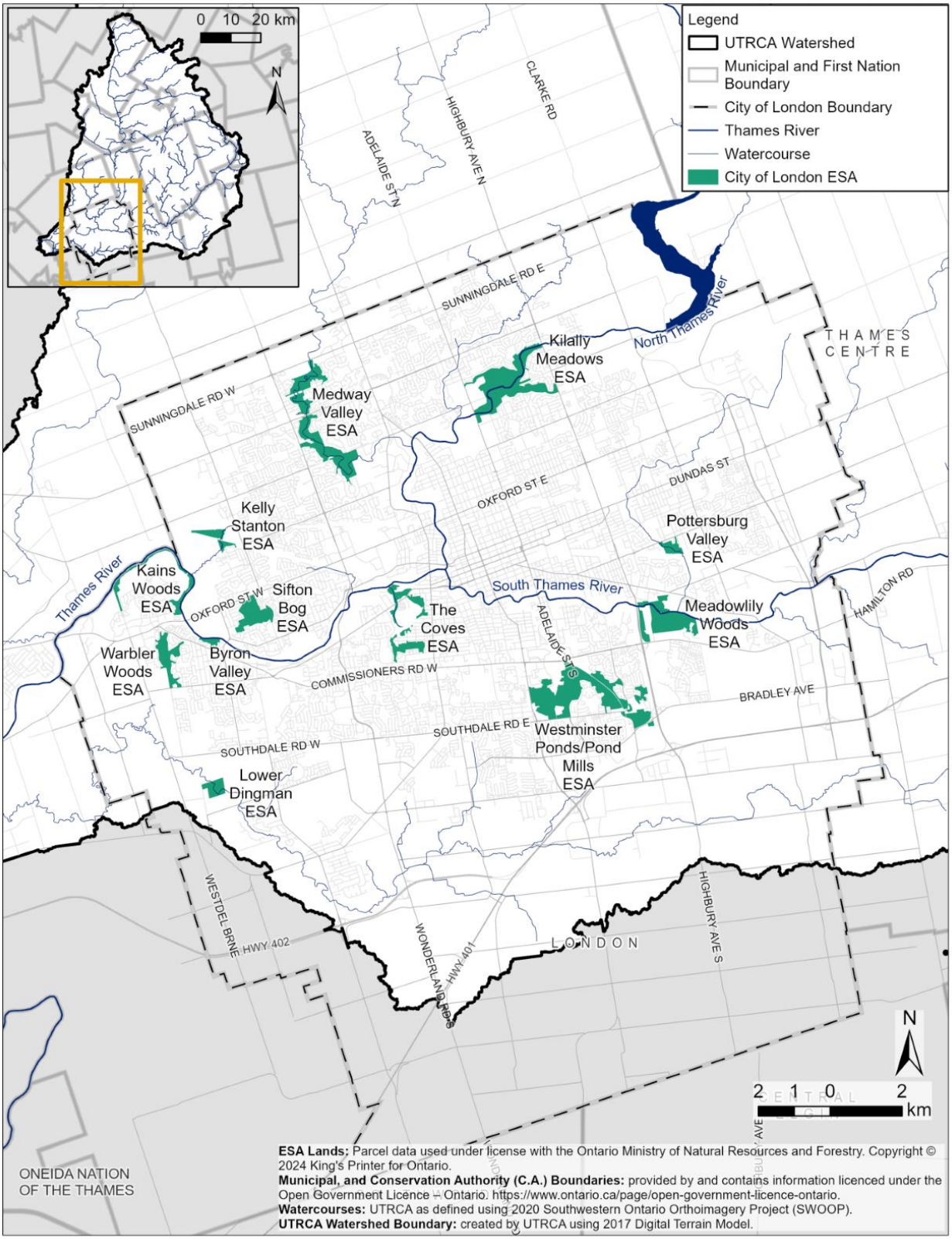
Table 7. Conservation areas and nature: program area and category

Program Area	Category of Programs and Services
Conservation Authority Lands – Manage, maintain, and enhance properties for public access for passive recreation. Manage and maintain lands to protect and promote natural heritage. UTRCA lands (as of March 2024) are shown on Map 6.	Mandatory (Category 1)
Municipal Lands Management – Manage, maintain, and enhance 12 Environmentally Significant Areas (ESAs) under contract with the City of London. ESA lands management locations are shown on Map 7.	Municipal (Category 2)
Conservation Areas - Manage and maintain Fanshawe, Wildwood and Pittock campgrounds and day-use areas that provide active outdoor recreation and tourism opportunities. These active conservation areas have programs and services for management, major maintenance, enforcement and compliance. UTRCA lands (as of March 2024) are shown on Map 6.	Other (Category 3)

Map 6. UTRCA Lands (as of March 2024)



Map 7. Location of Environmentally Significant Areas in the City of London



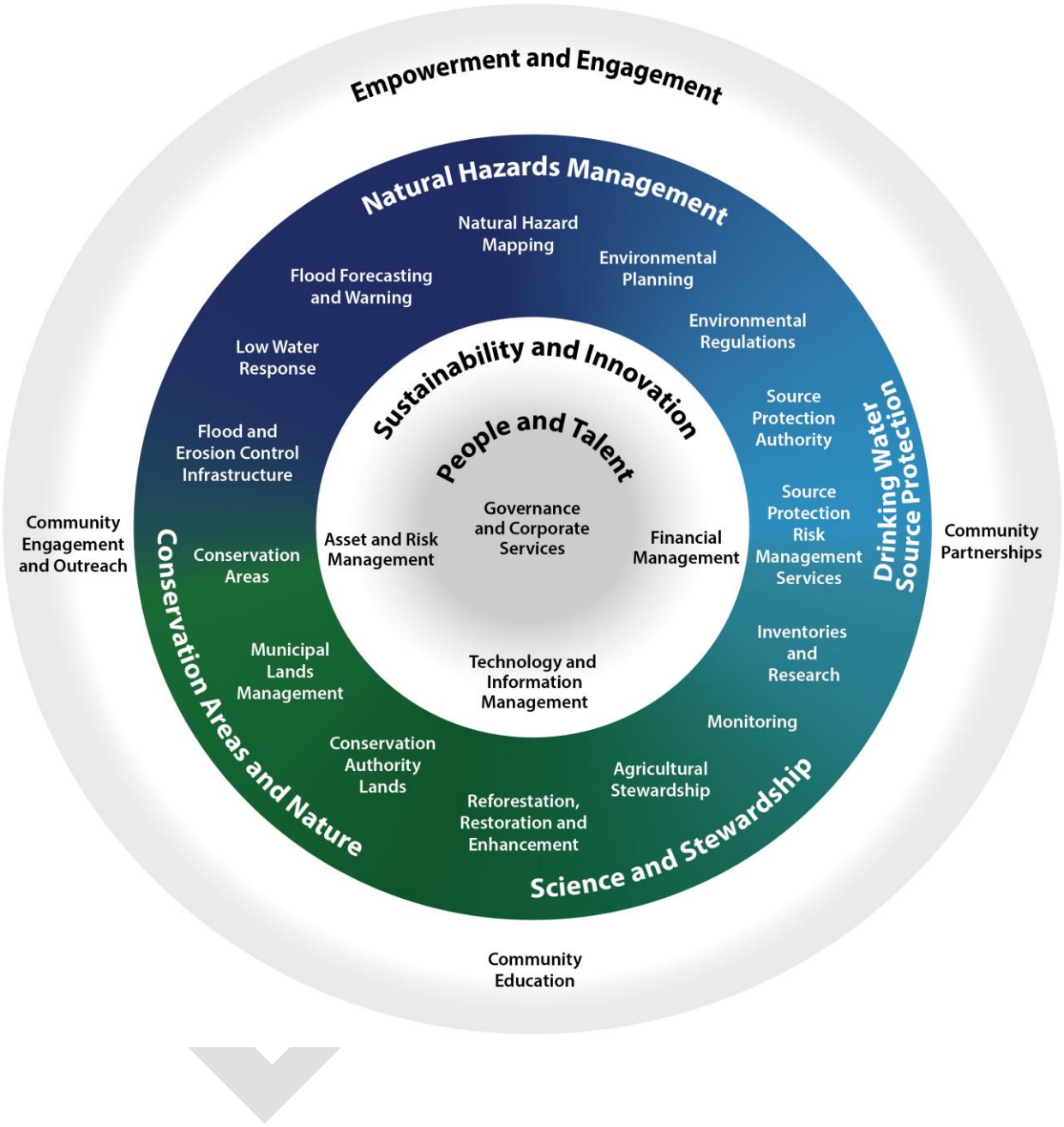
2.3.7 Objective: Empowerment and Engagement

Inspire action by fostering an appreciation of our environment through leading edge educational programming, outreach opportunities, and outdoor experiences (Table 8).

Table 8. Empowerment and engagement: program area and category

Program Area	Category of Programs and Services
Community Engagement and Outreach - Municipal and public outreach, engagement, and education programs inform the Board of Directors, municipalities, staff, watershed residents, partners, and the public about UTRCA programs, services and activities including governance, policies, and conservation lands.	Mandatory and Other (Category 1 and 3)
Community Education – Youth education programs have been developed for all grades to build awareness of and relationships with the local environment and watershed. These programs are delivered in a variety of ways, including virtually. While some of the youth education programs are included in UTRCA's Mandatory Programs and Services (e.g., natural hazards) and municipal programs (e.g., drinking water source protection), supplementary programs are offered centered on watershed and natural environment curriculums, to promote environmental awareness in youth and the watershed's future land stewards.	Other (Category 3)
Community Partnerships - Partnership building and external relationships with community organizations, federal, provincial, and municipal agencies, corporations, educational institutions, and volunteer organizations whose goals are aligned with the UTRCA are important services that provide resources that reach across all the UTRCA's programs and services.	Mandatory and Other (Category 1 and 3)

Figure 2. UTRCA Objectives and Program Areas



Aerial view of the Thames River in west London.

3.0 The Upper Thames River (Deshkan Ziibi) - Watershed Characterization

The Upper Thames River watershed covers approximately 3,423 sq. km, stretching from Monkton (North Perth) in the north to Delaware (southwest of London in Middlesex Centre) in the south, and east of Mount Brydges (Middlesex Centre) in the west to east of Shakespeare (Perth East) and of Innerkip (Blandford-Blenheim) in the east (Map 1).

3.1 Indigenous Communities

The following is what we understand to be a very general overview of the First Nations in the entire Thames River watershed. This understanding is not necessarily comprehensive or definitive.

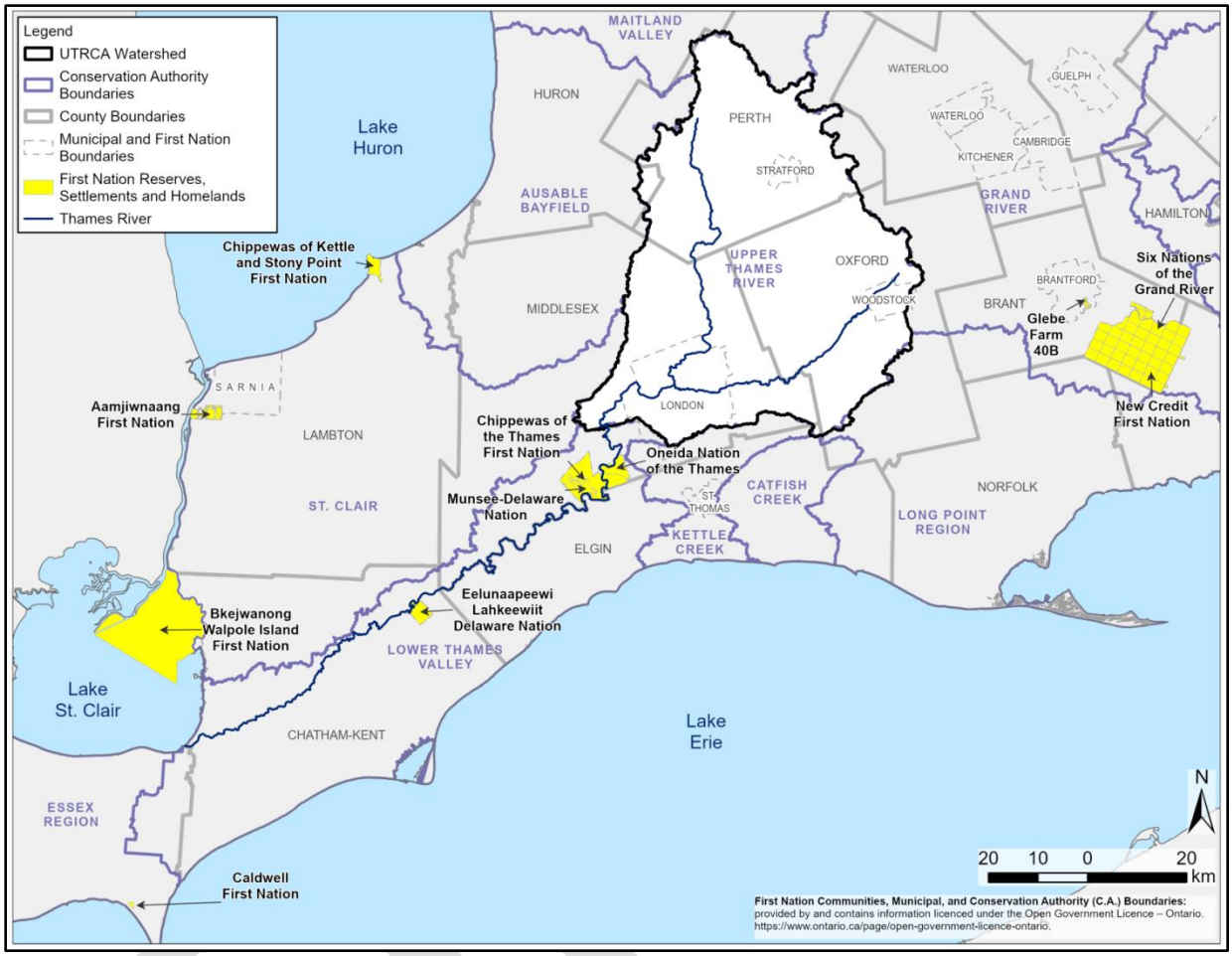
3.1.1 First Nations and Traditional Territories

In the region there are 11 First Nation Reserves, Settlements, and Homelands (Map 8), and a growing Indigenous urban population. Many of the nations in these Reserves, Settlements, and Homelands are also signatories to the treaties covering the watershed (Section 3.1.2). The 11 Nations (in alphabetical order) are:

- Aamjiwnaang First Nation,
- Bkejwanong Walpole Island First Nation,
- Caldwell First Nation,
- Chippewas of Kettle and Stony Point First Nation,
- Chippewas of the Thames First Nation,
- Eelünaapéewi Lahkéewiit (Delaware Nation at Moraviantown),
- Glebe Farm,
- Mississaugas of the Credit First Nation (reserve is known as New Credit),
- Munsee-Delaware First Nation,
- Oneida Nation of the Thames, and
- Six Nations of the Grand River.

Note: Glebe Farm and Six Nations of the Grand River are shared reserves that include all six Haudenosaunee nations (Mohawk, Cayuga, Onondaga, Oneida, Seneca, and Tuscarora). Lenape (Lunaapeew) People (also known as Delaware) live on these reserves as well.

Map 8. First Nation Reserves, Settlements, and Homelands near the Upper Thames River Watershed



The following First Nation Peoples have lived in this region since before the Europeans arrived:

- the Anishinaabek (Aamjiwnaang First Nation, Bkejwanong Walpole Island First Nation, Chippewas of the Thames First Nation, Chippewas of Kettle and Stony Point First Nation, Caldwell First Nation, and Mississaugas of the Credit First Nation), and
- the Haudenosaunee (Oneida Nation of the Thames as well as Mohawk, Cayuga, Onondaga, Oneida, Seneca, and Tuscarora Nations now at Glebe Farm 40B and Six Nations of the Grand River).

Chippewas of the Thames First Nation, the Oneida Nation of the Thames, the Eelünaapéewi Lahkéewiit (Delaware Nation at Moraviantown), and Munsee-Delaware Nation, settled permanently along the banks of the Thames between the 1780s and 1840s (Map 8). Munsee-Delaware Nation and Delaware Nation at Moraviantown are

both settlements of the Lenape (Lunaapeew) People. All four First Nation communities have maintained a strong Indigenous presence along the river.

The Anishinaabek People refer to the Thames River as Deshkan Ziibi (Antler River in Ojibwe / Anishnaabemowin language). The river has also been called Askunessippi (Antlered River) by the Neutrals and La Tranchée (later La Tranche, which means the Trench) by early French explorers, settlers, and fur traders. In 1793, Lieutenant Governor John Graves Simcoe named the river the Thames River after the River Thames in England.

First Nations have a strong cultural and spiritual connection to water (Swain, Louttit, and Hrudey 2006). With this relationship come responsibilities that are described in the Water Declaration of the Anishinaabek, Mushkegowuk, and Onkwehonwe (Chiefs of Ontario 2008), which was written to support First Nation communities in protecting the waters from contamination.

3.1.2 Treaties

The Upper Thames Rive watershed is covered by the following Upper Canada Treaties (Map 9):

- Treaty 2, 1790: The McKee Purchase, signed with various First Nations,
- Treaty 3, 1792: The Between the Lakes Purchase and Collins Purchase, signed with Mississauga peoples,
- Treaty 6, 1796: The Chenail Écarté Treaty and the London Township Purchase, signed with Anishinaabe peoples,
- Treaty 21, 1819: The Long Woods Purchase, signed with Anishinaabe peoples, and
- Treaty 29, 1827: The Huron Tract Purchase, signed with Anishinaabe peoples.

It is important to note that Caldwell First Nation was not present when the treaties were being signed because they already had a verbal agreement in place.

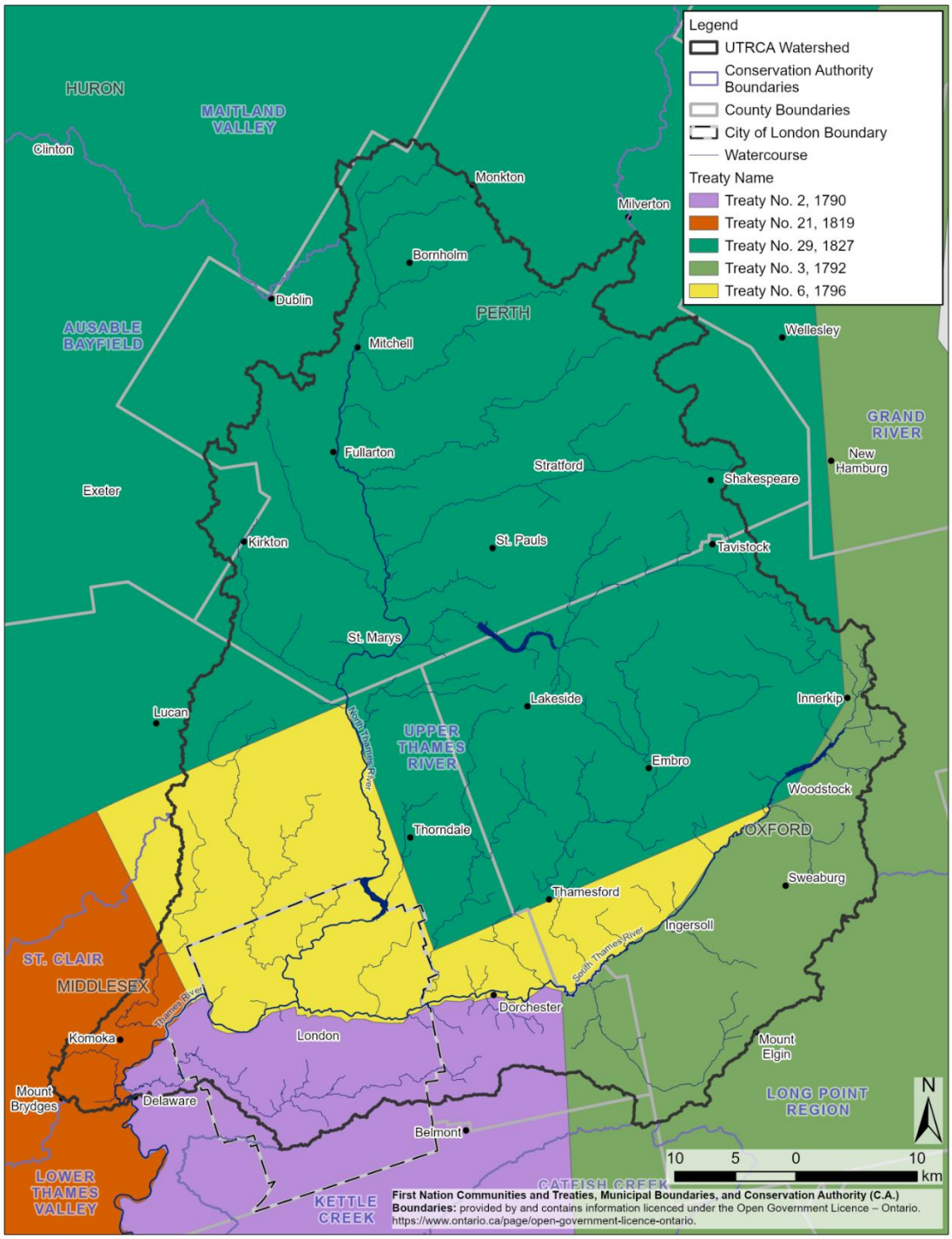
Other important treaties include:

- 1794 Treaty of Amity, Commerce and Navigation, or Jay Treaty, between Britain and the United States, which allows Indigenous people from Canada to live and work freely in the United States; and
- 1701 Nanfan Treaty or Fort Albany Treaty, which gave the Iroquois permanent hunting rights in southwest Ontario.

3.1.3 Other Indigenous Communities

While there are no Métis or Inuit settlements in or near the UTRCA watershed, the conservation authority has engaged with local members of the Métis community, where appropriate, as opportunities are presented.

Map 9. Southwestern Ontario Treaties and the Upper Thames River Watershed



3.2 Watershed Characterization

The Upper Thames River watershed is situated in a highly agricultural part of southern Ontario, with several urban areas scattered throughout the watershed (Map 1). The water and forests in this region face ongoing pressure from urban and rural land uses. Despite these pressures, the Thames remains one of the most biologically diverse rivers in Canada, and the Upper Thames River watershed is home to 80 species of fish, 30 freshwater mussel species, and many species at risk. The entire Thames River system, including tributaries, is designated a Canadian Heritage River.

There has been growing interest from watershed residents, municipalities, and agencies in understanding the health of the watersheds in which they live, and in the upper Thames River watershed. There is an ongoing need for clear environmental information to support our understanding of the issues and inform decision-making.

3.2.1 Major Watershed Reports and Plans

The upper Thames River watershed has been studied extensively over many decades, including technical studies, monitoring programs, and other natural resources information that directly inform and support the UTRCA's program and service delivery (Appendix 1). Some of the major watershed reports and plans include the following:

3.2.1.1 The Thames Valley (Above the City of London) Report 1946

The first survey of the watershed was undertaken prior to the formation of the UTRCA as The Thames Valley (Above the City of London) Report 1946. The report was prepared by A.H. Richardson (Department of Planning and Development 1946) and "covered the subjects of Land Use, Hydraulics, Wildlife, and Recreation".

In 1950, the watershed was resurveyed in accordance with the improved methods adopted by the Conservation Branch of the Province (Department of Planning and Development 1952 a, 1952b).

3.2.1.2 Upper Thames Valley Conservation Report 1952

The Upper Thames Valley Conservation Report 1952 (Department of Planning and Development 1952 a, 1952b) is a comprehensive resource survey of the Upper Thames River watershed. The report assessed land use, forestry, water, wildlife, and recreation. Recommendations included major flood control and stream regulation works, wetland acquisition, reforestation, promotion of soil conservation measures on agricultural land, and recreational and educational facilities.

3.2.1.3 Twenty-five Years of Conservation on the Upper Thames Watershed (1947 – 1973)

The UTRCA published a summary of conservation efforts in the organization's first 25 years (UTRCA 1973). The book includes chapters on why and how the UTRCA was formed, presence of natural hazards resulting from water and flood plain regulations, forestry and land use, recreational opportunities including the development of conservation areas and the Pioneer Village, importance of certain species of wildlife, importance of communication including education and outreach, and future projects.

3.2.1.4 Water Management Study for the Thames River Basin (1975)

The 1975 Water Management Study for the Thames River Basin, undertaken jointly by the Ontario ministries of the Environment and of Natural Resources (MOE and MNR 1975), was initiated in response to growing concern over existing problems relating to water quality, flooding, and erosion in the watershed, and potential problems anticipated due to future population growth and economic development. The objective of this study was to develop guidelines for management of the basin's water resources to ensure that adequate quantities of water of satisfactory quality are available for the recognized uses at the lowest possible cost, and that erosion and flood control are provided consistently.

The study assessed the availability and quality of surface water and groundwater, inventoried water uses and related land uses and evaluated existing and potential water resource problems in the basin. This information was used to select and evaluate water management alternatives on which recommended water management guidelines are based.

3.2.1.5 The Thames River Watershed: A Background Study for Nomination under the Canadian Heritage Rivers System (1988)

The Thames River Watershed Background Study (UTRCA 1998) describes the river from the time of its formation to early settlement periods to modern day recreational uses. The report describes the natural heritage of the river including the hydrology, physiography, river morphology, flora, fauna, aquatic ecosystems, and landscapes; as well as the cultural heritage including harvesting, transportation, human settlements, hydraulic power generation, recreation, historic events, and environmental regulations.

3.2.1.6 The Thames-Sydenham and Region Watershed Characterization Summary Report (2008)

The Thames-Sydenham and Region Watershed Characterization Report (LTVCA, SCCA and UTRCA 2008) summarizes information on the physical, social, and economic characteristics of the Thames watershed and region. The Thames watershed and region includes the Thames River drainage basin and several smaller watercourses

that drain directly to Lake Erie or Lake St. Clair. The report also reviews water quality and summarizes known issues and concerns pertaining to drinking water sources. The report is one of the first steps in the development of Source Protection Plans, as recommended by Justice O'Connor following the Walkerton Inquiry. The inquiry investigated the May 2000 bacterial contamination of the Town of Walkerton's water supply, which resulted in seven deaths.

3.2.1.7 The Thames River (Deshkan Ziibi) Shared Waters Approach to Water Quality and Quantity (2019)

The Shared Waters Approach (TRCWR 2019) is a 20-year plan that provides broad and strategic guidance for water quality and quantity. The Shared Waters Approach for Deshkan Ziibi developed many goals and recommendations for water quality and quantity that incorporate both Indigenous and Western scientific ways of knowing wherever possible, and includes descriptions of global, First Nations, Canadian, and local perspectives towards water, climate considerations, and geomorphology of the Thames River.

3.2.1.8 Upper Thames River Watershed Report Cards (published every 5 years since 2001)

Every five years since 2001, the UTRCA has produced watershed report cards (UTRCA 2022) to report on local environmental conditions in each of the 28 subwatersheds within the Upper Thames watershed. These reports summarize extensive environmental information, with the goal of guiding local environmental action and tracking environmental change. Each report card grades surface water quality and forest conditions, summarizes watershed features, provides recommended actions for improvement, and highlights progress made over five years. Initiated by the UTRCA in 2001, the grading was later updated and standardized through a collaborative process under Conservation Ontario in 2011 for use by all conservation authorities.

3.2.2 Information Supporting UTRCA Programs and Services

Ontario Regulation 686/21 requires that the Watershed Strategy include a summary of existing technical studies, monitoring programs, and other information about the natural resources the conservation authority relies on within its area of jurisdiction, that directly inform and support the delivery of programs and services under Section 21.1 of the Conservation Authorities Act. Additional technical studies, monitoring programs, and other information on natural resources are found in Appendix 1 and on the UTRCA website.

Aerial view of the Thames River in Ingersoll.

4.0 Assess Challenges, Issues, and Risks

The Draft Watershed Strategy (June 2024) identified nine watershed and seven corporate challenges, issues, and risks that may influence program priorities and services and/or impact the effective delivery of mandatory programs and services. Through the consultation process, both the watershed and corporate challenges, issues, and risk were prioritized, based on feedback received. An in-depth analysis of all programs and services that could address each challenge, issue, or risk, along with rationale, was conducted for the priorities.

Recommended actions were ranked as **high priority** based on staff and public input to address watershed challenges, issues, or risks were:

- Land cover, land use change, and increased development pressure,
- Water quality (phosphorus and other contaminants),
- Watercourse and wetland alteration,
- Severe weather,
- Invasive species management and environmental pests and pathogens.

4.1 Prioritization of Watershed Challenges, Issues, and Risks

Twenty-one in-person staff meetings and a public survey of watershed residents identified and prioritized nine watershed challenges, issues, and risks.

4.1.1 Staff Consultation

Staff consultation included 12 unit meetings, three full staff meeting presentations, and six staff engagement sessions to ensure that all staff had input into the Watershed Strategy, including the inventory of programs and services, the identification of gaps, and the identification and prioritization of challenges, issues, and risks.

4.1.2 Public Engagement

There were 757 visits to the challenges, issues, and risks survey page (Appendix 2), of which 637 were unique visitors. A total of 86 individuals contributed to the survey (11% engagement rate) and of those, 72 explained their rationale for ranking the challenges, issues, and risks. This indicates that the people responding to the survey were quite engaged and interested in the work of the UTRCA. A total of 71% of the contributors were from the general public and 53 individuals downloaded the draft strategy. Most of

the contributors have interacted with the UTRCA through conservation areas or through community education and partnerships.

Additional consultation and interest holder engagement will also be undertaken in 2025 as part of the UTRCA's Strategic Plan process and refines the Watershed Strategy.

4.1.3 Prioritization of Watershed Challenges, Issues, and Risks

Recommended actions were ranked as **high priority** based on staff and public input to address watershed challenges. Issues are described below.

Land Cover, Land Use Change, and Increased Development Pressure

The housing crisis and an increasing population in larger municipalities, towns, and villages in the watershed is increasing development pressure, which has the potential to have a negative impact on the environment. Urban development pressures include urban expansion, and intensification, as well as expansion of roads and salt use.

Farmland and forested lands are being lost to urban growth, aggregate extraction, logging activities, large factories, landfills, and so on. There are changes in agriculture as well, with the loss of family farms to large landholdings by companies and/or corporations, increased tile drainage, loss of windbreaks and shelterbelts, etc.

The loss of vegetation, increased drainage, and paving of the landscape have reduced the land's natural water absorption and retention abilities and decreased biological diversity impacting land and water resources. Many of these impacts are cumulative and can have far-reaching consequences (e.g., downstream effects).

Water Quality

Healthy river ecosystems rely on clean water. The average water quality in a river tends to change slowly. Water quality is generally good or excellent in undeveloped areas where native plants, trees, and soils purify the water before it reaches the river. Urban landscapes, industrial and sewage effluents, farm runoff, and atmospheric deposition of chemicals can all affect water quality. How people develop and use the surrounding land impacts how quickly water quality changes. Fertilizers, pesticides, and manure from livestock used to help crops grow can wash into nearby rivers or seep into groundwater, impacting water quality in those areas. Removing trees and other vegetation, which slow the flow of surface water into rivers, may increase run-off of nutrients and contaminants into rivers. The channelization of watercourses also negatively impacts their functioning and ability to support aquatic life.

Phosphorus and Harmful Algal Blooms

The Thames River has experienced excess levels of nutrients for decades, resulting in nutrient enrichment in the river system and contributing to algal blooms in Lakes Erie and St. Clair, and in the Thames River and tributaries (Shared Waters Approach 2019). Phosphorus is the primary nutrient that promotes excess growth of aquatic plants and algae and is correlated to sediment transport. Therefore, sediment transport and erosion are also of concern in several subwatersheds. In recent years, phosphorus has promoted the growth of blooms including cyanobacteria species such as Microcystis, which can produce a toxin that impairs drinking water, aquatic life, and recreational uses.

Contaminants of Emerging Concern

Contaminants of Emerging Concern (CECs) in groundwater and surface water include synthetic sweeteners, pharmaceutical and personal care products, pesticides, stimulants, and per- and polyfluoroalkyl substances. A number of CECs have proven to be persistent, bioaccumulative, and toxic, raising significant environmental and health concerns (Environment and Climate Change Canada and Health Canada, 2023). CECs have been detected in urban surface waters and in sediment, and these compound mixtures become increasingly complex downstream. Stormwater could be an important source of CECs, either from agricultural or urban areas. Agricultural runoff has been reported to include several active use pesticides associated with crop applications in the region as well as veterinary medicines associated with animal husbandry. The human and ecological health consequences of environmental exposure to persistent CECs, particularly as complex mixtures, is not well understood.

Watercourse and Wetland Alteration

Ecologically important aspects of a river's flow (e.g., high flows, pulses, flooding, low flow, etc.) can be altered due to in-stream human activities such as drain cleanouts and vegetation removal, infilling, enclosures, channelization, wetland removal, and watercourse barriers. Drainage intensification (increase in tile and open drains and channelization) and lack of sufficient watercourse buffers contribute to accelerated streambank erosion and increased sediment loads entering watercourses, while certain tillage and cropping practices contribute to erosion and sediment delivery to watercourses.

Wetlands are an important part of the landscape of the watershed. Wetlands play a vital role in supporting biodiversity as they provide important habitat to an array of plants, birds, insects, amphibians, fish, and other animals, including many species at risk. Wetlands also provide watershed residents with a variety of essential ecosystem services such as clean and abundant water, flood and erosion mitigation, climate

moderation, recreational opportunities, and other important social, cultural, and spiritual benefits.

Approximately three-quarters of the wetlands once present in the UTRCA watershed are now gone. Currently, very small wetlands (those under two hectares) are disappearing from the landscape at a disproportionately faster rate than large wetlands. These small wetlands play an essential role in delivering ecosystem services. They increase ecological connectivity by acting as stepping-stones for species moving between larger wetlands, provide critical habitat for amphibians, water birds, and rare plants, and have an important role in landscape hydrology and biogeochemical cycling. Small wetlands are most likely to be lost on land used for urban development and resource extraction (Birch et al. 2022).

Severe Weather

Changes in weather patterns and weather extremes are significant environmental challenges, complicating the prediction of future risks and the long-term impacts of decisions made today. Changes in occurrence and extent of severe weather have had many impacts on the natural and built environment, the most notable of which are due to changes in precipitation, temperature, and wind patterns, resulting in rising temperatures, more frequent and intense precipitation events, and more extreme storm events.

Invasive Species, Pests, and Pathogens

Non-native invasive species, diseases, and pathogens are on the rise in the watershed due to the loss of vegetation and the increase in disturbances, as well as from introduction into the watershed from international trade and exchange of plant material. Invasive species, both terrestrial and aquatic, compete with and displace native species, impacting the diversity of native species and the health of local ecosystems. Ultimately, invasive species change the services and benefits that natural areas provide by affecting the intricate linkages that make ecosystems strong and resilient. The increased management (e.g., project planning and monitoring) and operational costs to control invasive species can result in major economic impacts on individual landowners and municipalities.

Table 9 provided below provides potential recommended actions to address the priority watershed challenges, issues, and risks.

Table 9. Recommended actions to address priority watershed challenges, issues and risks

Priority Watershed Challenges	Recommended actions to address challenges, issues, and risks
Loss of vegetation and increased development	Incorporate natural assets and green infrastructure into UTRCA's asset management plan and support municipalities and other partners as appropriate. Recognizing that the integration of activities such as restoring wetlands or upland forests, and other forms of green infrastructure can be used to manage river flooding and erosion in a way that is cost effective and provides benefits for both people and nature. Continued education and knowledge sharing through planning and permitting processes with member municipalities, industry, partners and the public to ensure roles and responsibilities related to natural hazards are understood. Consider a range of tools to mitigate urban development and loss of vegetation impacts on the natural environment including promotion of all forms of green infrastructure including tree planting, management of woodlots, establishment of prairies and wetlands, invasive species control, etc. Continue to communicate the impacts of development on the environment and alternative, environmentally friendly practices, through UTRCA outreach and education materials and programs and partnerships. Develop subwatershed plans to reflect the goals and objectives of the watershed strategy. Subwatershed plans involve the local community and are to be tailored to the needs to address local issues requiring higher level of details while supporting the effective delivery of programs related to the risk of natural hazards and ensuring cumulative influences and effects are understood. Work with Indigenous, federal, provincial, municipal, industrial and community partners to exchange knowledge and / or resources with regards to vegetation loss and increased development.

Priority Watershed Challenges	Recommended actions to address challenges, issues, and risks
Watercourse and wetland alteration	Ensure mitigation and prevention measures for alterations to watercourses and wetlands are considered in watershed planning. Support aquatic health and water quality monitoring programs to understand impacts of alterations to watercourses and removal of wetlands and communicate this information. Mitigate impacts from alterations to watercourses and wetlands using nature-based solutions (e.g., naturalizing watercourses, creating or enhancing wetlands, improving connectivity between adjacent natural features, etc.) on UTRCA lands, municipal lands and with participating watershed landowners. Support aquatic health and water quality monitoring programs to understand impacts of alterations to watercourses and removal of wetlands and communicate this information. Work with Indigenous, federal, provincial, municipal, industrial and community partners to exchange knowledge and / or resources to address alterations to watercourses and wetlands.
Severe weather	Develop a Climate Change Adaptation Strategy to review potential impacts of a changing climate on watershed function and recommend changes to UTRCA programs and services to ensure they remain effective at protecting the watershed in the future. Improve understanding of variability in flows from severe weather and incorporate it into hydrologic, hydraulic, flood and erosion modelling and mapping. Floodplain mapping needs to be updated accordingly or, in some cases, assessed for the first time. Involve watershed residents in the implementation of actions that improve the resiliency of watershed natural resources to the impacts of severe weather. Investigate opportunities for the UTRCA to sell carbon credits to an industry that needs to purchase carbon credits, allowances or permits to legally emit a certain amount of carbon dioxide or other greenhouse gases (GHGs). Work with Indigenous, federal, provincial, municipal, industrial and community partners to exchange knowledge and / or resources with regards to severe weather.

Priority Watershed Challenges	Recommended actions to address challenges, issues, and risks
Water quality (phosphorus and other contaminants)	Support aquatic health and water quality monitoring programs and communicate water quality information while continuing to develop education programs focused on water quality issues and solutions. Implement the recommendations of the Shared Waters Approach. Work with Indigenous, federal, provincial, municipal, industrial and community partners to exchange knowledge and / or resources with regards to water quality.
Invasive Species Management and Environmental Pests and Pathogens	Develop a business case to deliver an invasive species management program with partnering municipalities. Communicate the importance of invasive species control, the hazards associated with invasive species and their locations in the watershed. Develop a community science program to involve watershed residents in programs to identify, remove and monitor invasive species. Consider mitigation for increases in invasive species resulting from trails, recreation, management and operations on UTRCA owned and managed lands. Work with Indigenous, federal, provincial, municipal, industrial and community partners to exchange knowledge and / or resources to address invasive species.

4.1.4 Prioritization of Corporate Challenges, Issues, and Risks

Recommended actions that were ranked as **high priority** based on staff and public input to address corporate challenges, issues, or risks are described below.

Legislative / Regulatory Changes

The conservation authority must respond to provincial legislative and regulatory changes. These changes can occur with very little notice or consultation and can include changes to powers and financial tools conservation authorities use to oversee and protect watersheds, leading to increased risks to life and property. These changes can limit the financial and staffing resources that conservation authorities can devote to services that support but are outside of mandatory programs and services. Sometimes

regulatory changes are accompanied by budget cuts, which can leave unexpected budget shortages that result in a restructuring of finances or delivery of programs.

Sustainable Funding

Conservation authority programs and services help all levels of government to address environmental challenges and priorities such as severe weather impacts, healthy Great Lakes, urbanization and growth, healthy people, and a sustainable economy. Many of these programs and activities require long-term funding to ensure quality programming and retention of staff expertise. Many of these activities are controlled by short-term contractual relationships that affect the ability to adequately carry out these activities. Furthermore, there has been a shift from core funding to project funding, setting up a culture of competition for resources, as well as an audit and surveillance culture, that can challenge the ability to address the environmental challenges.

For example, the provincial allocation to support provincially mandated flood management responsibilities had not increased since the mid-1990s and was further reduced by half in 2019. The ability for conservation authorities to levy municipalities and charge fees is specified in regulations. Inflation has significantly increased the costs of programs and services. This situation presents a challenge to continuing project activities and sustaining project outcomes after the initial or primary grant (funding) expires.

Staff Retention, Expertise, and Capacity

For the long-term success of the organization and its employees, it is important to consider both how to support younger staff to develop their technical and interpersonal skills at the outset of their career, and how to continue to support staff to grow their skills as they move into leadership roles. Although budgets are limited, the UTRCA needs to identify and support professional development opportunities for staff, to the benefit of both the individuals and the organization. New staff may require additional training and time to understand their roles and responsibilities as well as those of other staff, and to become subject matter experts. This means resources for training and recruiting efforts have increased.

Sustainable Long-term Monitoring

Long-term historic datasets of climatological data, hydrological data, and water chemistry and nutrient data (surface water and groundwater) are needed throughout the watershed to establish subwatershed baseline conditions and to engage citizen scientists and the public in supporting science and conservation programs. Sustained funding and expertise for long-term and large-scale monitoring programs are needed to ensure that robust monitoring programs can be established and maintained to monitor

environmental management actions and responses to them. Ecological monitoring and research support all three categories of programs and services.

Table 10 provides potential recommended actions to address the priority corporate challenges, issues, and risks.

Table 10. Recommended actions to address priority corporate challenges, issues and risks

Priority Corporate Challenges	Recommended Actions to address challenges, issues, and risks
Legislative/regulatory changes	Develop a UTRCA Communication Strategy and ensure the strategy shares project results to attract support from a range of stakeholders and donors. Communicating with the community is the key to having long term impacts from any project, as it gives the community some ownership of the project, which increases the likelihood that they will continue to support the work long term. Advocate for updated technical guidance to implement natural hazard regulations from the Province through UTRCA and Conservation Ontario communications.
Sustainable funding	Advocate to the province to increase funding for Section 39 program and increases to the Water and Erosion Control Infrastructure program. Adhere to the UTRCA Budgetary and Reserves Policies. Advocate to the Province for regulatory fines to be directed to the conservation authority responsible for enforcement. Develop a UTRCA Communication Strategy and ensure the strategy shares project results to attract support from a range of stakeholders and donors. Education and awareness create value for both the environment and the work of the Conservation Authority. Communicating with the community provides the community with a sense of ownership of the project, which increases the likelihood that they will continue to support the work in the long term.

Priority Corporate Challenges	Recommended Actions to address challenges, issues, and risks
Staff retention, expertise and capacity	Develop a Human Resources Strategy that ensures employment opportunities, compensation, safety, support and expectations are well communicated, equitable, and competitive compared to other similar organizations to achieve staff retention. The Strategy would also standardize and improve staff orientation, knowledge storage and retrieval procedures and practices, as well as explore opportunities to learn/share with other conservation authorities. Develop an Engagement Strategy that includes sensitivity training of Indigenous and colonial history to improve engagement and collaboration with, and leadership by, Indigenous peoples.
Sustainable long-term monitoring	Develop a comprehensive monitoring program that communicates results to increase awareness of watershed health trends and can be used to inform decision-making.

The remaining corporate challenges, issues or risks were not identified as high priority based on the input received. The UTRCA will continue to monitor all 16 watershed and corporate challenges, issues and risks and incorporate this information into the Strategic Plan.

5.0 Future Opportunities and Initiatives – Identify Actions and Costs

The UTRCA is undertaking a new Strategic Plan to identify priorities, goals, and key performance indicators. Once those have been determined, staff will develop operational plans with actions, timelines, and resources in 2025. Cost estimates and high-level work plans for the implementation of operational plans will be developed as part of the strategic planning exercise. The work undertaken as part of this Watershed Strategy in identifying programs and services, as well as challenges, issues, and risks, will be incorporated into the development of these operational plans. The Watershed Strategy will be updated accordingly following this exercise.

Aerial view of a rural area in Perth County.

6.0 Consultation, Implementation, and Review - Strategy Implementation Plan and Review

6.1 Consultation

The Watershed Strategy is an integrated process that needs to consider the perspectives, priorities, and needs of people and groups that could be impacted by the watershed plan. These groups include territorial, indigenous, federal, provincial, and municipal governments, as well as local organizations and non-governmental organizations.

Preliminary consultation for the Watershed Strategy with First Nations, federal and provincial government agencies, municipalities, and conservation authorities was conducted during the development of the Thames River (Deshkan Ziibi) Shared Waters Approach to Water Quality and Quantity (Thames River Clearwater Revival 2019). As mentioned in Section 3.2.1.7, the Shared Waters Approach is a collaborative 20-year plan that provides broad and strategic guidance for water quality and quantity. The goals and recommendations in the Shared Waters Approach were incorporated into the Watershed Strategy.

The next step to be completed in 2025 will be to develop a draft, distinct nations-based approach for engaging with Indigenous peoples for all watershed initiatives, including the Watershed Strategy implementation. Engagement with Indigenous partners will be an on-going process.

Additional outreach with UTRCA staff and public interest holders focused on understanding the challenges, issues, and risks in the watershed that limit the effectiveness of the delivery of the mandatory programs and services, and the identification of gaps in programs and activities to address these issues and risks. This additional outreach included:

- Notifying watershed municipalities, Indigenous communities, and interest groups of the online public engagement website to generate effective community input,
- Initiating a corporate strategic planning exercise that will include municipal, public, Indigenous and interest group engagement and consultation, and
- Using social media and traditional news media to highlight the strategy and encourage feedback.

A consultation record will be developed to track all consultation activities.

6.2 Implementation

Once the operational plans with actions, timelines, and resources are developed by staff as part of the Strategic Plan in 2025, they will be implemented. These plans will be reviewed annually to ensure that:

- They meet the goals and key performance indicators of each priority action,
- They comply with the regulations made under the CA Act, and
- Challenges, issues, and / or risks that limit the effectiveness of mandatory programs and services are addressed.

6.3 Review

The Watershed Strategy will be reviewed to coincide with the UTRCA's Strategic Plan update, to ensure consistency with the Authority's direction and focus. Both documents allow the UTRCA to adapt its programs and priorities to evolving political and socio-economic matters and emerging environmental issues. Public engagement will occur during the periodic reviews, in a manner that aligns with the degree of revisions and meets any regulatory requirements.

Updates to the approved document that do not alter its overall intent (e.g., modifications that remain consistent with provincial legislation and requirements) will be presented to the Board of Directors and included in the public meeting notice. These amendments will not require public consultation. Public engagement will occur when significant changes are made to the Watershed Strategy.

References

Conservation Ontario. 2023. Guidance on the Conservation Authority Mandatory Watershed-based Resource Management Strategy.

Department of Planning and Development. 1946. The Thames Valley: Above the City of London

Department of Planning and Development. 1952 Upper Thames Valley Conservation Report.

Department of Planning and Development. 1952 Upper Thames Valley Conservation Summary Report. 202 pp.

Lower Thames Valley Conservation Authority (LTVCA), St. Clair Conservation Authority (SCCA), Upper Thames River Conservation Authority (UTRCA). 2008. The Thames-Sydenham and Region Watershed Characterization Summary Report. 45 pp.

Ministry of the Environment and Ministry of Natural Resources. 1975. Water Management Study of the Thames River Basin. 131 pp.

Province of Ontario. 2021. Clean Water Act 2006, S.O. 2006, c 22.

Province of Ontario. 2023a. Conservation Authorities Act R.S.O. 1990, c. 27.

Province of Ontario. 2023b. Conservation Authorities Act: Ontario Regulation 686/21: Mandatory Programs and Services.

Province of Ontario. 2023c. Conservation Authorities Act: Ontario Regulation 687/21: Transition Plans and Agreements for Programs and Services under Section 21.1.2 of the Act.

Province of Ontario. 2023d. Planning Act R.S.O. 1990, c. P.13.

Province of Ontario. 2024a. Planning Act: Provincial Planning Statement.

Province of Ontario. 2024. Conservation Authorities Act: Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits under the Conservation Authorities Act R.S.O. 1990, c.27.

Thames River Clearwater Revival. 2019. The Thames River (Deshkan Ziibi) Shared Waters Approach to Water Quality and Quantity. Final Draft. 248 pp.

Thames-Sydenham and Region Source Protection Committee. 2011. Upper Thames River Source Protection Area. Assessment Report.

Thames-Sydenham and Region Source Protection Committee. 2015. Source Protection Plan.

Upper Thames River Conservation Authority. 1973. Twenty-Five Years of Conservation on the Upper Thames Watershed. 122 pp.

Upper Thames River Conservation Authority. 1998. The Thames River Watershed: A Background Study for Nomination under the Canadian Heritage Rivers System.

Upper Thames River Conservation Authority. 2023. Inventory of Programs and Services.

Upper Thames River Conservation Authority. 2022. Watershed Report Cards. ISBN 978-1-894329-17-0.

Upper Thames River Conservation Authority. 2024. Natural Hazard Infrastructure, Asset Management Plan.

Upper Thames River Conservation Authority. 2024. Upper Thames River Conservation Authority, Conservation Areas and Lands Strategy (2024-2033).

Appendix 1. Foundational Documents Supporting UTRCA Programs and Services

Appendix 2. Watershed Strategy Online Survey