Upper Thames River Conservation Authority

Watershed-based Resource Management Strategy

Draft, June 2024

UPPER THAMES RIVER
CONSERVATION AUTHORITY

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.

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).

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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 River watershed. 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 administers its programs and services within a 3,430 square kilometre area, based on the upper watershed of the Thames River in southwestern Ontario. (Map 1). The UTRCA is governed by a Board of Directors comprised of 15 members representing 17 participating municipalities, with a population of approximately 594,000. Representation on the board is outlined in a provincial Order-in-Council.

Water and other natural resources are vital natural assets that help manage climate change impacts. The watershed's resources mitigate natural hazards, filter contaminants, assimilate waste, sustain biodiversity, and provide green spaces for recreation and other community benefits. Resource management decisions must be transparent and consider a broad range of community uses, needs, and values, including ecosystem needs.

1.1 Watershed Strategy Development

The UTRCA has prepared this Watershed Strategy 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 goal of the Watershed Strategy is to ensure that the UTRCA's programs and services address watershed issues and priorities and reflect the organization's mandate under the CA Act.

1.2 Categories of Programs and Services

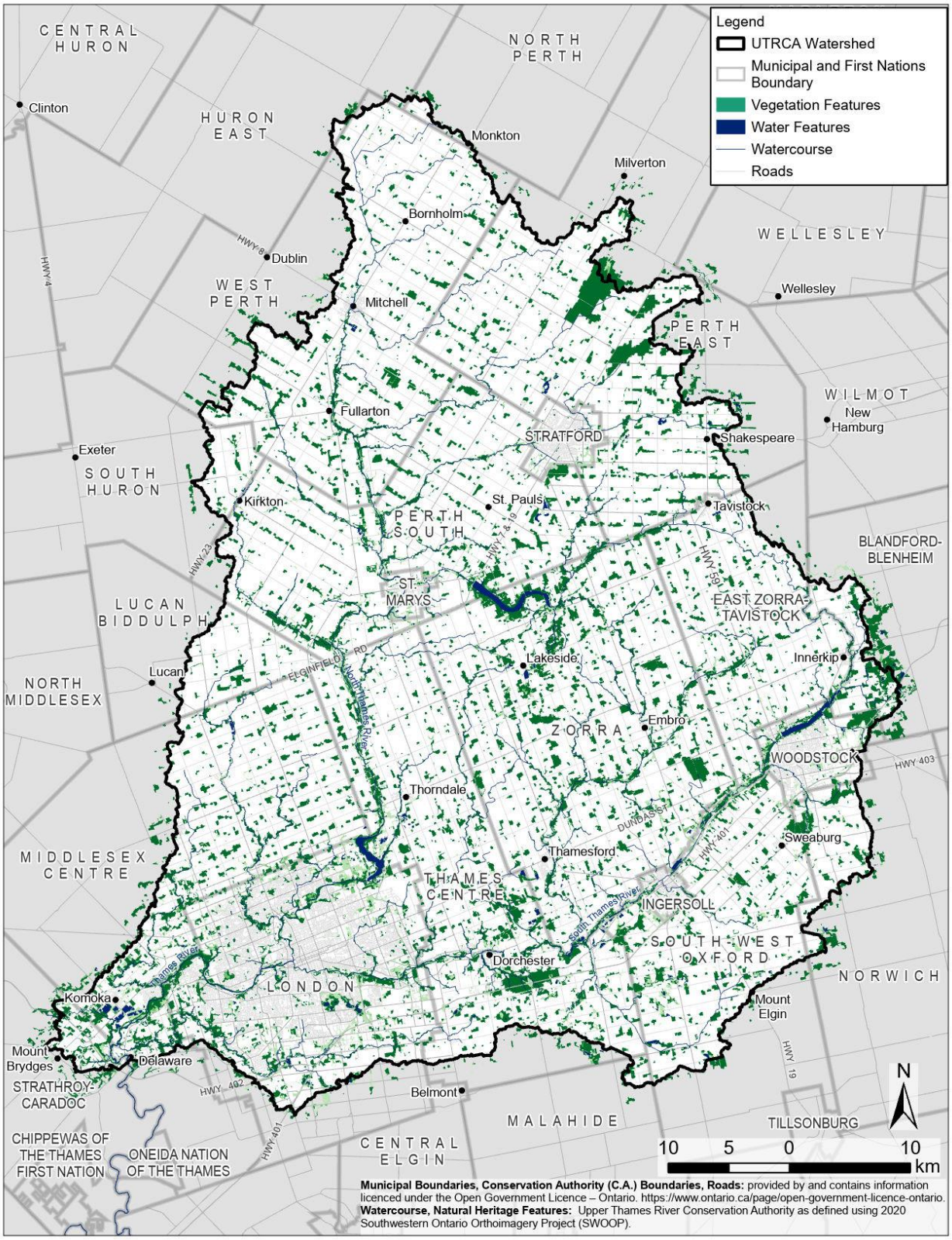
The strategy sets out the UTRCA's guiding principles and objectives and outlines the conservation authority's programs and services. In 2024, these programs and services were reorganized into the following three categories, with specific funding and budgetary restrictions, to conform with new legislative 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. 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 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.

The Watershed Strategy is intended to improve the efficiency and effectiveness of the mandatory programs and services and, where relevant agreements allow, the municipal and other programs and services.

Through outreach with watershed municipalities, Indigenous communities, interest holders, and the public, the UTRCA's Watershed Strategy updates the inventory of 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.



Map 1. Upper Thames River Watershed

2.0 Vision, Guiding Principles, Mission, and Objectives

The UTRCA's past Strategic Plans have outlined priorities, organizational commitments, and environmental goals. The Strategic Plan directs the Watershed Strategy by providing the conservation authority's vision and mission, as well as guiding principles, objectives, and targets. These strategic directions may be refined as the UTRCA's Strategic Plan is updated in 2024 and input received through the consultation process.

2.1 Vision

Inspiring a Healthy Environment.

2.2 Guiding Principles

Guiding principles establish the fundamental approach that drives UTRCA's decision-making and informs 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 Mission

Dedicated to achieving a healthy environment, on behalf of the watershed municipalities, by:

- Leading through expertise, diversity, and accountability,
- Supporting sustainable organizational practices and policies,

- Protecting people and property from flood and erosion hazards and supporting safe development,
- Protecting and enhancing water quality and a sustainable water supply,
- Making science-based decisions and delivering landowner stewardship,
- Providing natural spaces and recreational opportunities,
- Empowering communities and youth.

2.4 Objectives and Program Areas

The UTRCA's seven objectives represent how we are going to achieve the mission. Each objective has multiple program areas.

The objectives inform the design and delivery of the UTRCA's mandatory programs and services, as well as the municipal and other programs and services that are considered essential to the support and delivery of the mandatory programs and services.

2.4.1 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.

Program Area	Category of Programs and Services
Corporate Services	Mandatory (Category 1)
Governance	Mandatory (Category 1)

2.4.2 Objective: Organizational Sustainability and Innovation

Implement organizational practices that are socially, environmentally, and economically sustainable, adaptive, and responsible.

Program Area	Category of Programs and Services
Asset and Risk Management	Mandatory (Category 1)
Technology and Information Management	Mandatory (Category 1)
Financial Management	Mandatory (Category 1)

2.4.3 Objective: Natural Hazards Management

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

Program Area	Category of Programs and Services
Flood and Erosion Control Infrastructure	Mandatory (Category 1)
Natural Hazard Mapping	Mandatory (Category 1)
Flood Forecasting and Warning	Mandatory (Category 1)
Low Water Response	Mandatory (Category 1)
Environmental Planning	Mandatory (Category 1)

Program Area	Category of Programs and Services
Environmental Regulations	Mandatory (Category 1)

2.4.4 Objective: Drinking Water Source Protection

Protect municipal drinking water sources from contamination and overuse.

Program Area	Category of Programs and Services
Drinking Water Source Protection (DWSP) Source Protection Authority	Mandatory (Category 1)
DWSP Risk Management Services	Municipal (Category 2)

2.4.5 Objective: Science and Stewardship

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

Program Area	Category of Programs and Services
Monitoring - Provincial Water Quality Monitoring Network	Mandatory (Category 1)
Monitoring - Provincial Groundwater Monitoring Network	Mandatory (Category 1)
Monitoring - Municipal Subwatersheds	Municipal (Category 2)
Reforestation, Restoration, and Enhancement	Other (Category 3)
Agricultural Stewardship	Other (Category 3)
Monitoring – Other Programs	Other (Category 3)
Inventories and Research	Other (Category 3)

2.4.6 Objective: Conservation Areas and Nature

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

Program Area	Category of Programs and Services
Conservation Authority Lands	Mandatory (Category 1)
Municipal Lands Management	Municipal (Category 2)
Conservation Areas	Other (Category 3)

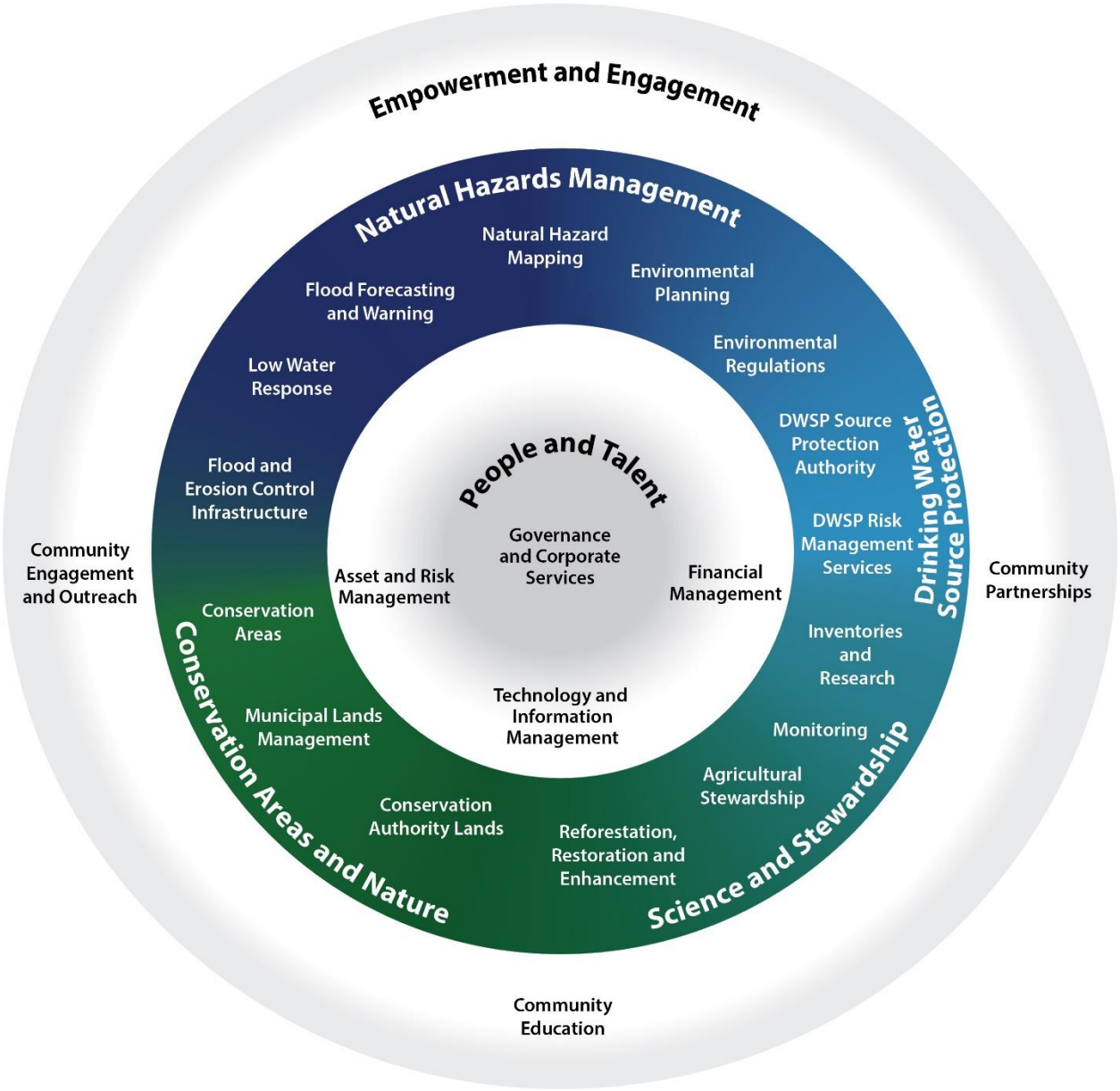
2.4.7 Objective: Empowerment and Engagement

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

Program Area	Category of Programs and Services
Community Engagement and Outreach	Other (Category 3)
Community Education	Other (Category 3)
Community Partnerships	Other (Category 3)

The supporting watershed strategy background document describes the programs and services within each program area in more detail, and provides a comprehensive list of studies, strategies, and plans that support them. Figure 1 presents the seven objectives and the program areas within each objective.

Figure 1. UTRCA Objectives and Program Areas



3.0 The Upper Thames River Watershed

3.1 Indigenous Communities

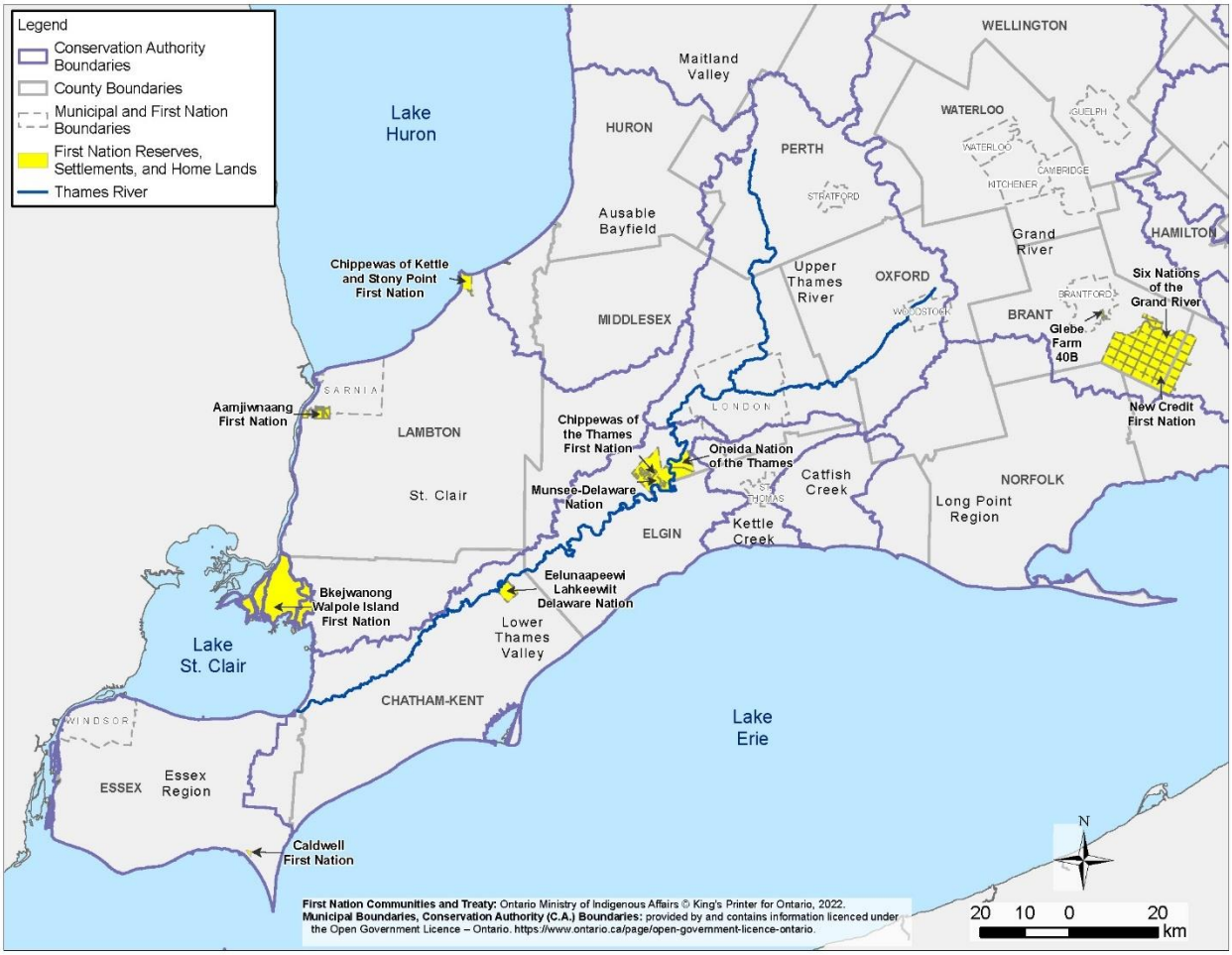
3.1.1 First Nations and Traditional Territories

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.

In the region, there are 11 First Nation Reserves, Settlements, and Home Lands (Map 2) and a growing Indigenous urban population. Many of the nations in these Reserves, Settlements and Home Lands are also signatories to the treaties covering the watershed (Section 4.1.2):

- Aamjiwnaang First Nation,
- Bkejwanong Territory 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 Nation,
- Oneida Nation of the Thames,
- Six Nations of the Grand River*.

*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 2. First Nation Communities 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),
- 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), and
- the Wendat (Huron).

Chippewas of the Thames First Nation, Oneida Nation of the Thames, Eelünaapéewi Lahkéewiit (Delaware Nation at Moraviantown), and Munsee-Delaware Nation settled permanently along the banks of the Thames between the 1780s and 1840s (Map 2). Delaware Nation at Moraviantown and Munsee-Delaware Nation are both settlements of the Lenape (Lunaapeew) People. All four First Nation communities have maintained a strong Indigenous presence along the Thames River.

The Anishinaabek People refer to the Thames River as Deshkan Ziibi (Antler River in Ojibwe / Anishinaabemowin 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

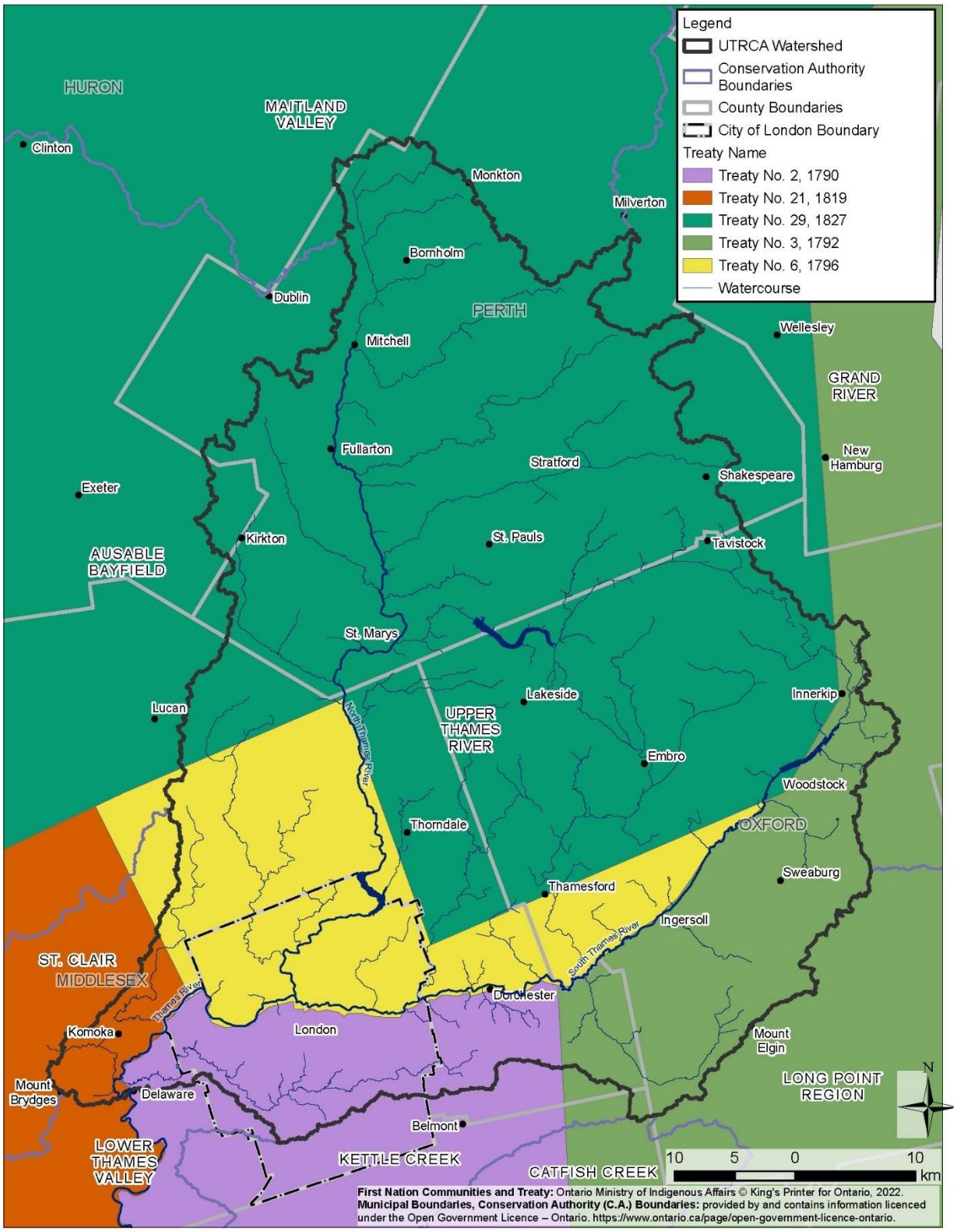
The Upper Thames River watershed is covered by the following Upper Canada Treaties (Map 3):

- 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,
- 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.



Map 3. Southwestern Ontario Treaties and the Upper Thames River Watershed

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 as opportunities present themselves.

3.2 Watershed Characterization

The Upper Thames River watershed is situated in a highly developed and highly agricultural part of southern Ontario (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 the larger Thames River watershed. There is an ongoing need for clear environmental information to support our understanding of the issues and inform decision-making.

The Thames River watershed has been studied extensively over many decades. Some of the major watershed reports and plans include the following:

- The Thames Valley (Above the City of London) Report 1946,
- Upper Thames Valley Conservation Report (1952),
- Twenty-Five Years of Conservation on the Upper Thames Watershed, 1947 – 1973,
- Water Management Study for the Thames River Basin (1975),
- Thames River Watershed Background Study for Nomination under the Canadian Heritage Rivers System (1998),
- Thames-Sydenham and Region Watershed Characterization Summary Report (2008),
- Thames River (Deshkan Ziibi) Shared Waters Approach to Water Quality and Quantity (2019), and
- Upper Thames River Watershed Report Cards (published every 5 years since 2001).

These documents are among the technical studies, monitoring programs, and other natural resources information that directly inform and support the UTRCA’s program and service delivery.

4.0 Challenges, Issues, and Risks

UTRCA has identified many challenges, issues, and risks in the watershed that may influence program priorities and services and/or impact the effective delivery of mandatory programs and services. Challenges, issues, and risks were considered for the watershed and for the delivery of UTRCA programs and services. These complex, interrelated, generational problems will require coordinated multi-party and multi-jurisdictional actions and innovative funding solutions.

4.1 Watershed Challenges, Issues, and Risks

4.1.1 Climate Variability and Change

Climate change is the most significant environmental challenge occurring today, complicating the prediction of future risks and the long-term impacts of decisions made today. Climate change has 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.

4.1.2 Land Cover, Land Use Change, and Increased Development Pressure

Growth pressure from the London area and, to a lesser extent, some of the other larger municipalities in the watershed (e.g., Komoka, St. Marys, and Woodstock) is resulting in increased development in the UTRCA watershed. Development pressures include the clearing of forested land for agriculture and urban growth, the loss of family farms to large landholdings by companies and/or corporations, destruction of wetlands, installation of tile drains on farmland, urban expansion, intensification, and redevelopment of seasonal-use properties to permanent residences, as well as road expansion. Industrial pressures include aggregate extraction, forestry and logging activities, large factories, landfills, and agricultural land use. These development and industrial pressures have reduced the land's natural water absorption and retention abilities, impacting land and water resources and sensitive areas.

4.1.3 Water Quality

Healthy river ecosystems rely on clean water. The average water quality in a river tends to change slowly. A changing climate that results in longer or more frequent wet or dry periods will affect water quality in each river differently depending on its regional characteristics. How people develop and use the surrounding land also impacts how quickly water quality changes. Water quality is generally good or excellent in undeveloped areas where native plants, trees, and soils purify the water before it reaches the river. Altered landscapes, industrial and sewage effluents, and atmospheric deposition of chemicals can all affect water quality. 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 reduce the flow of surface water into rivers, may increase run-off of nutrients and contaminants into rivers.

4.1.3.1 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.

4.1.3.2 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.

4.1.4 Altered Water Flow Regimes

How water moves across the watershed impacts the number of people and amount of infrastructure at risk. Altered water flow can result from in-stream activities such as drain cleanouts and vegetation removal, infilling, enclosures, channelization, and watercourse barriers. It can also result from natural processes such as climate change, which can alter the ecologically important aspects of a river's flow (i.e., low flows, high flow pulses, and floods).

4.1.5 Recreational Pressure

During the COVID-19 pandemic, nature became more important to than ever to the wellbeing of individuals and communities. Locally, there has been an increase in public awareness of and interest in the health of our local rivers, forests, natural areas, and

wildlife. Conservation areas and other public natural areas have seen record numbers of visitors; a trend which has continued.

The recent, large increase in visitation to UTRCA parks and natural areas can have a negative impact on the health of those natural spaces if usage is not managed and mitigated. The watershed's increasing urban population also puts more pressure on urban and near-urban green spaces.

4.1.6 Invasive Species and Environmental Diseases / Pests

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.

4.1.7 Environmental Injustice

Less well-resourced communities shoulder a disproportionate burden of environmental hazards, impacts of climate change, and pollution. This burden includes increased exposure to and reduced awareness of environmental hazards, as well as lack of access to safe and affordable water and healthy greenspace. Policies and practices often result in low-income and unhoused in close proximity to polluting facilities or to infrastructure such as major highways and bridges. Furthermore, the increase in new Canadians and unhoused/homelessness in the watershed present challenges in communicating information about hazards due to language barriers, lack of access to media, and competing priorities.

4.1.8 Disconnection from Nature

The connection between people and nature informs decision-making, stimulates positive action, and optimizes the benefits people and communities receive from nature. However, for some people there are barriers that can lead to a disconnection from nature, including economic, social, and geographic barriers. For new Canadians, the difference between real versus perceived hazards, as well as language barriers, can lead to hazardous scenarios around water and in cold weather. There may also be beliefs about the safety of certain natural environments and different rules and norms around cultural practices (e.g., ceremony, angling, foraging, and hunting for food in natural areas).

4.2 UTRCA Resource Challenges, Issues, and Risks

4.2.1 Regulatory and Other Legislative 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.

4.2.2 Sustainable Funding

Conservation authority programs and services help the province and other levels of government to address environmental challenges and priorities such as climate change impacts, healthy Great Lakes, urbanization and growth, healthy people, and a sustainable economy. Many of these programs and activities require long-term, sustainable, and dependable funding to ensure quality programming and retain staff expertise. However, many of these activities, which carry out the work that is the responsibility of the government / municipality, are controlled by 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.

It is a challenge for conservation authorities to ensure a steady flow of funds for executing their projects and programs. It is worth noting that 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. How conservation authorities can levy municipalities and charge fees is specified in regulations. Shortfalls are covered through self-generated funding or government grants and contracts, which are not guaranteed or long-term. Furthermore, 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.

4.2.3 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.

4.2.4 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.

4.2.5 Open Data

The desire for complete, accurate, and timely data for decision making, as well as the various publicly accessible data sharing platforms, needs to be managed properly to reduce the risk that information the UTRCA shares is misused (mishandled), misunderstood, or leads to loss of data privacy and security, issues with reproducibility, and loss of trust from research participants and the public. This unpredictability can result in outcomes that negatively impact individuals and the conservation authority.

4.2.6 Information Technology, Cyber Security, and Artificial Intelligence

Information technology (IT) is the use of any computers, storage, networking, and other physical devices, infrastructure, and processes to create, process, store, secure, and exchange all forms of electronic data. IT encompasses both computer technology and telecommunications. There are many ways cybercriminals can exploit networked computers and other devices to spread malicious software, disrupt computer systems or software, and steal data. These online attacks can have real, and sometimes devastating, impacts. Cyberattacks can cost the conservation authority money and time, threaten our reputation and privacy, and disrupt our business for years after the initial event.

The rapid rate at which technology is evolving creates a unique issue for monitoring equipment and telecommunication technology that is used for surface water stations and dams. The rate at which emerging technology becomes outdated is faster than ever before. For example, the unprecedented growth and increasing sophistication of artificial intelligence technologies means the security risks associated with their use and the potential for misuse also increase.

4.2.7 Reputational Risk

Reputational risk is a hidden threat or danger to the good name or standing of the conservation authority. It can be the result of the actions of the conservation authority, the actions of an employee or employees, or through peripheral parties, such as partners. In an increasingly globalized environment, reputational risk can arise even in a peripheral region far away from the Upper Thames watershed. Often the risk results in outcomes that are not easily measured but adversely affect a company's profitability and valuation. All the risks identified in Section 5 can damage the reputation of the conservation authority if not addressed.

5.0 Future Opportunities and Initiatives

Opportunities can materialize at any time for new environmental initiatives that the UTRCA could undertake to benefit the watershed and its municipalities. These potential programs, services, and projects could be in any of the UTRCA's program areas and in any of the categories permitted under the CA Act: mandatory, municipal, or other (Category 1, 2 or 3, respectively).

Staff have identified many gaps in current programs and services that could be addressed, if the opportunity arises and funding is available. These future opportunities would update existing studies or mapping, help address current and emerging issues, and/or assist with delivery of mandatory programs and services. Prioritizing these potential initiatives will enable the UTRCA to respond effectively to any future opportunities.

6.0 Consultation, Implementation, and Review

6.1 Consultation

The UTRCA is developing the Watershed Strategy with input from UTRCA staff, municipalities, interest holders, and the public. Outreach efforts will focus on understanding and prioritizing the challenges, issues, and risks in the watershed. This outreach includes:

- Notifying watershed municipalities, Indigenous communities, and interest groups advising of in person and online engagement opportunities,
- Presenting the draft Watershed Strategy to municipal partners and Indigenous peoples for feedback,
- Using a public engagement website to generate effective community input,
- Using social media and traditional news media to highlight the strategy and encourage feedback.

6.2 Implementation

Information gathered through the consultation efforts will be used to develop a Watershed Strategy Implementation Plan. The plan will include:

1. List of challenges, issues, and risks that limit the effectiveness of the mandatory programs and services,
2. Identification of gaps in programs and services needed to address the issues and mitigate the high priority risks,
3. Determination of whether the programs and services comply with the regulations made under clause 40 (1) (b) of the CA Act,
4. Cost estimate and high level work plan for the implementation of those actions, if the opportunity arises and funding is available.

6.3 Review

The Watershed Strategy should be reviewed every four years to allow the UTRCA to adapt its programs and priorities to consider evolving political and socio-economic matters and address emerging environmental issues. It will also give an opportunity for every Board of Directors, which is in place for four years, to review, update, and approve the Watershed-based Resource Management Strategy. This schedule also coincides with the term of provincial elections, which must be held at least every four years. An ongoing review of the Watershed Strategy by staff will facilitate the four-year review cycle.

Public engagement will occur during the periodic reviews, in a manner that aligns with the degree of revisions and meets any regulatory requirements.