

DOES ALL FLOODING COME FROM A RIVER?

Flooding is a shared responsibility between different agencies and individuals.

Riverine flooding occurs when rivers and streams overflow into surrounding areas. Conservation Authorities, like Toronto and Region Conservation Authority (TRCA), work to reduce riverine flood risks.

Urban flooding is street and basement flooding and flooding of other low-lying areas due to the overflow of local drainage systems. These infrastructure systems are municipal assets.

TRCA has mapped the area of risk for riverine flooding which is called the floodplain. Within the floodplain, there are some areas that were developed before land-use planning practices kept people away from the risks. These areas, where there are many buildings inside the floodplain, are called Flood Vulnerable Clusters, or FVCs. These FVCs include Special Policy Areas (SPAs), as well as historical flood damage centres.



FLOODING CAN HAPPEN AT ANY TIME OF YEAR



Summer

Thunderstorms – With a large amount of rain in a short period of time, intense, localized downpours from thunderstorms can produce flash flooding.

Fall

Seasonal weather systems – Large wet weather systems, such as tropical storms and hurricane remnants, can last several days. Prolonged and heavy precipitation on top of already saturated soils can cause rivers to rise.

Winter

Ice jams – When temperatures and/or water levels rise, river ice breaks into large chunks. These chunks can become jammed at bridges or other obstructions. Rivers can become backed up and can overflow their banks.

Spring

Spring freshet – Accumulation of snow during the winter season can lead to flooding during the early spring if conditions are right. When temperatures rise, snow melts and turns to runoff.

UNDERSTANDING FLOOD RISK IN THE DIXIE-DUNDAS AREA

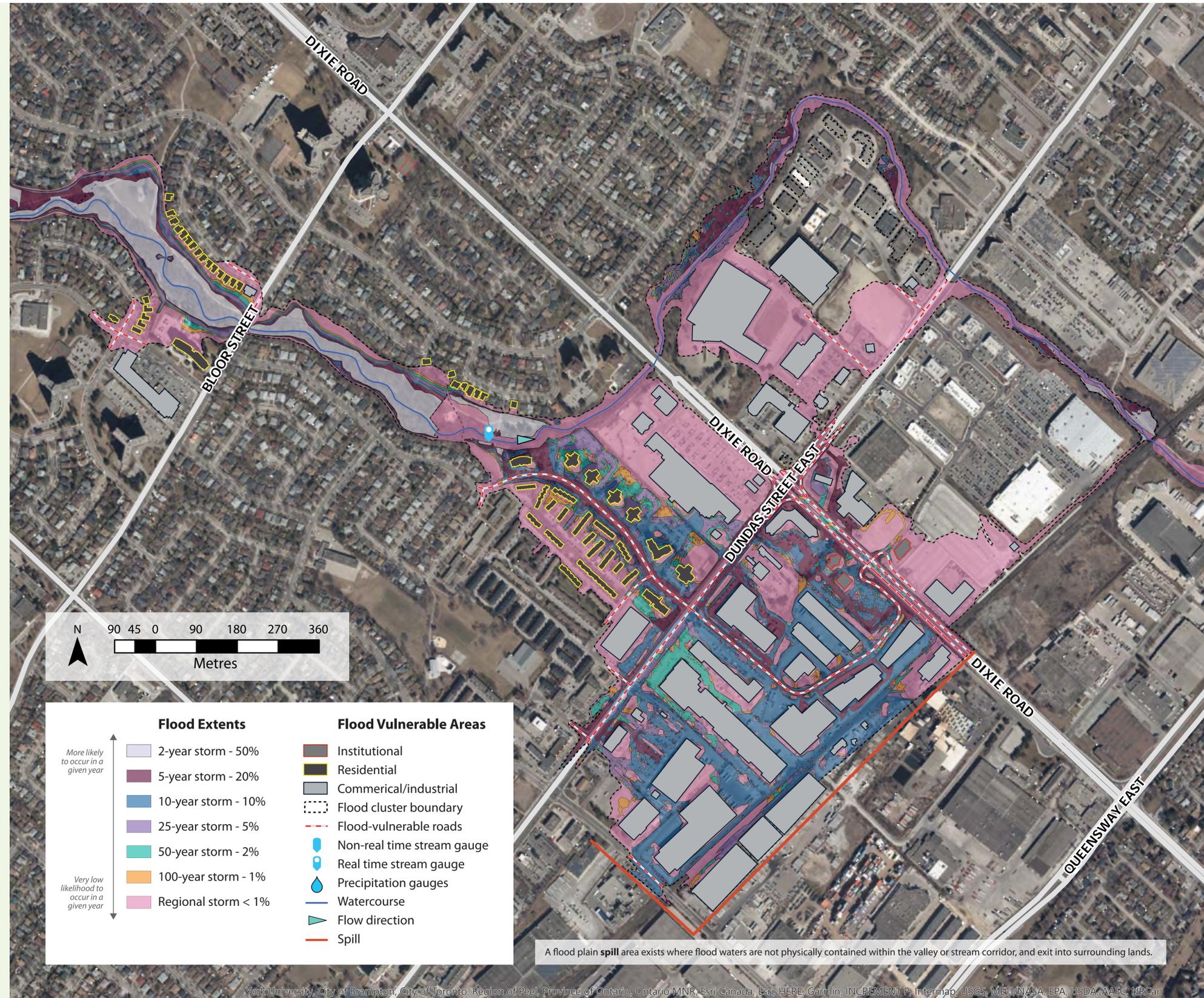


- The Dixie-Dundas cluster is subject to flooding due to a combination of capacity constraints in the river channel and backwater from multiple culvert crossings.
- Located on Little Etobicoke Creek, this cluster is near the intersection of Dixie Road and Dundas Street East in the city of Mississauga. It is a provincially designated Special Policy Area (SPA).
- The urbanized nature of the Little Etobicoke Creek watershed makes this cluster susceptible to flooding from intense summer thunderstorms.
- Significant flooding occurred during the July 8, 2013 storm when flows overtopped the engineered channel and began flowing south along Queen Frederica Drive.

DIXIE-DUNDAS FLOOD RISK MAP

River flooding occurs when a body of water exceeds its capacity. A river can only carry so much water within its banks and it will fill up until it overflows, typically due to heavy rainfall. Flooding can cause property damage and pose a threat to safety, but the degree of risk varies depending on the location within the floodplain.

- The greatest risk is to areas directly adjacent to the river. Because the watersheds are small, short, and full of hard landscape, rainfall will make water levels rise very quickly. Most watercourses in the GTA rise so quickly that sand-bagging is typically not an effective protection measure.
- Properties near the outskirts of the flood plain boundary are less likely to see riverine flooding than the lower lying ones close to the river.
- Many crossings and culverts don't have the capacity to pass flows from a flooded river – water can back-up and pool behind these structures.
- Engineers use statistical models of different rainfall amounts and durations, and simulate what flooding from those storms would look like through computer models.



York University, City of Brampton, City of Toronto, Region of Peel, Province of Ontario, Ontario MNR, Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, MET/NASA, EPA, USDA, AARC, NRCan

DIXIE-DUNDAS FLOOD PROTECTION

The Dixie-Dundas Channel and Dyke work together to provide flood protection to the City of Mississauga, specifically to the Dixie-Dundas neighbourhood, by reducing peak flows during flood events.

The Dixie-Dundas channel was designed to provide flood protection from the 100-year storm. Historically the channel overtopped frequently during the spring freshet but was reconstructed in 1990 for additional protection.

- **Flood control channels** can increase the amount of water that can flow through them by straightening the watercourse and removing obstacles that can slow the water down.
- A **flood control dyke** is a long wall or embankment built to prevent flooding from a river course.



Dundas Channel

WHO SHOULD I CONTACT DURING A FLOOD IN MISSISSAUGA?



- If you are in danger or there is a threat to life and safety, call **911** immediately.
- If you see any potential damage to your property, call your **insurance representative** as soon as possible.
- For hydro-related questions, contact **Alectra Customer Service** at **1-877-963-6900 (Press 2)**.
- To report localized flooding on municipal roads, blocked catch basins or municipal infrastructure, contact the City of Mississauga by dialing **3-1-1** (outside city limits: **905-615-4311**) or by emailing **public.info@mississauga.ca**
- To report river flooding from the Etobicoke Creek, leave a voicemail on the **TRCA floodline** at **416-661-6514**. A flood duty officer will return your call.

TRCA FLOOD RISK MANAGEMENT

A principal mandate of TRCA is to reduce the risk to life and damage to property caused by flooding. We do this by providing local agencies and the public with notice, information and advice so that they can respond during severe rainfall events that have the potential for flooding, and during flood related emergencies.

PREVENTION & MITIGATION

PREPAREDNESS

RECOVERY

RESPONSE



PREVENTION & MITIGATION

Limiting exposure to risk:

- Implementing TRCA's regulations and policies

Reducing risk:

- Operating a flood forecasting and warning program
- Maintaining flood control infrastructure
- Creating a flood protection strategy for vulnerable areas
- Implementing remedial works projects

Understanding the risks:

- Climate, geology, watershed response, and potential for climate change

Documenting the risks:

- Floodplain mapping, identification of flood vulnerable areas

PREPAREDNESS

- TRCA's flood contingency plan
- Emergency plans
- Emergency operations centre
- Training
- Public education

Site-Specific Flood Response Plan

A Site Specific Flood Response Plan (SSFRP) is a tool to assist **municipalities** in responding to a flood emergency in a given flood-vulnerable neighbourhood. It is meant to complement existing emergency plans, such as a municipal emergency plan or a risk-specific plan for flooding.

RESPONSE

- Provide flood forecasting and warning (issuing flood messages)
- Operate flood control infrastructure
- Communicate information and advise
- Data management

RECOVERY

- Flood event documentation and lessons learned
- Storm analysis

REAL-TIME FLOOD MONITORING IN YOUR NEIGHBOURHOOD

TRCA has a network of real-time river and rain gauges across the GTA to:

- Monitor the water levels in specific streams and behind dams
- Measure how much precipitation has fallen

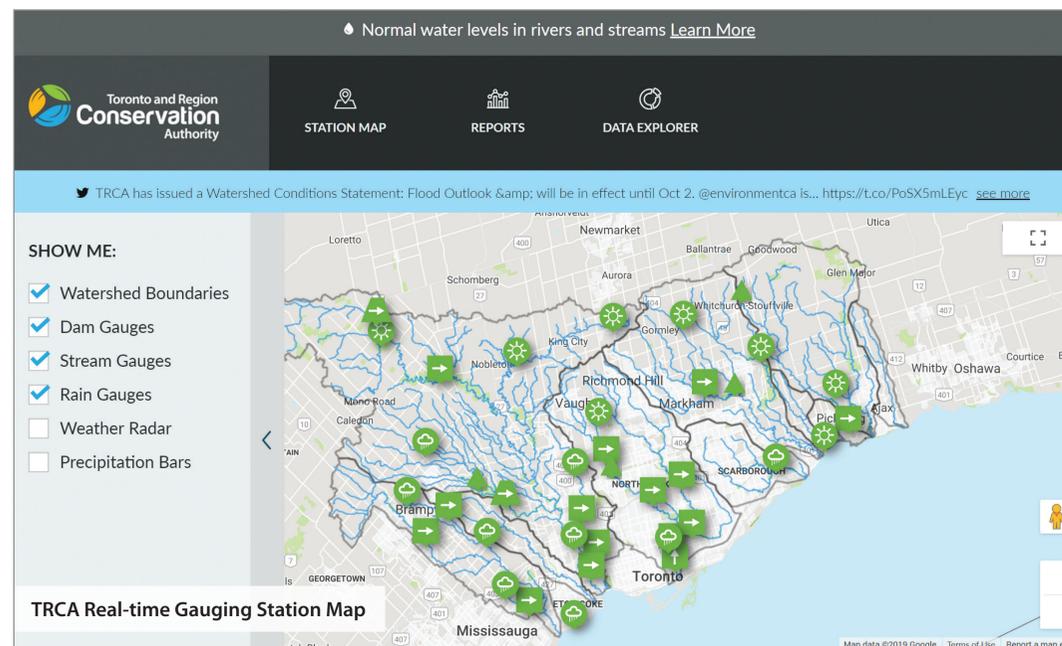
The measurements are displayed on TRCA's flood monitoring website. While the website is primarily a tool for Flood Duty Officers to evaluate watershed conditions and assess the risk of flooding, the website is available to our municipal partners and the public:

trca.ca/floodmonitoring

The Station Map uses shapes, colours, and symbols to allow for a quick assessment of the conditions in the watersheds.



Real-time Gauge



Real-time Gauge

TRCA'S FLOOD MESSAGES

To support our municipal partners during storm events, Toronto and Region Conservation Authority (TRCA) runs a **Flood Forecasting and Warning Program** with staff on-call, 24/7. If flooding is possible or about to occur, TRCA issues flood messages to designated individuals within municipalities, local agencies, school boards, the media, and members of the public who self-subscribe.



Sign Up for Flood Messages

To receive flood messages, you can either:

- Subscribe to email notices at trca.ca/floodmessages
- Follow us on Twitter at [@TRCA_Flood](https://twitter.com/TRCA_Flood)

Flood messages are also posted on TRCA's website at trca.ca/floodforecasting

