

Climate Change Adaptation: Reducing Urban Flood Risk

I'd like to talk to you about our audit on **Climate Change Adaptation – Reducing Urban Flood Risk**.

All Ontarians who live in a developed area—no matter how close to a waterbody like a river or creek—may be at risk of an urban flood.

Urban flooding occurs when heavy rainfall overwhelms the capacity of drainage systems in developed areas to absorb, collect and carry away stormwater.

This can lead to flooded streets resulting in dangerous road conditions, transit closures and power outages.

Dirty stormwater can also mix with raw sewage and back up through sewer drains into homes or pour into basements, damaging property and potentially putting people at risk.

Urban floods result in significant costs to homeowners, governments and insurers and can have serious economic, social and environmental impacts.

For example, a record-breaking rainfall in Toronto in 2013, which caused both urban and river flooding, was Ontario's costliest disaster ever. Insurance claims from 7,000 flooded basements and 900,000 households left without power, amounted to about \$1 billion.

While heavy rains cannot be prevented, measures can be taken to adapt to the projected increase in intense rain events due to climate change.

Various controls—both natural and built—can be used to absorb or redirect stormwater to reduce the risk of urban flooding resulting from future rain events.

There is no one government ministry assigned responsibility for coordinating measures to address urban flooding in Ontario.

Our audit identified four key provincial ministries as having significant responsibilities relating to urban flood management in Ontario.

They include:

- the Ministry of the Environment, Conservation and Parks;
- the Ministry of Natural Resources and Forestry;
- the Ministry of Municipal Affairs and Housing; and
- the Ministry of Infrastructure.

Our audit assessed how well these ministries are working together to reduce the risk of urban flooding in Ontario.

Our audit concluded that the Province never clarified provincial roles for coordinating and managing urban flooding. This has resulted in gaps in responsibilities, and unfulfilled provincial actions and commitments to manage urban flood risk.

During our audit, we noted that many people who buy new homes are not protected from sewer backups due to vague requirements in Ontario's Building Code for backwater valves. A backwater valve costs about \$250 to install during construction of a new home, while renovating to add one costs thousands, and damage to a flooded home can cost more than \$40,000 to repair. An update to the Ontario Building Code to require a backwater valve in all newly built homes is a sensible measure that could save many Ontarians tens of thousands of dollars.

We also found that southern Ontario continues to lose green space and wetlands that help control flooding. Green spaces are important for flood reduction as they absorb water and reduce stormwater runoff. The Province has not evaluated many wetlands and designated them for protection.

Our audit found that almost half of wetlands in southern Ontario remain unevaluated and risk being lost. No provincial strategy exists to conserve wetlands, and former targets to reverse their loss were abandoned in 2018.

Our report contains 16 recommendations, including:

- developing a provincial framework for urban flooding that clearly identifies and assigns, roles and responsibilities for urban flood management;
- reviewing the requirements in Ontario's Building Code for the installation of backwater valves; and
- developing and implementing a strategic plan to protect, conserve and restore wetlands.

To read this report, you can visit our website at www.auditor.on.ca