



Risk to Resiliency

Why Are Conservation Authorities Critical to Flood Management in Ontario?

2022

Who are Conservation Authorities?

Ontario's 36 conservation authorities (CAs) are an experienced network of natural resource management agencies which deliver well-established, effective and cost efficient flood management programs and services which protect lives and prevent hundreds of millions of dollars in costly damages and business disruptions.

Flood management in Ontario is a shared responsibility between the Province, municipalities and conservation authorities. Conservation authorities have delegated responsibilities to represent provincial interests for natural hazards under the Provincial Policy Statement and they also play a critical role in implementing provincial regulations that keep development out of the floodplains.

Conservation authorities are the *'boots on the ground'* agencies for much of Ontario, encompassing almost three-quarters of Ontario's 444 communities; 95 percent of Ontario's population lives in a watershed managed by a conservation authority.

CAs operate \$3.8 billion (2019 dollars) in flood and erosion control infrastructure.



Conservation Authorities use a watershed based approach for best results

Conservation Authorities are natural resource management agencies who deliver flood management programs and services on a watershed basis.

Using a watershed-based approach conservation authorities assess land use activities and target actions across the watershed which helps to identify potential flooding problems and significantly reduce risk. What we do upstream can affect conditions downstream. Policies and practices will be more effective if we recognize these connections.

For example, large scale flooding cannot be managed in one municipality, alone, because flood waters flow across the watershed from upstream to downstream and beyond individual municipal jurisdictions.

Reducing the risk of flooding requires a combination of activities such as mapping floodplains and guiding development outside these areas, planting more vegetation and protecting wetlands, operating flood and erosion control infrastructure, using a consistent flood messaging system and monitoring conditions across the watershed, year-round.

**Conservation
Authorities
track and
warn
Ontarians
about
flooding**

The conservation authorities' flood forecasting and warning system is a cornerstone for flood management in Ontario. It warns of the potential for flooding.

Within their watersheds, conservation authorities monitor 'riverine' conditions. They monitor and measure precipitation and streamflow, do snow surveys, track meteorological models and forecasts, generate potential flood models, and based on this information, issue flood messages to municipalities, emergency management personnel, the Province, Environment Canada and the general public.

The flood messages used by conservation authorities have been developed in collaboration with the Province.

During flood events, the Weather Network and local media rely on CA flood messages to alert and protect the general public.

**Conservation
Authorities'
floodplain
mapping and
regulations
protect
people and
reduce
damage
costs**

Conservation authorities develop floodplain maps and are legislated by the Province to regulate development away from flood-prone areas.

Conservation authority floodplain mapping is a critical component of successful emergency planning and response to flooding. It identifies flood-prone areas as well as structures that are in the path of floods. It also provides important information about the pattern of potential flood events and their impacts across the watershed which helps conservation authorities to know where to guide development in order to keep people safe.

Through the *Conservation Authorities Act*, CAs regulate development activities in or near river and stream valleys, Great Lakes and large inland lakes, shorelines, watercourses, hazardous lands and wetlands. Regulations protect people and property from flooding and other natural hazards.

Conservation authorities work with municipalities, homeowners, developers and others to determine the best places to locate development.

An evaluation of the state of conservation authority floodplain mapping found that 72 percent of CA floodplain mapping projects are outdated and 44 percent of these are in high risk areas.

Conservation Ontario recently submitted a request for \$12 million to the Province (May 2019) to update and digitize the higher priority floodplain mapping.

Provincial support is needed to effectively manage flooding in Ontario

The Province needs to continue to collaborate for effective flood management in order to protect Ontarians.

The long-standing partnership between the Province and conservation authorities protects 95 percent of Ontario's population in some of the most densely populated areas of the province.

The Province needs to continue to:

- develop effective provincial policy to build resilient watersheds and address changing conditions created by climate change impacts,
- update technical guidelines that support effective natural hazards policy and regulation of floodplains,
- fund operation and maintenance of critical flood and erosion control infrastructure, and
- fund conservation authorities to deliver natural hazards programs and services such as flood forecasting and warning. Conservation authority funding from the Province was reduced by 50 percent earlier this year (April 2019) as part of the Government's 2019 Budget.

What do conservation authorities do to prevent and reduce flooding in their watersheds?

Summary of Conservation Authority Flood Management Roles and Responsibilities

- monitor precipitation and streamflow, year-round, on a regular basis
- using watershed information gathered from stream gauges, weather stations, snow surveys, meteorological forecasts and computer models to issue flood messages and warnings to municipalities, businesses, the general public and others
- also monitor water quality (erosion) and quantity before, during and after an event so that they can model and understand the watershed's response to the storm event
- develop and maintain floodplain maps
- guide development away from flood-prone areas through land use planning advice and conservation authority regulations
- operate and maintain 900 dams, dykes, channels and other erosion control structures along rivers and shorelines (Value: \$3.8 billion - 2019 dollars)
- provide technical support and advice to municipalities and emergency management teams
- if able to, acquire floodplain lands and flood vulnerable structures
- protect and restore greenspaces, protect and restore wetlands, and implement green infrastructure which help to reduce flows and store floodwaters, both of which delay or reduce the flood peak
- inform and educate the public

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