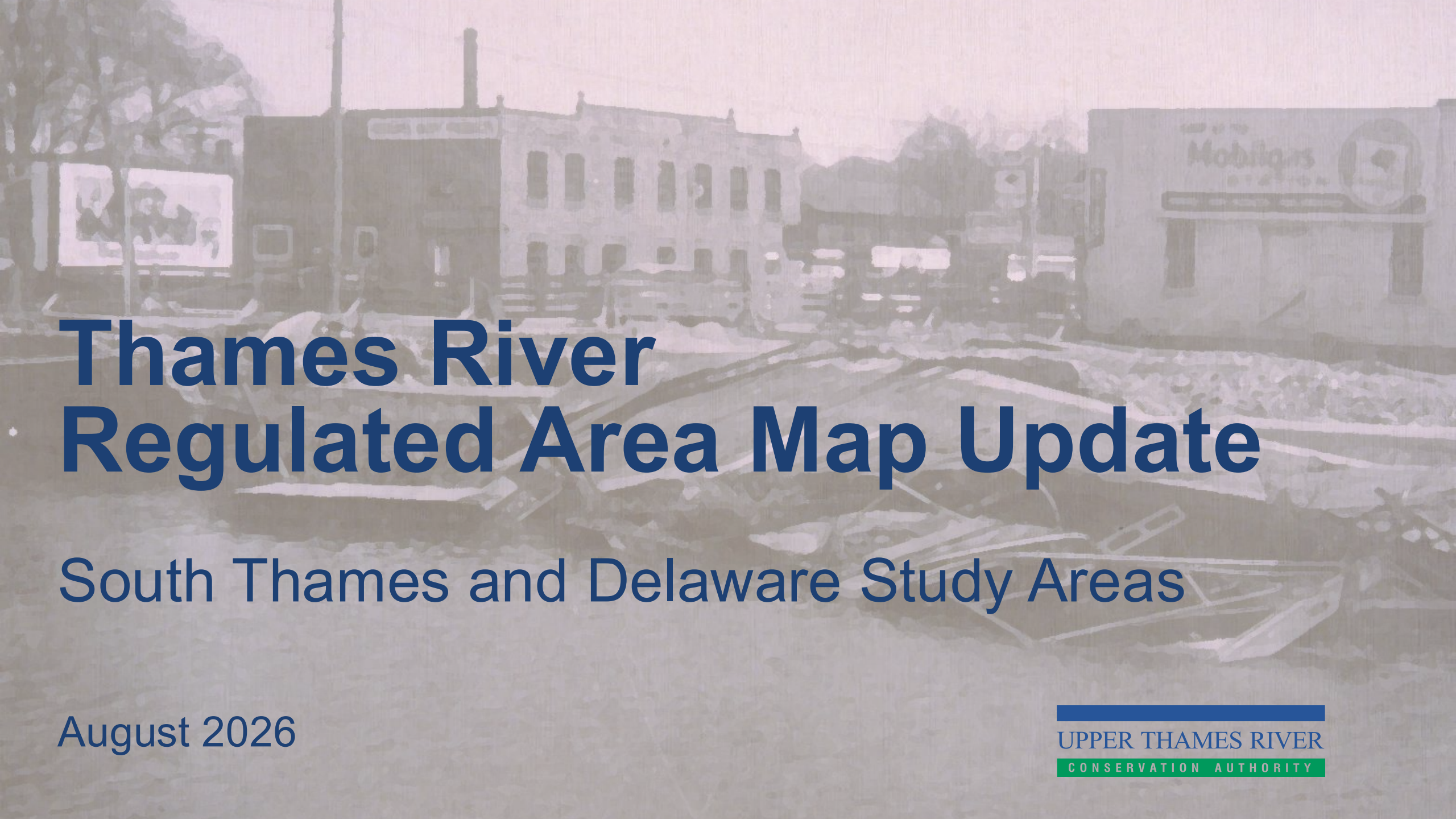


A faded, sepia-toned photograph of a flooded street. In the background, there are several buildings, including a two-story brick building and a Mobilgas station on the right. The foreground is dominated by a large, dark, irregular shape representing floodwater that has inundated the street and surrounding areas.

Thames River Regulated Area Map Update

South Thames and Delaware Study Areas

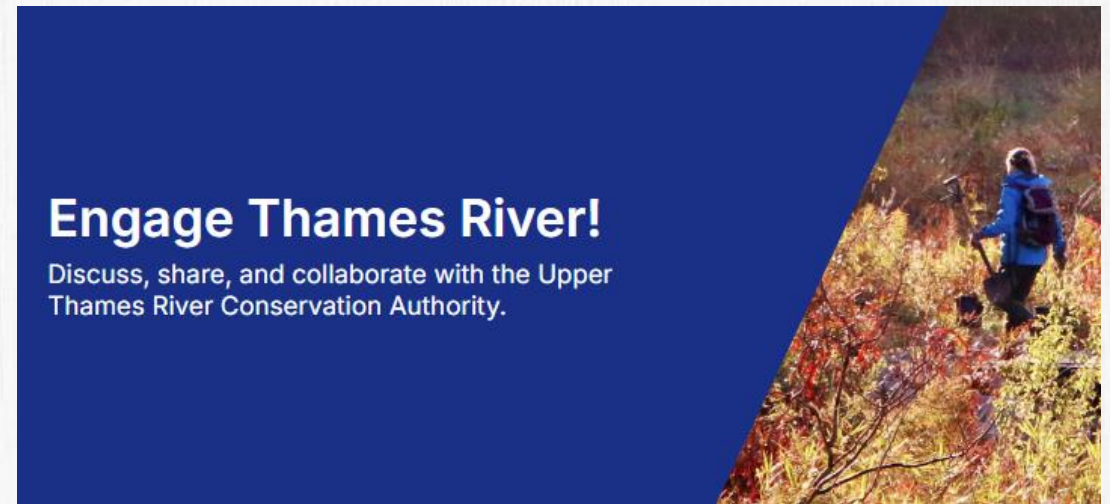
August 2026

UPPER THAMES RIVER
CONSERVATION AUTHORITY

Thames River Regulated Area Map Update

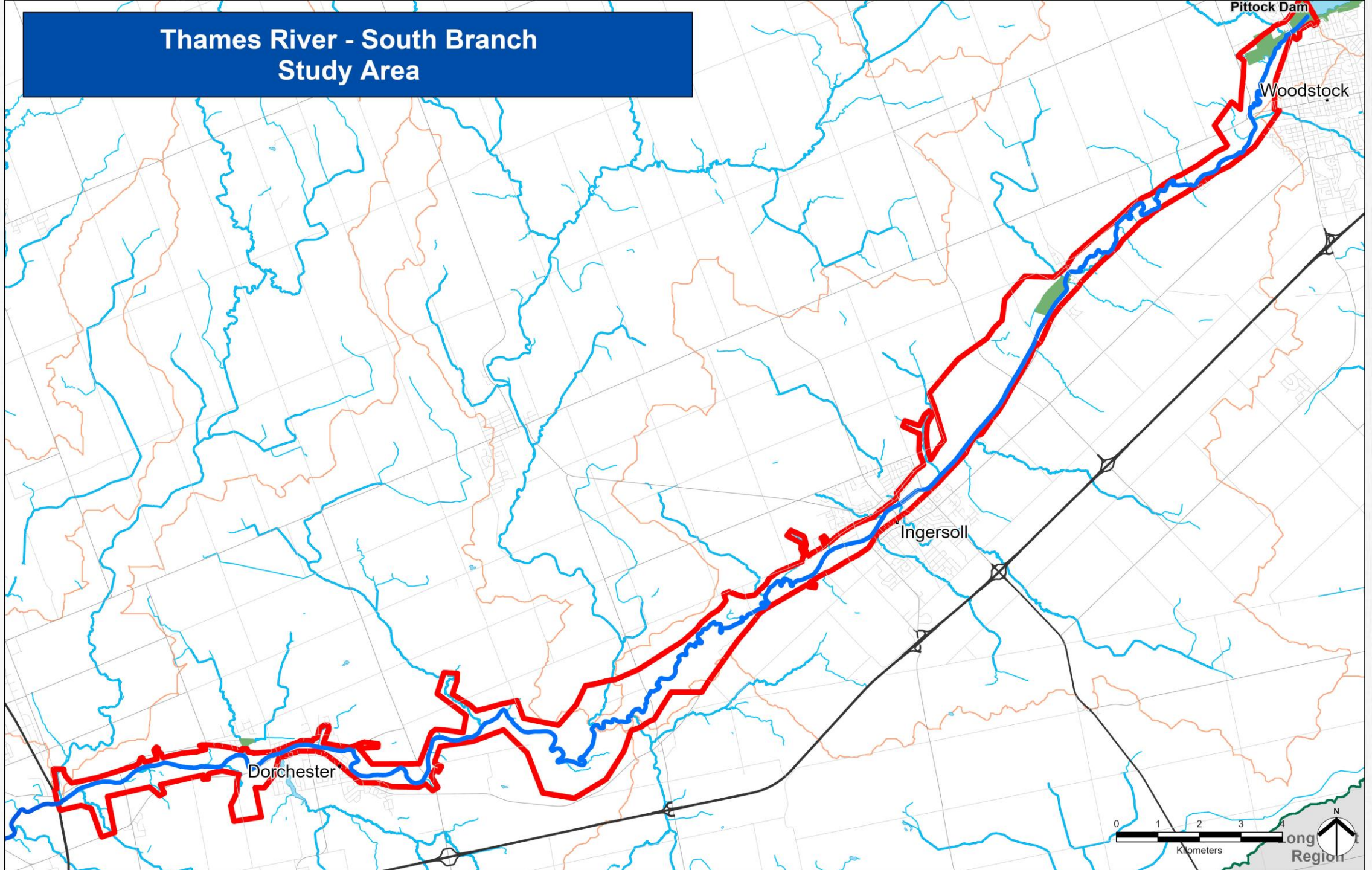
South Thames and Delaware Study Areas

- Presentation available on Engage Thames River for the duration of the engagement period.
- Presentation will be presented at in-person public information meetings.
- A PDF of the presentation is available if you wish to print a copy or view without narration.

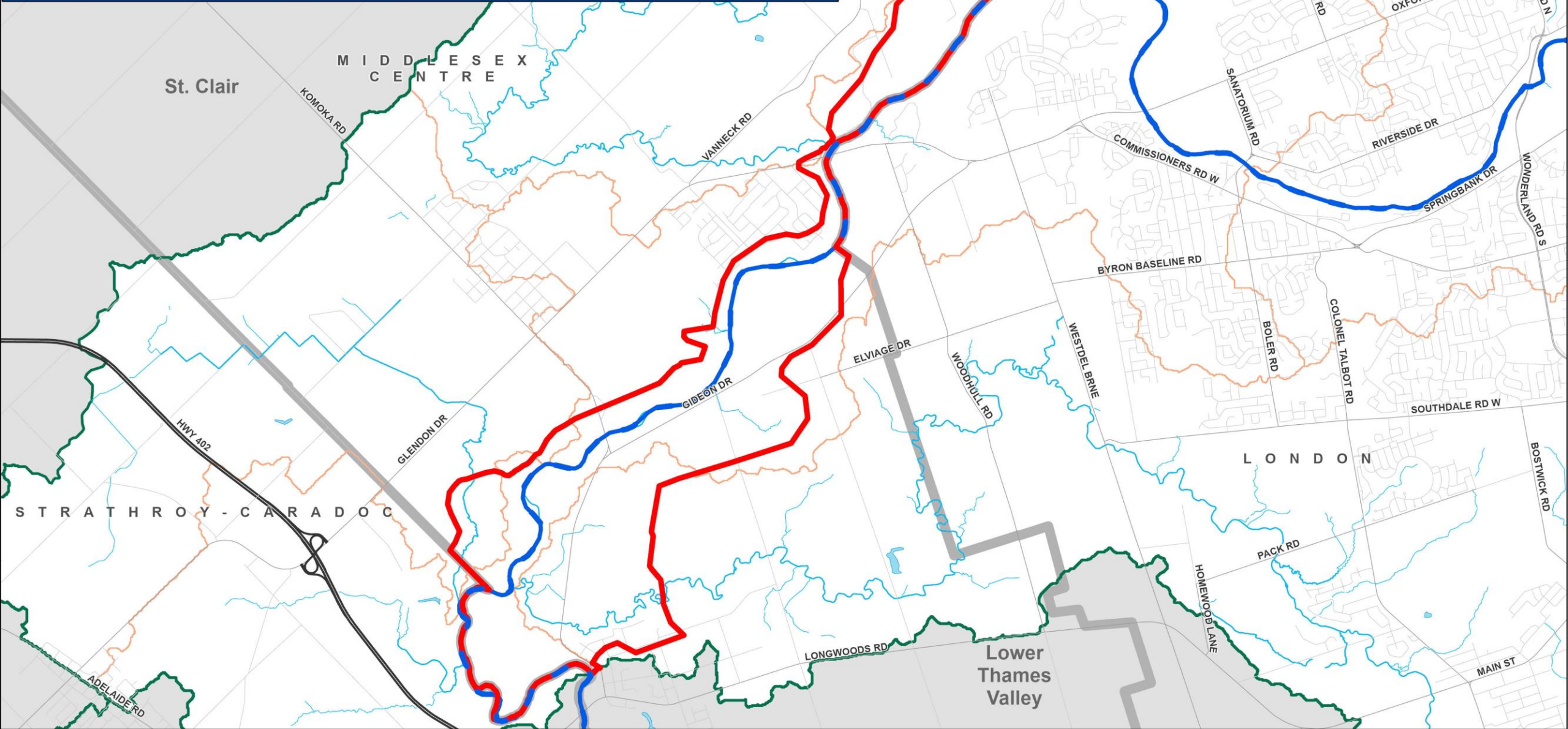


<https://engage.thamesriver.on.ca>

Thames River - South Branch Study Area



Thames River - Delaware Study Area



Agenda

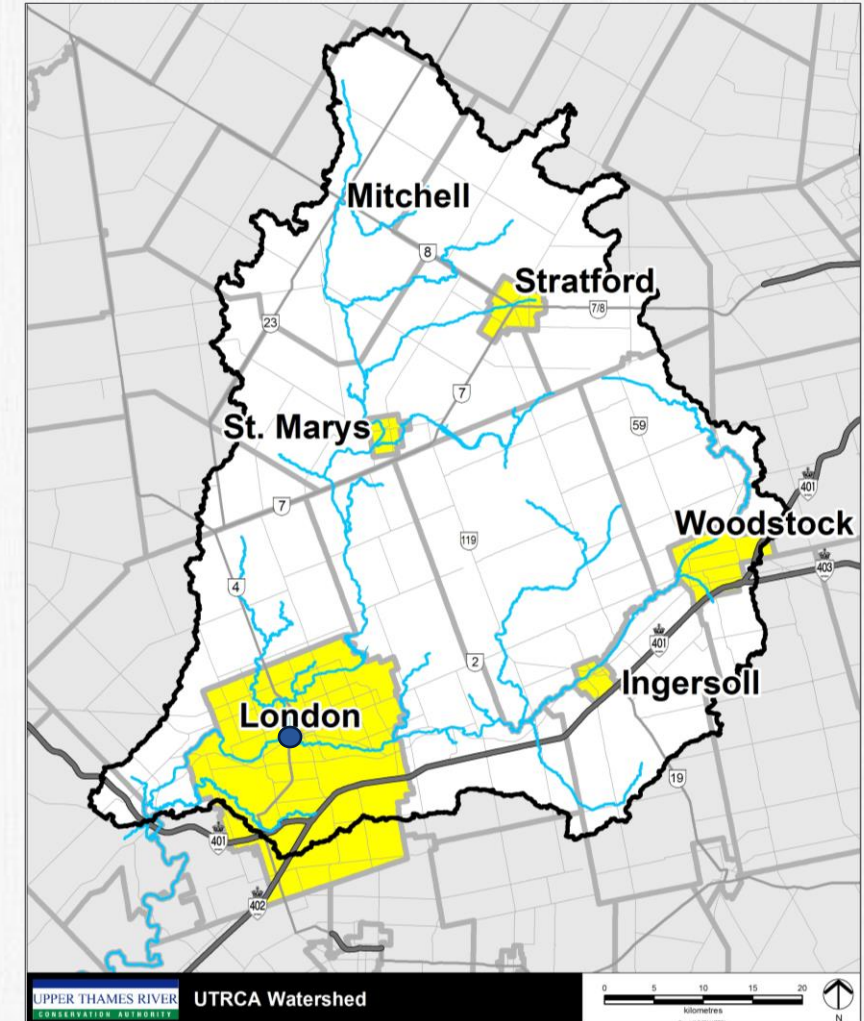
1. Background on Conservation Authority Regulations and Maps
2. Regulated Area Map Update
3. Flood Hazard Update
4. River or Stream Valley Update
5. Next Steps
6. Frequently Asked Questions



Inspiring a Healthy Environment

Upper Thames River Watershed

- Watershed covers 3,421 square km.
- Three branches of the Thames River begin in Perth and Oxford Counties and join at the Forks of the Thames in London.
- Mix of urban and rural land uses.
- Experiencing some of the highest population growth rates in Canada.



Ontario's *Conservation Authorities Act*

- *Conservation Authorities Act* passed in 1946.
- After Hurricane Hazel (1954), the Act was amended (1956) to include development regulations in hazardous areas.
- Development regulations have remained in place since 1956.
- Ontario Regulation 41/24 is the most recent development regulation and applies to all conservation authorities.



Hurricane Hazel, Toronto, 1954



Ontario Regulation 41/24

- Conservation authorities regulate development in or near natural hazards and features, such as river and stream valleys, floodplains, and wetlands.
- The UTRCA works to:
 - Protect life and property from the risks associated with natural hazard processes,
 - Ensure that no new hazards are created by development and site alteration, and
 - Ensure that existing hazards are not worsened.



Regulated Areas

Regulated areas are described in the text of Ontario Regulation 41/24 and include:

- Watercourses,
- Wetlands,
- Hazardous lands,
- River or stream valleys,
- Areas that are adjacent or close to the shoreline of the Great Lakes or to an inland lake,
- Lands adjacent to these features.



Regulated Activities

- The *Conservation Authorities Act* and Ontario Regulation 41/24 outline what development activities are regulated.
- A list of regulated development activities can be found on the UTRCA website.
- A conservation authority permit may be required for any of the listed activities in a regulated area.
- Pre-consultation with the UTRCA is encouraged before any work begins.



<https://thamesriver.on.ca/>



Regulated Area Maps

Conservation authorities are required to prepare maps that illustrate areas where the Regulation may apply.

Ontario Regulation 41/24 mandates that:

- Maps are available online and at the head office of a conservation authority.
- Maps are to be reviewed annually to determine if updates are required.
- If significant map updates are available, conservation authorities are to provide a 30-day notification period before updates are approved by the Board of Directors.
- Once approved, the updates will be promptly incorporated into the publicly available Regulated Area Map.

Maps of regulated areas

4. (1) An authority shall develop maps depicting the areas within the authority's area of jurisdiction where development activities are prohibited under paragraph 2 of subsection 28 (1) of the Act which shall be filed at the head office of the authority and made available to the public on the authority's website, and by any other means that the authority considers advisable.

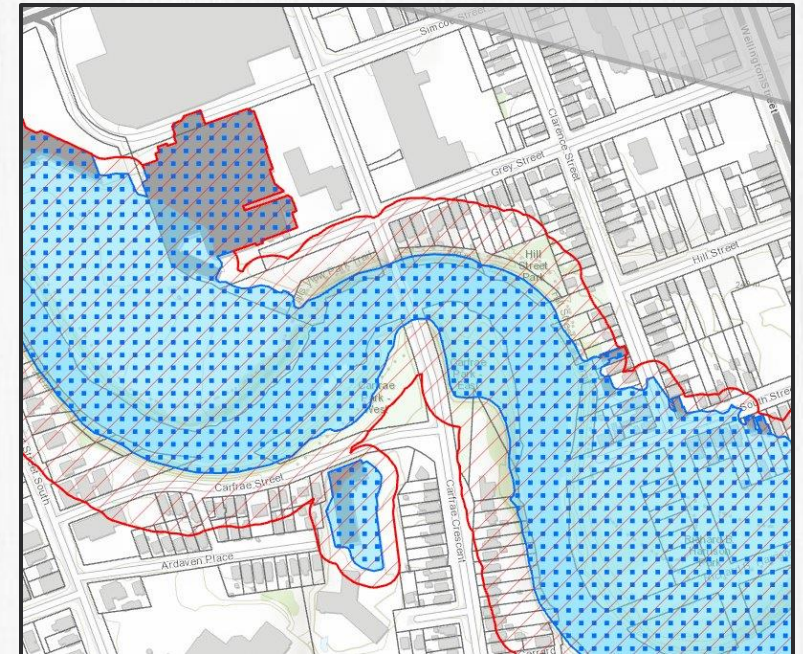
(2) At least once annually, the authority shall,

- (a) review the maps referred to in subsection (1) and determine if updates to the maps are required;
- (b) make and file such updates to the maps at its head office if required; and
- (c) make the updated maps available to the public on its website and by any other means it considers advisable.

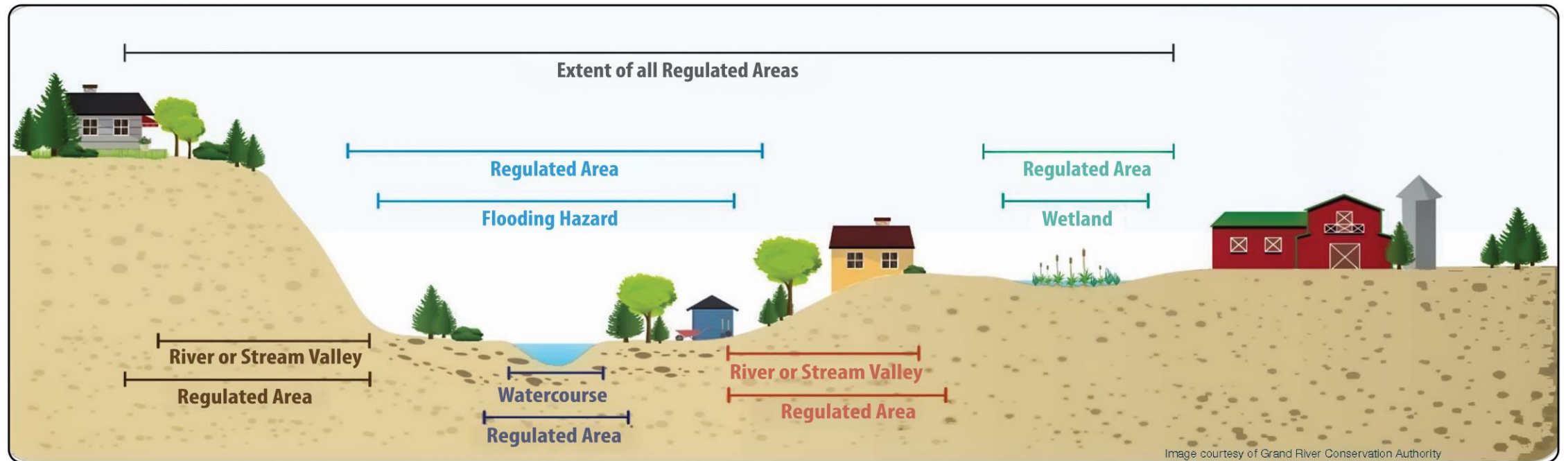
(3) Where new information or analysis becomes available that may result in significant updates to the areas where development activities are prohibited under paragraph 2 of subsection 28(1) of the Act, including enlargements or reductions to such areas, the authority shall ensure that stakeholders, municipalities and the public are notified of the proposed changes in any manner that the authority considers advisable, including making any relevant information or studies available online at least 30 days prior to an authority meeting during which the proposed changes are on the agenda.

(4) Where significant changes to the areas where development activities are prohibited have been made in accordance with subsection (3), the authority shall promptly update the maps described in subsection (1).

(5) For greater certainty, in case of a conflict regarding the boundaries of the areas where development activities are prohibited under paragraph 2 of subsection 28 (1) of the Act, the description of those areas in that paragraph and in section 2 of this Regulation prevail over the depiction of the areas in the maps referred to in subsection (1) of this section.



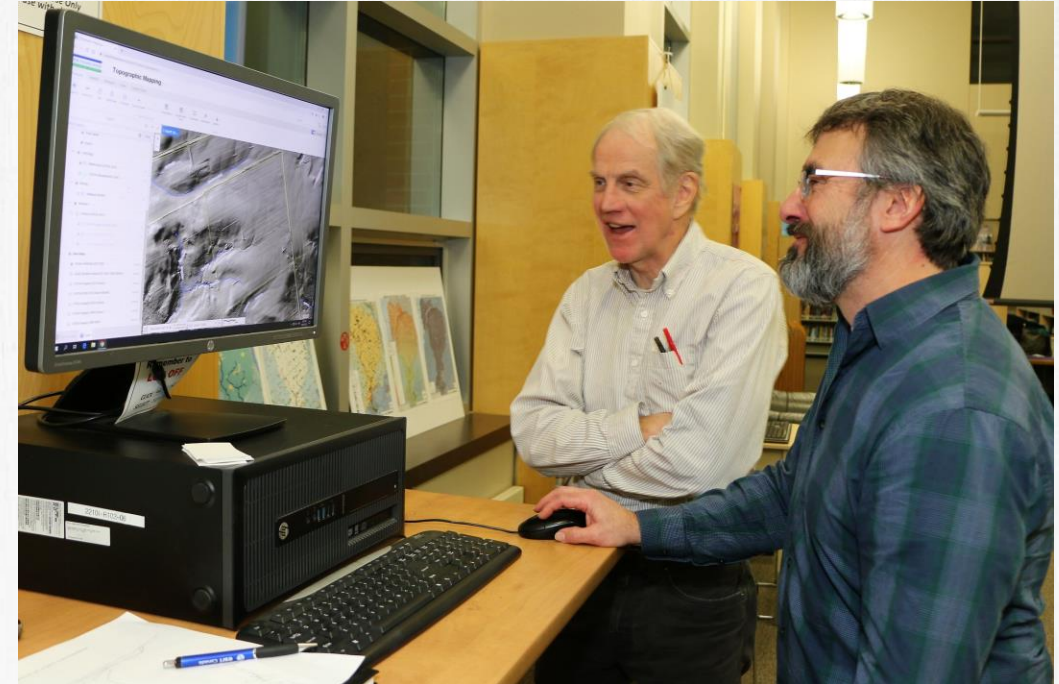
Determination of Regulated Area



The approximate regulated area shown on the map incorporates all the hazards in an area, including allowances.

How are Regulated Area Maps Used?

- UTRCA staff use maps when reviewing development applications to determine if a conservation authority permit is required.
- Municipal partners use maps to inform:
 - Development application review;
 - Official Plan or Zoning by-law schedules; and
 - Infrastructure and emergency management planning.
- Interest-holders and the public use maps to determine if a property is within a regulated area.



Regulated Area Map Update

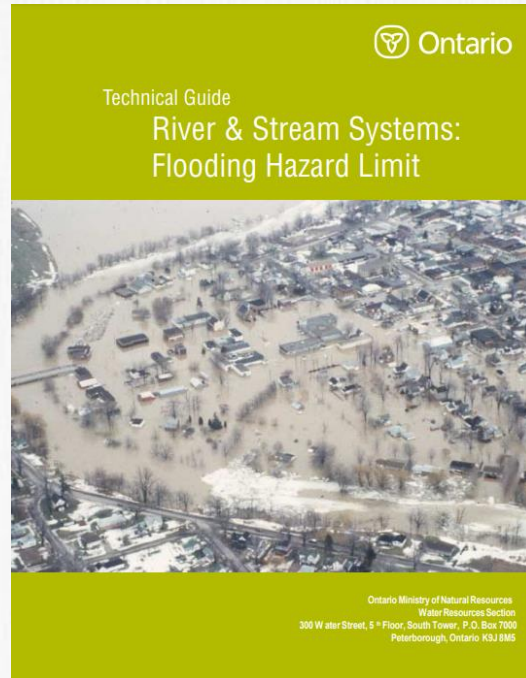
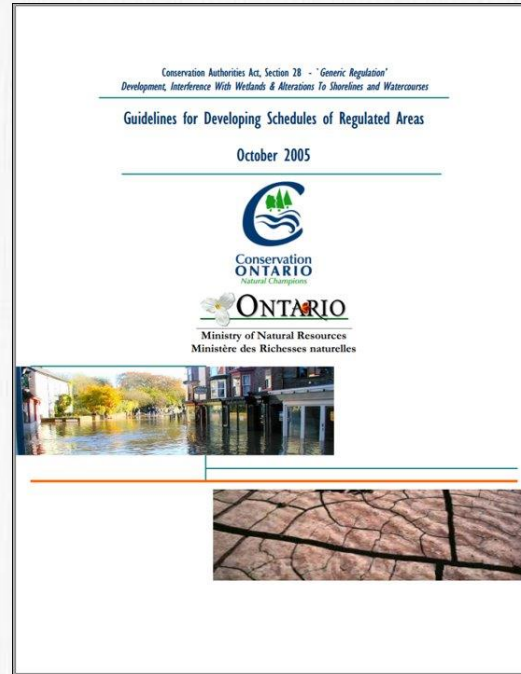
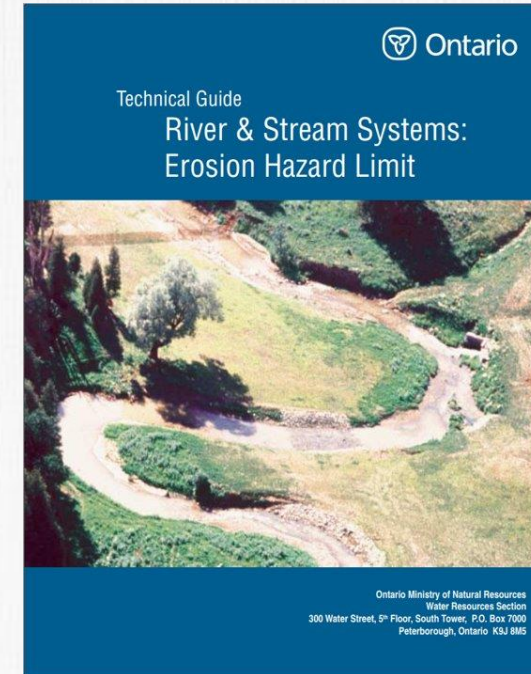
Regulated Area Map Update

The UTRCA is comprehensively reviewing and updating regulated area maps for the watershed.

- Many of the current maps were created 20-40 years ago.
- The landscape has changed over time.
- Modern technology generates more accurate mapping.
- Higher-quality data is now available including digital elevation data (LiDAR), air photos, and field surveys.



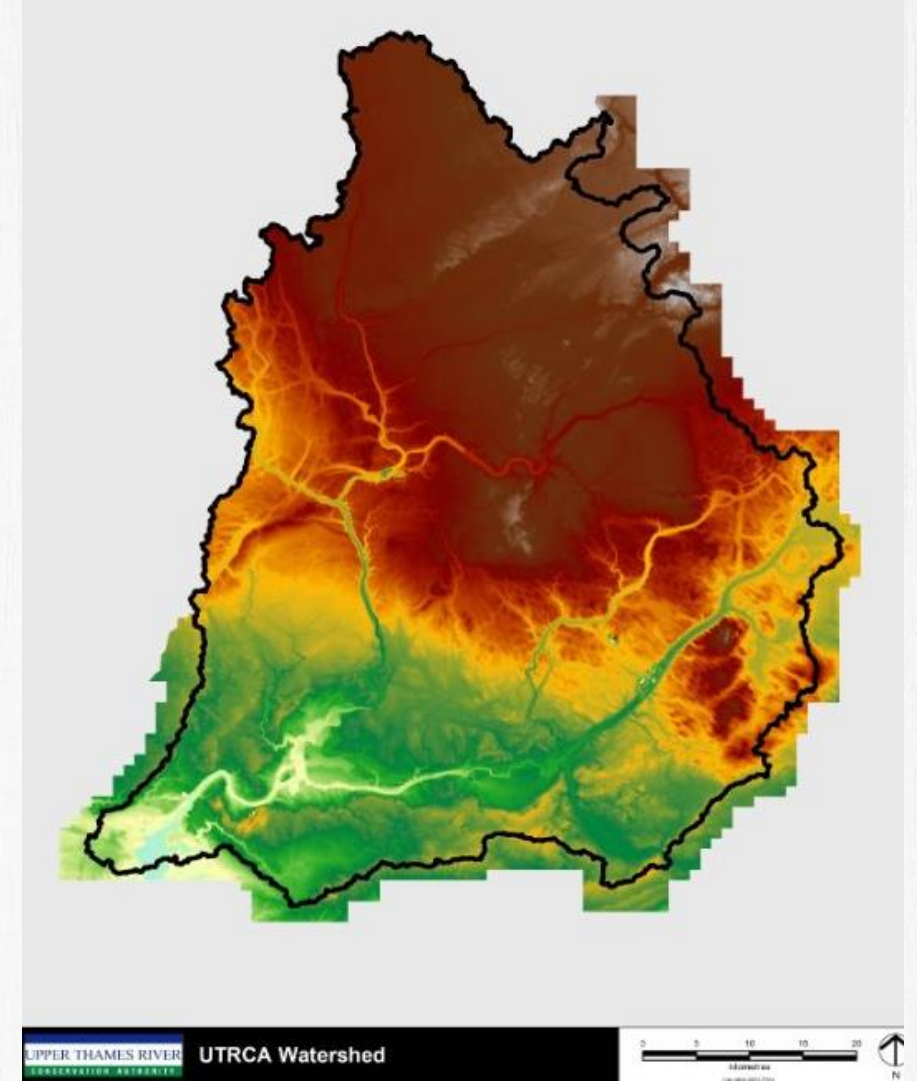
Technical Guidance



All conservation authorities consult technical guides from the Province to inform the map update process.

Updated Information

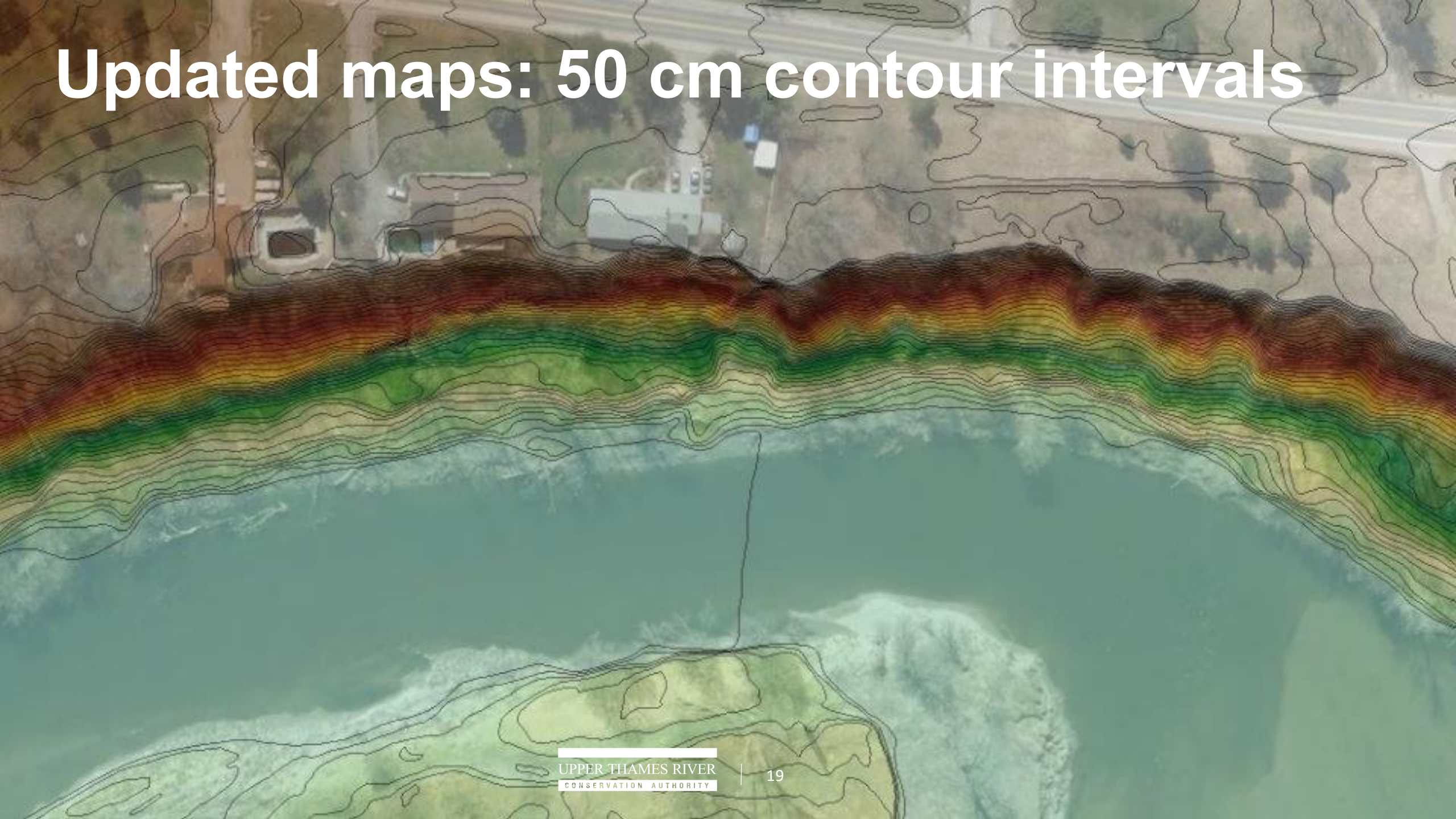
- Updates focus on two map layers:
 - Flood hazards
 - River or stream valleys
- UTRCA acquired highly detailed elevation data (LiDAR) from the Province in 2018.
- This data provided critical information for updating the flood and river or stream valley map layers.



Previous maps: 5 m contour intervals



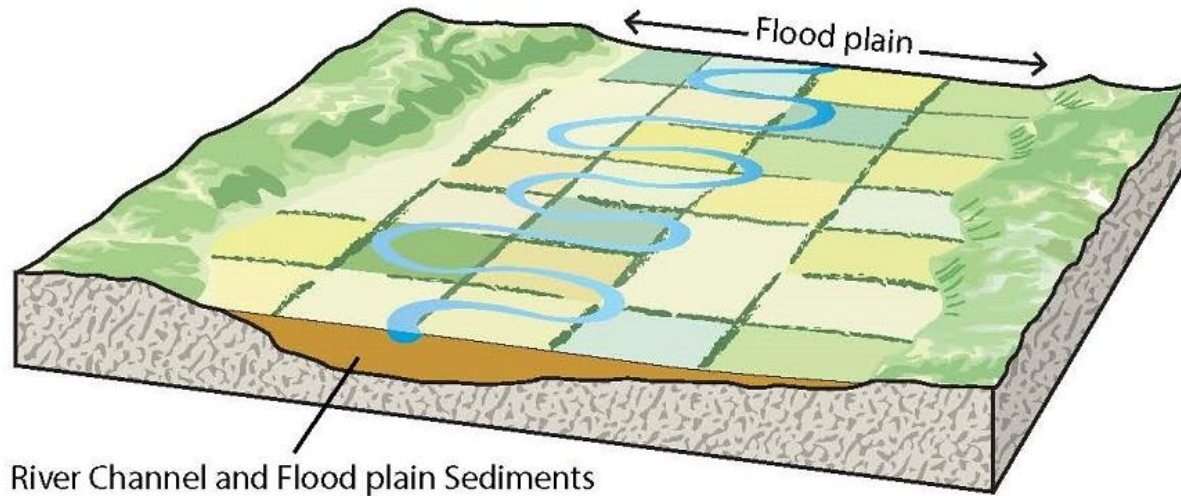
Updated maps: 50 cm contour intervals



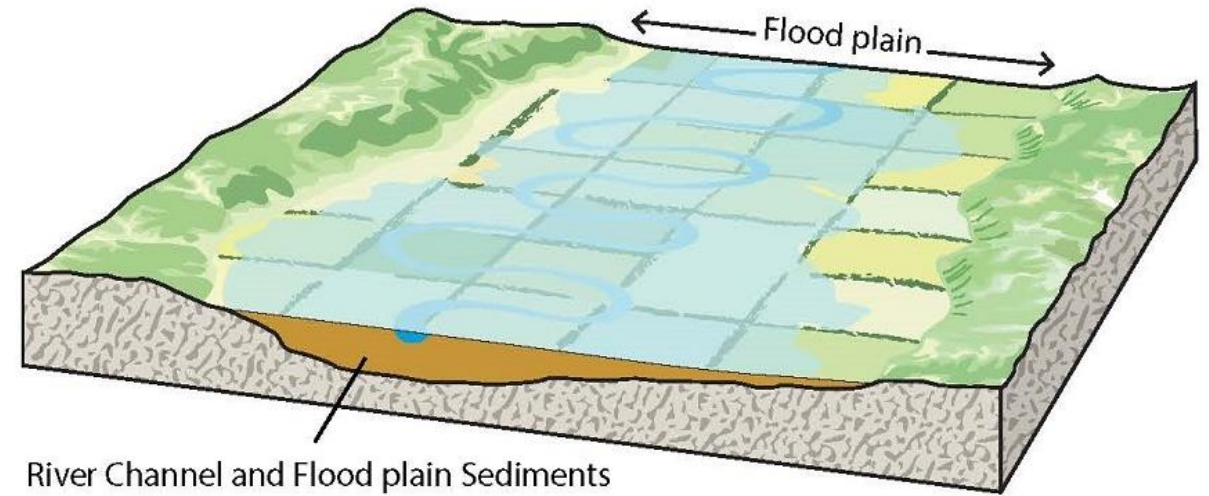
Flood Hazard Update

What is a Floodplain?

Normal Conditions



Flood Conditions



Courtesy of TRCA

A floodplain refers to the low-lying lands next to a river or stream that help to transport and store excess water during a flood event.

Flood Events



Gibbons Park, 2018



Waubuno Creek, 2024

Flood Events



Komoka, 2024



Dingman Creek, 2025

Flood Event Standard

- Based on the 1937 Thames River flood, which was equivalent to a 1:250-year flood on the South Thames River in London.
- The 1:250-year flood (0.4% annual chance) is applied consistently across the watershed to define the limits of the regulatory floodplain.
- In 1989, UTRCA and its member municipalities received approval for a flood standard reduction from Hurricane Hazel to the 1937 Flood.
- The flood standard has not changed. It was recently re-affirmed in the schedules of Ontario Regulation 41/24.

Woodstock, 1937



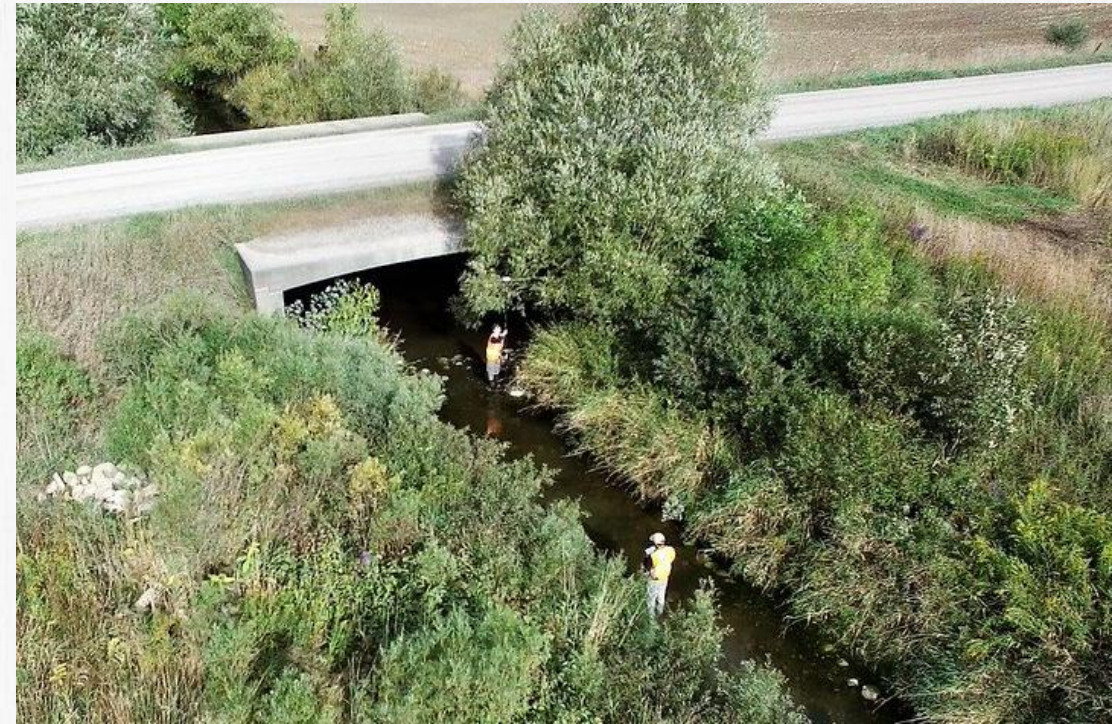
Ingersoll, 1937



Flood Hazard Update

There are two components to updating the flood hazard to map the 1:250-year flood:

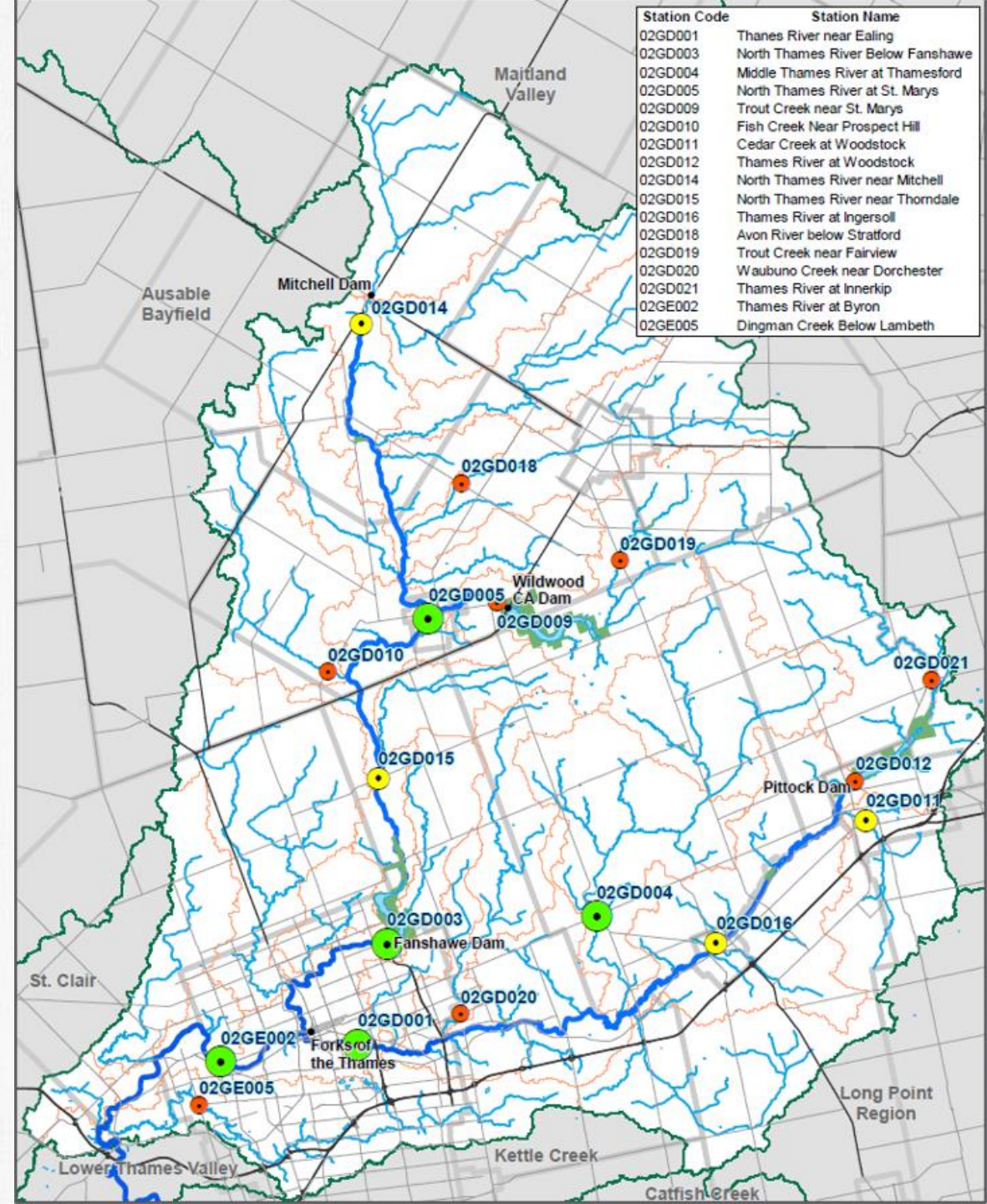
- Hydrology
 - Refers to how much water will enter a river or stream after a rain event.
 - Analysis determines flood flows.
- Hydraulics
 - Refers to how water moves through a river or stream.
 - Computer modelling determines flood elevations.



Hydrology

1:250-year flood flows were determined through statistical analysis of historical stream flow records.

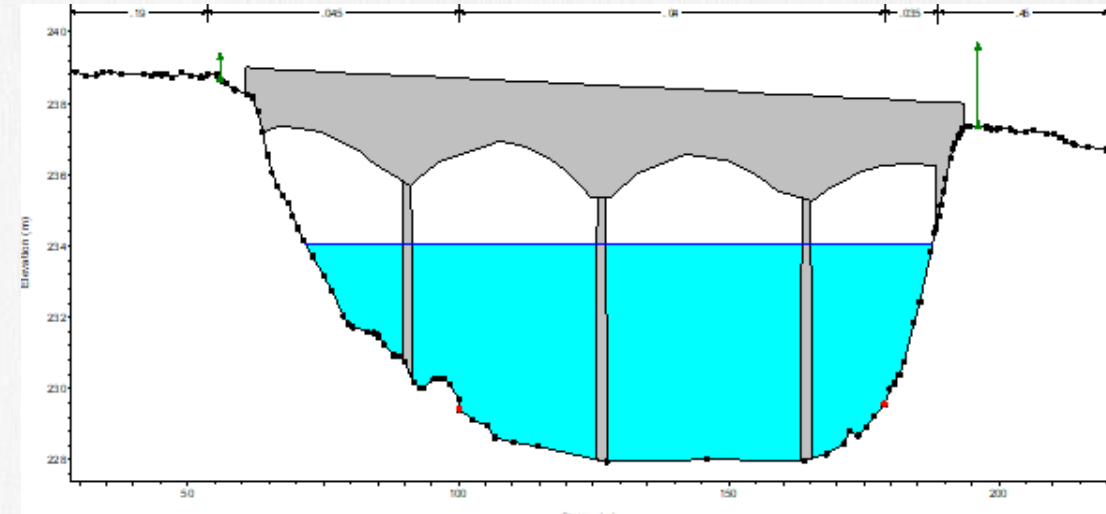
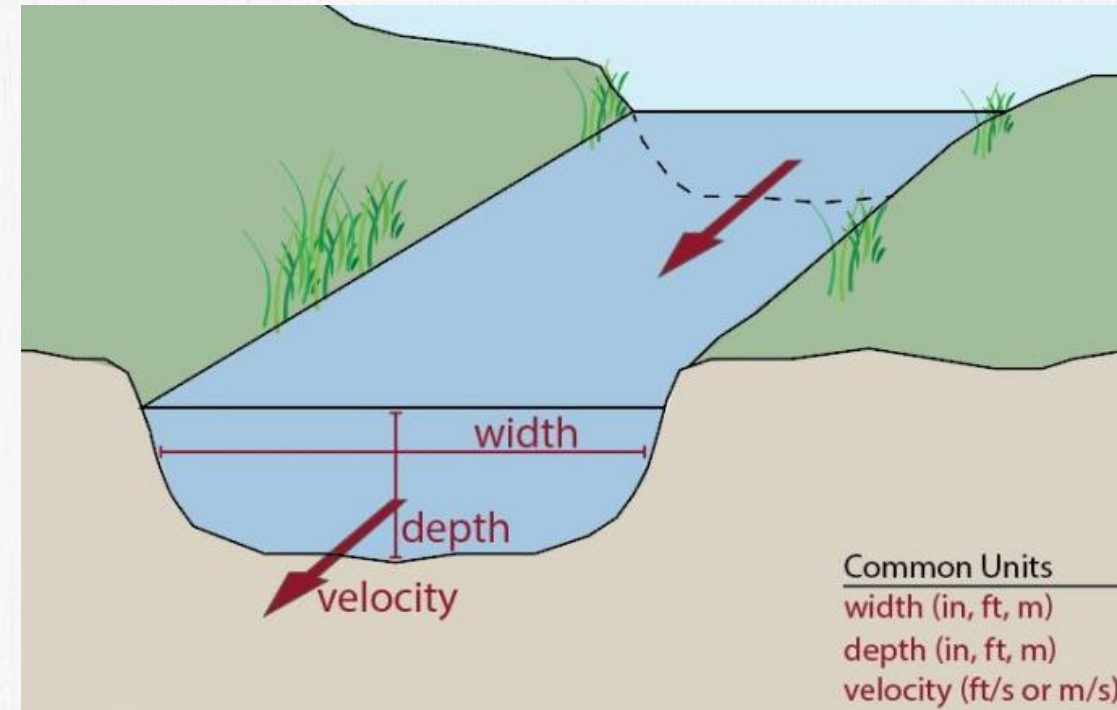
- Water Survey Canada maintains 17 stream flow gauges, many with more than 75 years of data.
- UTRCA operates 10 additional stream flow gauges.



Hydraulics

A hydraulic computer model is used to calculate flood water surface elevations based on:

- Flood flows from statistical analysis (hydrology),
- Cross section information:
 - Field survey data on bridges and culverts,
 - Survey data on river bathymetry (elevations below water surface),
 - Digital elevation data (LiDAR),
- Riverbed and floodplain characteristics.



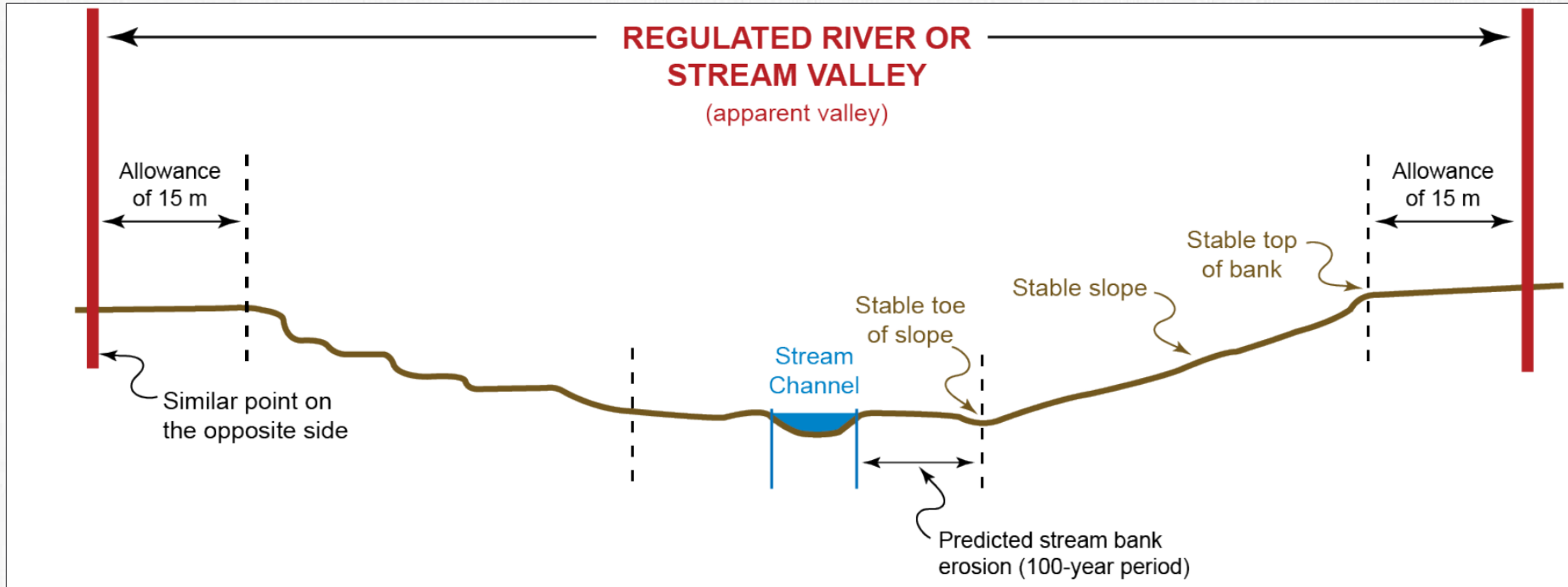
Flood Hazard Map



A flood hazard map is created by comparing the flood elevations from the hydraulic model and ground elevations from the digital elevation model.

River or Stream Valley Update

What is a River or Stream Valley?



A river or stream valley is described in Ontario Regulation 41/24 as having depressional features associated with a river or stream, whether or not it contains a watercourse. This can include valleys that have stable or unstable slopes.

River or Stream Valley Update

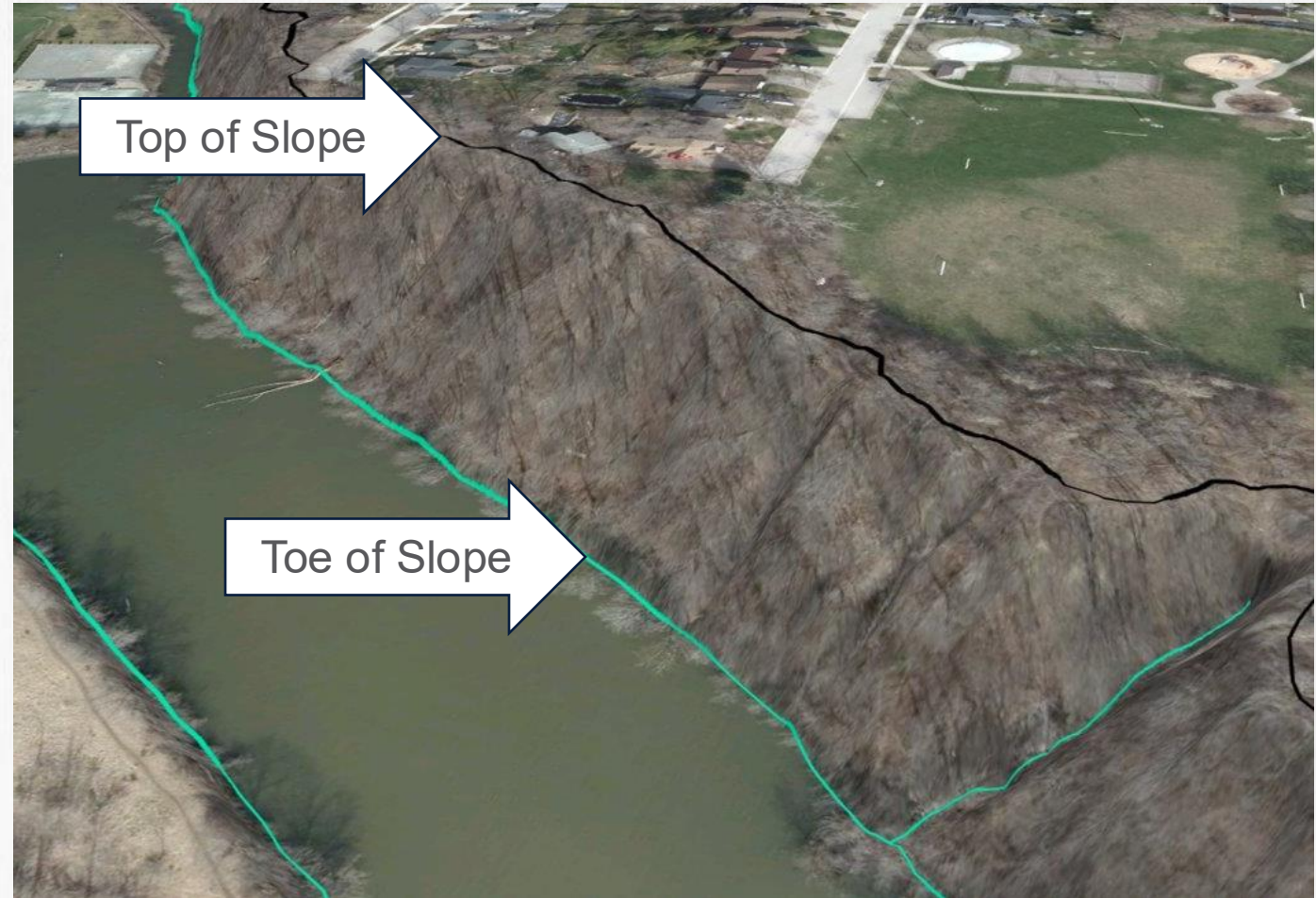
A mapping approach was developed to determine the location and extent of river or stream valleys:

- Identify valley sections greater than 3 metres high.
- Digitize top and toe of valley slopes.
- Analyze and calculate the projected stable slope.
- Map regulated river or stream valleys.

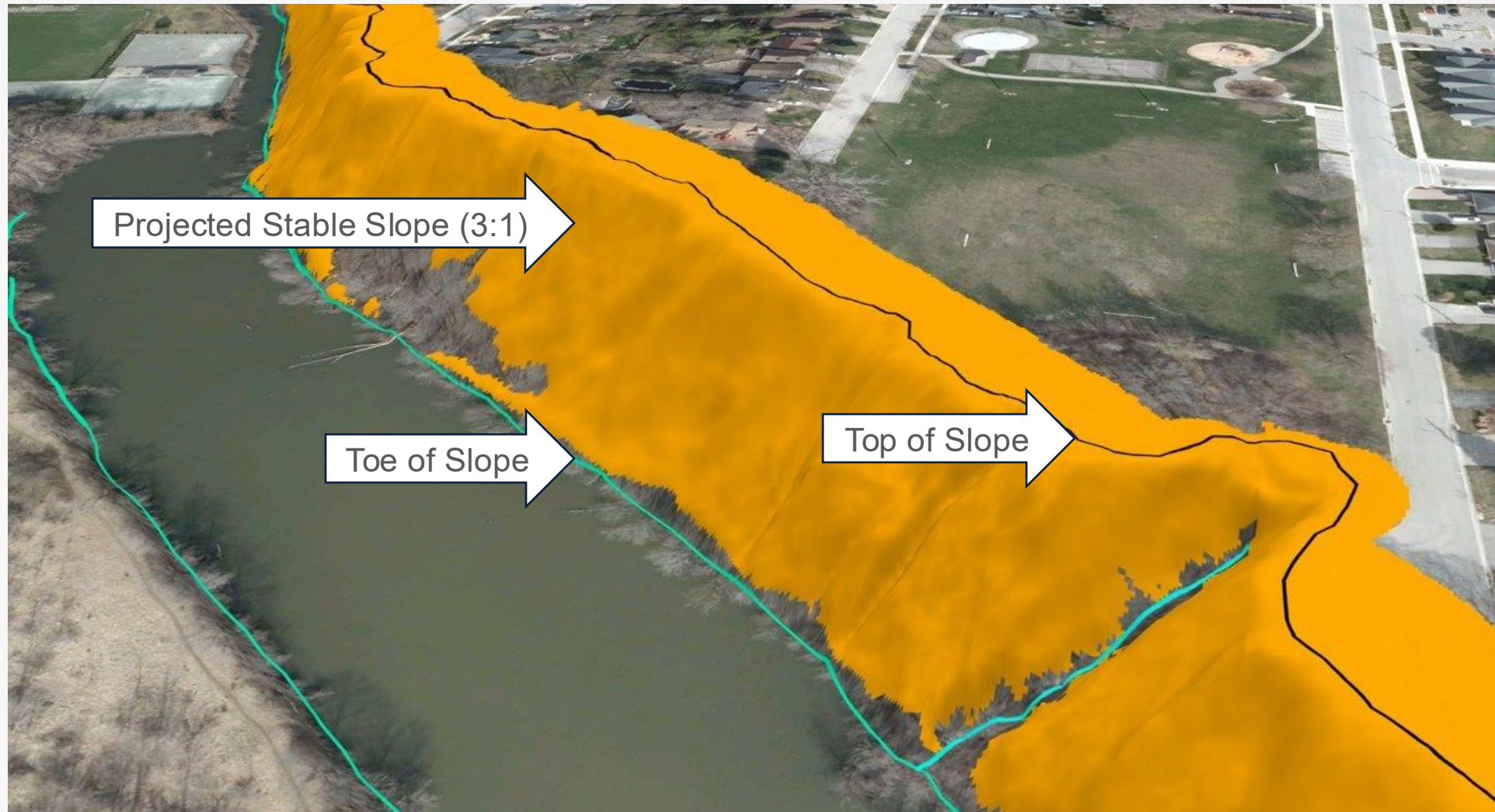


River or Stream Valley Update

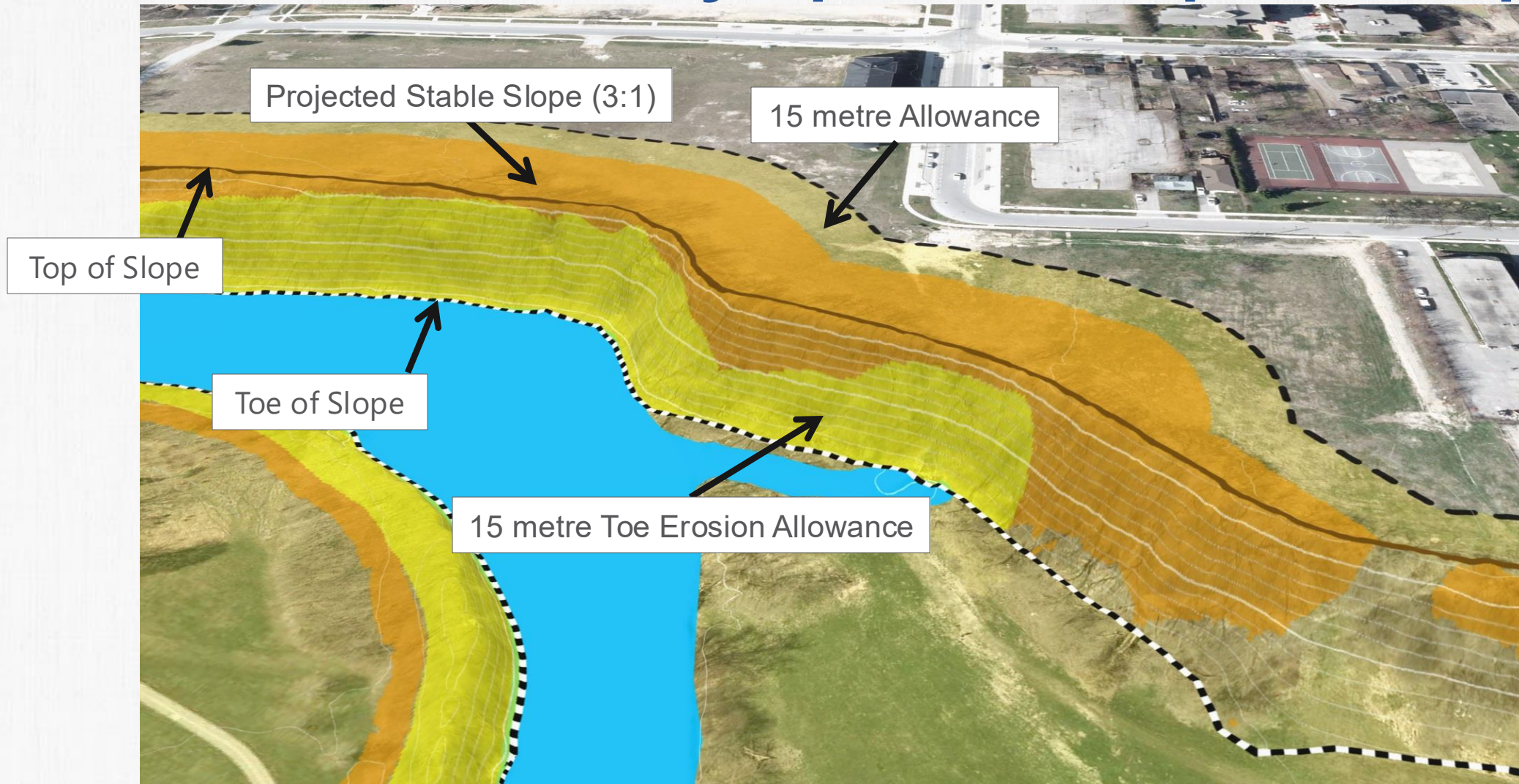
Using 3D imagery, staff manually drew (digitized) the top and toe of slopes on a map.



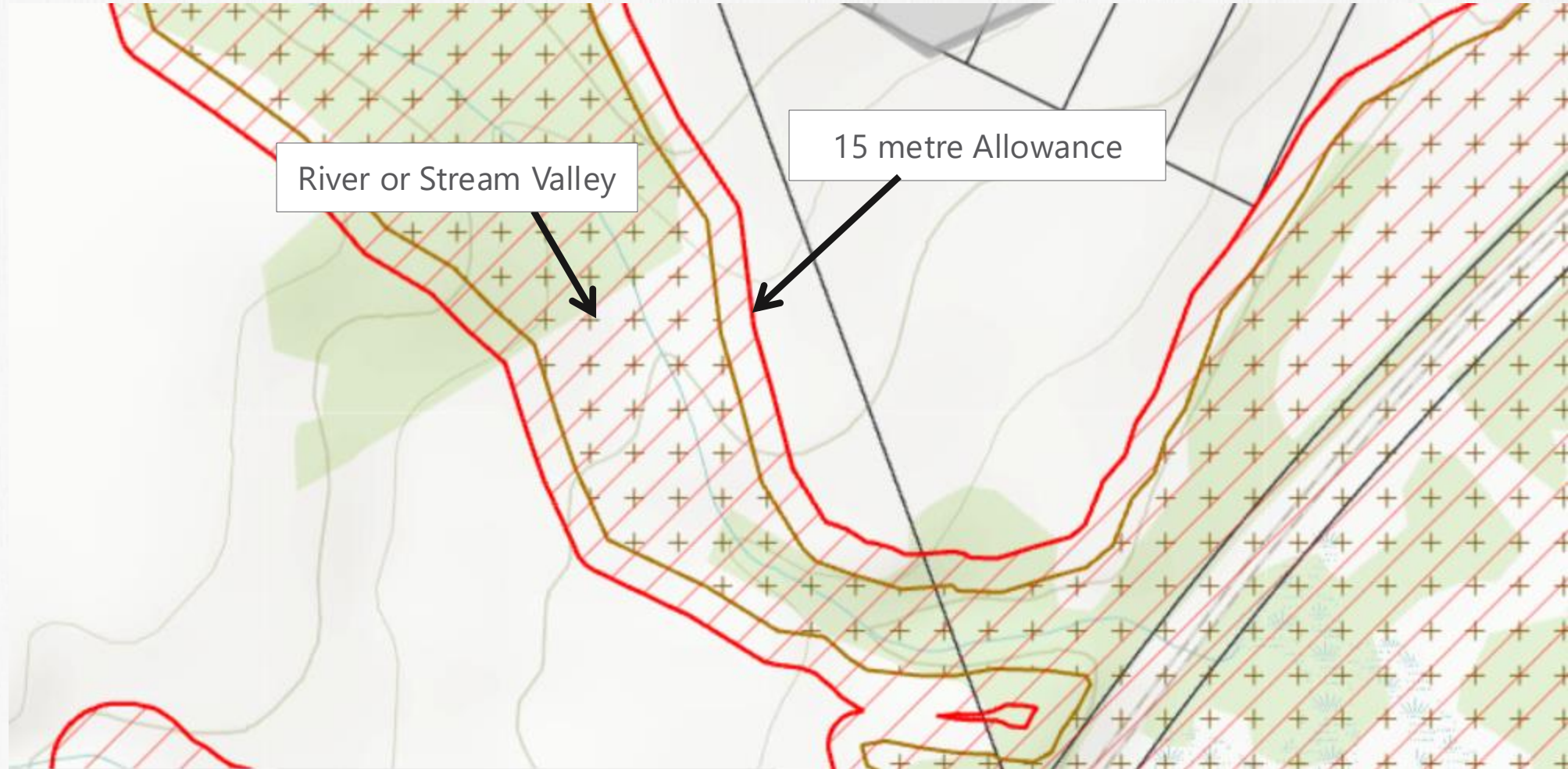
River or Stream Valley Update



River or Stream Valley Update - Output Example



River or Stream Valley Update – Map Example



Next Steps

Engagement Opportunities

Visit the UTRCA's online public engagement platform – **Engage Thames River** – for all project information and draft maps. Each study area has a project page.

<https://engage.thamesriver.on.ca>

On each project page, you will be able to:

- View the draft Regulated Area Map for the study area. The “How To” video explains the functions of the online map tool.
- Explore background information and frequently asked questions.
- Submit feedback through the form at the bottom of the page.
- Click the "Follow" button at the top of the page to receive project updates.

Public Information Meetings

Delaware Study Area

Date: August 25th, 2026

Location: Komoka Community Centre,
133 Queen Street, Komoka

Doors Open: 6:00 pm

Presentation: 6:15 pm

Question and Answer Period:
Following the presentation

Discussion with UTRCA Staff:
Available after the question and
answer period

Event Ends: 8:00 pm

South Thames Study Area

Date: August 27th, 2026

Location: Lions Community Hall, Flight
Exec Centre, 2066 Dorchester Road,
Dorchester

Doors Open: 6:00 pm

Presentation: 6:15 pm

Question and Answer Period:
Following the presentation

Discussion with UTRCA Staff:
Available after the question and
answer period

Event Ends: 8:00 pm

Engagement Opportunities

- The public engagement period runs from August 4 to October 2, 2026. UTRCA will review all feedback received.
- The final map will be presented to the UTRCA Board of Directors on October 6, 2026, for approval.
- Within 30 days of Board approval, the updated map information will be incorporated into the public Regulated Area Map available at <https://maps.thamesriver.on.ca/>.



Online Interactive Mapping

Please select a mapping viewer below:

UTRCA Regulated Areas

Description	More Info	Map Viewer	Download
Regulated Area Map (Updated June 30, 2026)	More Info	Open	Get Data

Source Protection Planning

Description	More Info	Map Viewer	Download
Thames-Sydenham and Region Source Protection Region Requirements under the <i>Clean Water Act</i>	More Info	Open	Get Data

Frequently Asked Questions



Can the Regulated Area Change?

- Map changes are to be expected over time.
- Revisions are warranted when new information is obtained such as:
 - Land use changes,
 - Bridge or culvert upgrades,
 - New aerial photography,
 - Improved elevation data.
- New information may result in additional regulated areas being identified or previously identified areas being modified or removed.

What Does the Map Update Mean for Me?

- The UTRCA is notifying landowners in the study area that a map update is occurring, and the regulated area may be changing.
- It is important for a landowner to know if their property is regulated and understand why it is regulated.
- Landowners should review their property on the draft regulated area map.
- Contact the UTRCA with any questions regarding the update.





What if My Property Is Regulated?

- The property may:
 - be susceptible to natural hazards such as flooding or erosion,
 - contain a natural feature like a wetland, and/or
 - fall within a regulated area allowance.
- A Conservation Authority permit may be required from the UTRCA prior to undertaking any on-site works within the regulated area.
- Site-specific information may be needed to confirm the proposed development will not affect existing hazards or create a new hazard.

Will this Affect my Property Value or Insurance?

- Regulated area maps help protect homeowners by guiding safe development decisions and reducing risk.
- Homeowners can contact the UTRCA for information about conservation authority regulations on their property.
- Property value and insurance premium decisions are made by external professionals, not conservation authorities.
- Homeowners with questions are encouraged to contact their insurance provider or a qualified real estate professional.





Did UTRCA Consider Pre-existing Homes?

- All properties are treated equally according to provincial technical guidelines.
- Many homes and businesses were constructed before an area was regulated under the *Conservation Authorities Act*.
- Different policy approaches are used for new versus existing development to ensure the risk to people and property is not increased.

We Are Here To Help!

UTRCA staff can help:

- Navigate Regulated Area Maps,
- Determine if your property is affected by Ontario Regulation 41/24,
- Understand your proposed project,
- Determine if a conservation authority permit is required,
- Work through the conservation authority permit process.



Thank you!

Contact Information



Phone: 519-451-2800 x 315

Email: mapupdates@thamesriver.ca

Engage Thames River: <https://engage.thamesriver.on.ca/>

This project is funded [in part] by the Government of Canada



This project was made possible in part by the Province of Ontario

