Flood Prevention & Protection

Roles and Responsibilities of Conservation Authorities
PROTECTING PEOPLE AND PROPERTY

- Flooding is the leading cause of public emergency in Ontario.

- Climate Change is creating more frequent and serious flood events, which are expected to increase.

- Conservation Authorities and Ministry of Natural Resources are responsible for programs that are now integrated into the provincial emergency management framework.

- Work closely with municipalities across Ontario.
Impacts of Climate Change

- Experiencing more extreme weather events (heavy rain and snow, violent thunderstorms, etc.)
- Flood ‘season’ is now year round
- Storm runoff is greater with more intense rainfall
- Increased urban development has created more problems around flood management
90% of Ontario’s population lives in a watershed managed by a Conservation Authority.
CONSERVATION AUTHORITIES’ MANDATE

- Protect, manage & restore Ontario’s rivers, lakes, streams, woodlands, wetlands, and natural habitats
- Develop and maintain programs that protect life and property from natural hazards such as flooding and erosion
- Provide opportunities for the public to learn from, enjoy and respect our natural environment
PROTECTING PEOPLE AND PROPERTY

• Conservation Authorities own and operate $2.7 billion dollars worth of infrastructure

• Flood management programs delivered by Conservation Authorities prevent loss of life

• Also prevent well over $100 million in annual flood damages
HOW DO WE PROTECT PEOPLE AND PROPERTY TODAY?

• Flood plain mapping
• Regulate development in flood plains in cooperation with municipalities
• Provide planning support & advice to municipalities to minimize flood impacts / issue warnings
• Acquire lands and structures vulnerable to flooding
HOW DO WE PROTECT PEOPLE AND PROPERTY TODAY?

• Operate over 900 dams, dykes, channels and erosion control structures along rivers and shorelines
• Monitor stream flow, rainfall and snow packs in watersheds
• Model and forecast floods
• Operate flood warning system and issue flood messages
HOW DO WE PROTECT PEOPLE AND PROPERTY TODAY?

• Protect important features such as wetlands and forests which help to mitigate and prevent flooding & erosion

• Inform and education the public

• Contribute to municipal emergency planning and preparedness activities
GUIDING DOCUMENT

- Ontario Flood Forecasting & Warning Implementation Guidelines for Conservation Authorities and Ministry of Natural Resources
  - Program delivery & administration
  - Forecasting
  - Communications
  - Emergency Operations
ROLES & RESPONSIBILITIES

• Shared among
  – Conservation Authorities
  – Municipalities
  – Provincial Government (OMNR)
  – Federal Government (EC)

Toronto, 2007
MUNICIPALITIES

Upon receiving a flood message from Conservation Authorities, municipalities:

• Notify municipal officials, departments & agencies according to their emergency plan
• Determine appropriate response to a flood threat and if necessary, deploy municipal services
• If required, declare a flood emergency and implement Emergency Procedures Plan
• Maintain liaison with Conservation Authority flood coordinators
PROVINCIAL GOVERNMENT

- Ontario Ministry of Natural Resources operates & maintains a Provincial Warning System to alert Conservation Authorities of potential meteorological events that could create a flood hazard.
- Provide assistance to local and regional municipalities when municipal resources are no longer adequate.
FEDERAL GOVERNMENT

• Involved once Provincial resources are exceeded

• Can provide assistance from Federal resources (e.g. Military)
  – Montreal Ice Storm
  – Red River Flooding
CA FLOOD FORECASTING & WARNING PROGRAM

• 24 hours per day / 365 days per year
• Monitor weather and watershed condition

• Flood Messages Which Can Be Issued:
  ➢ High Water Safety Bulletin / Watershed Conditions Bulletin
  ➢ Flood Advisory
  ➢ Flood Warning