



The Past, Present and Future of Conservation in the Ganaraska Region Conservation Authority

Town of Cobourg
Sustainability & Climate Change Emergency Advisory Committee
October, 6 2021

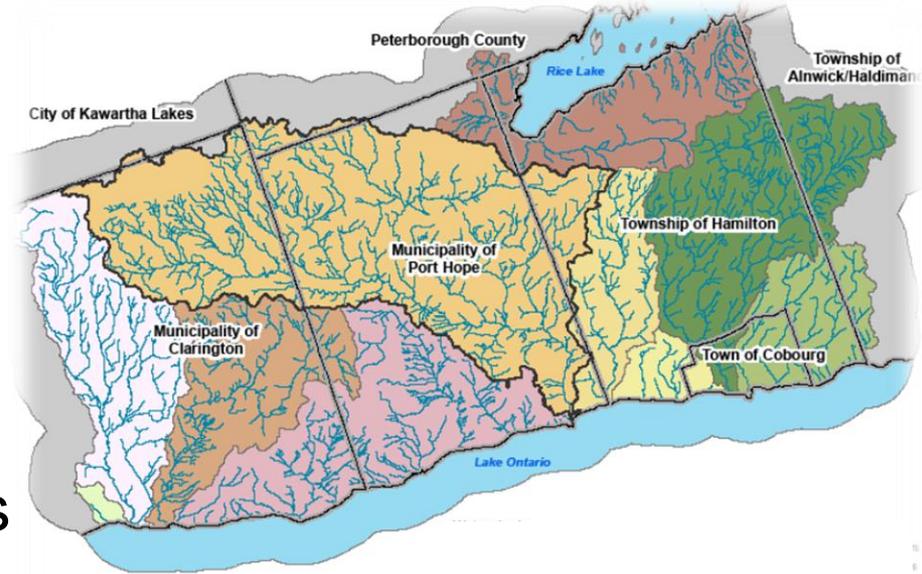
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Watershed Services Coordinator

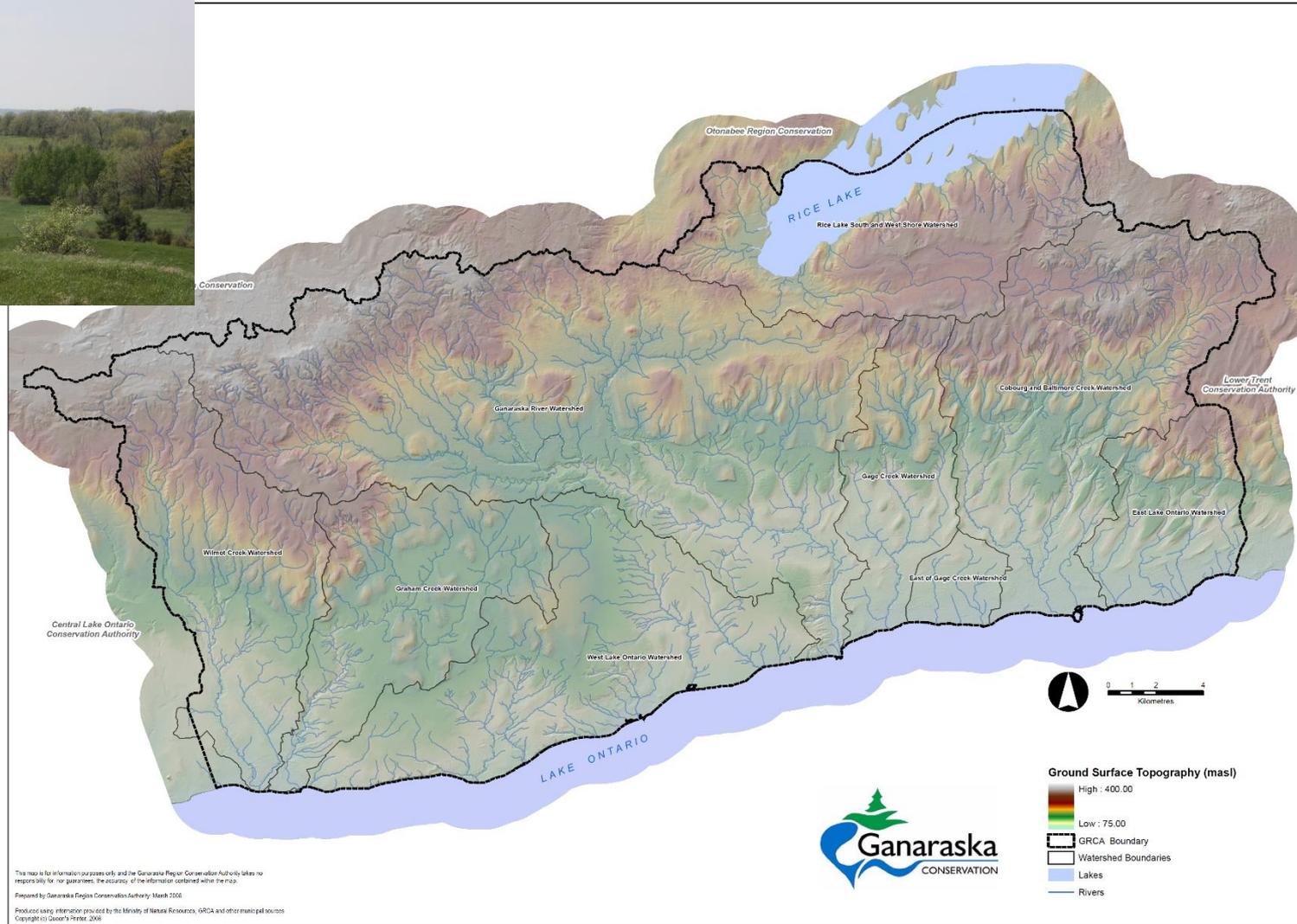


Snap Shot of the GRCA

- Formed in 1946
- Population of ~70,000
- 7 member municipalities
- 935 km²: 5 main watersheds and 4 groupings
- Authority of thirds: agriculture, natural, urban
- Own and operate the Ganaraska Forest and Forest Centre

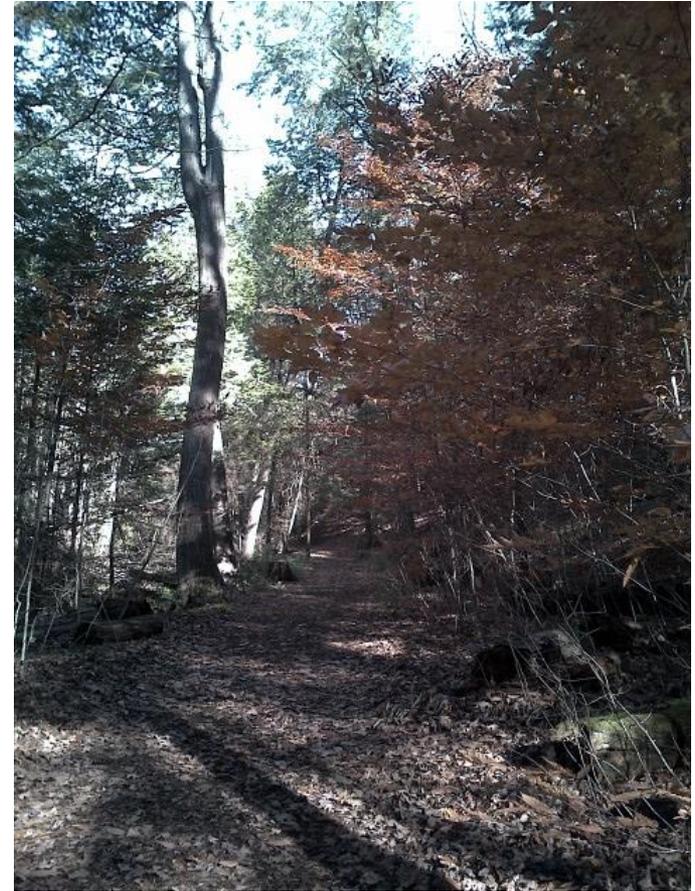


Watershed Formation



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 Prepared by Ganaraska Region Conservation Authority, March 2008.
 Product using information provided by the Ministry of Natural Resources, GRCA and other municipal sources.
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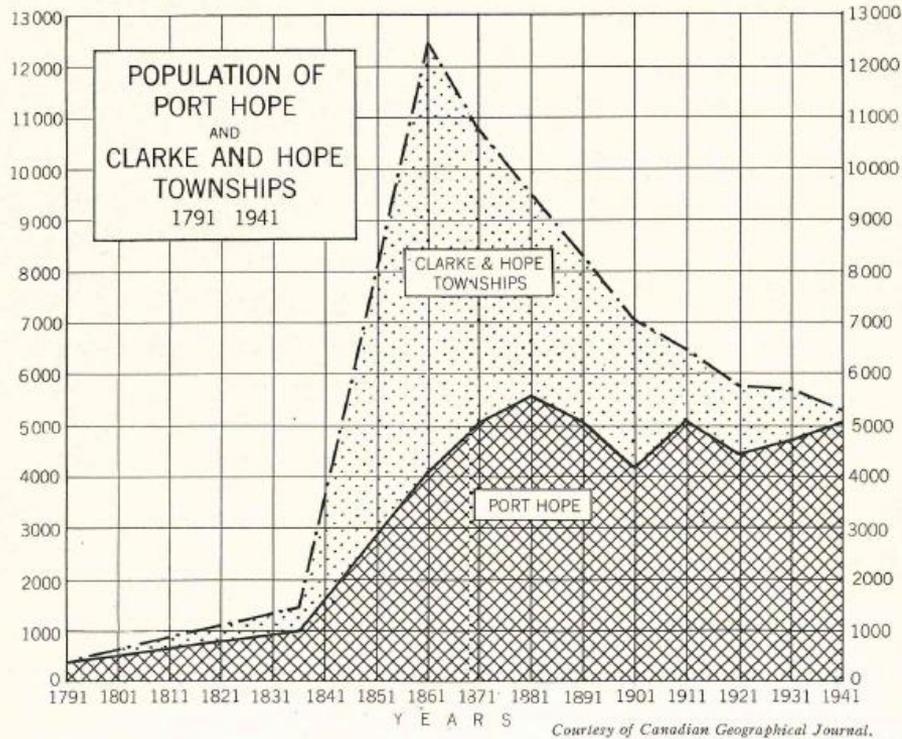
Historical Natural Heritage



Settlement late 1700s to 1800s



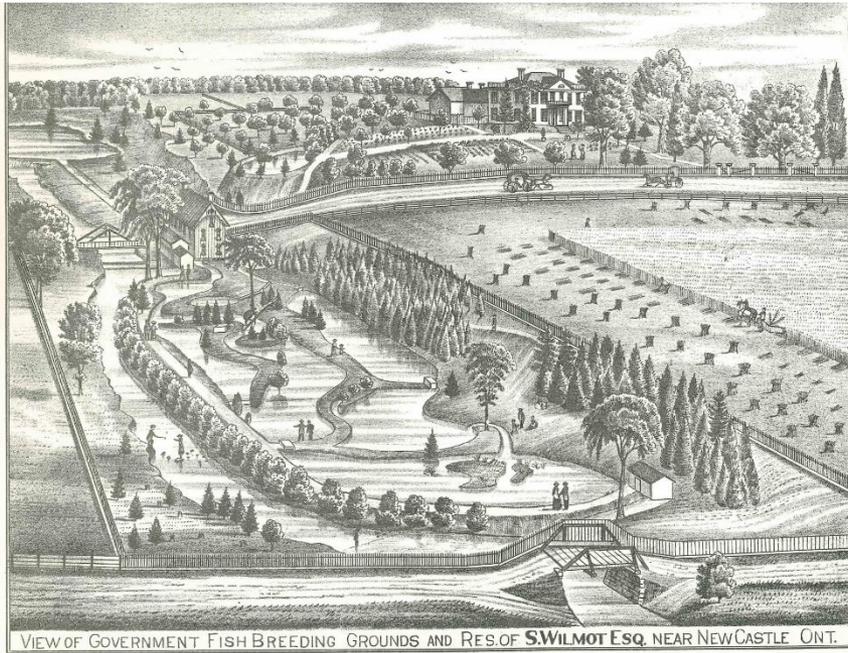
Late 1800s



Edmund Zavitz (1875-1968)



The 1900s

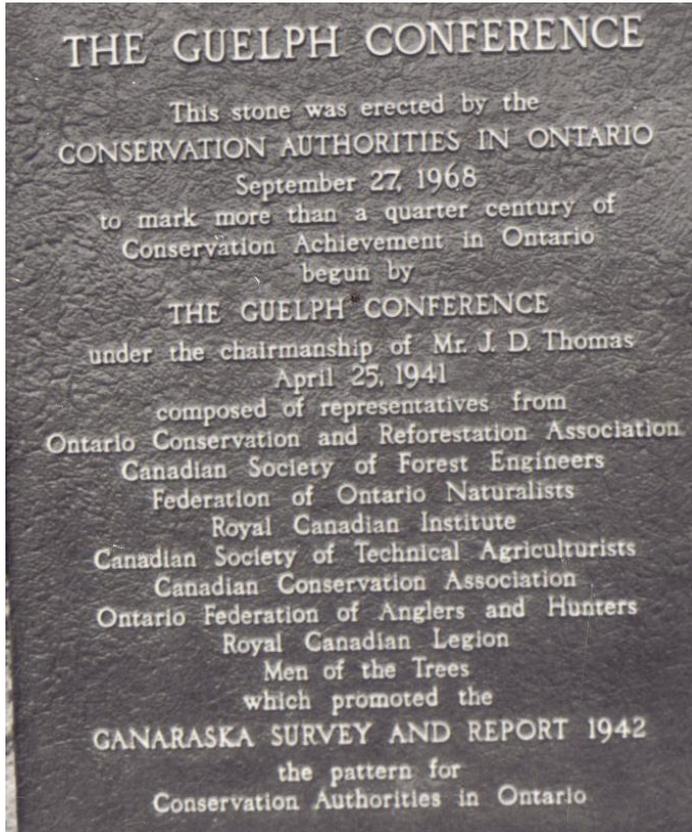




Early Restoration and Land Use Planning

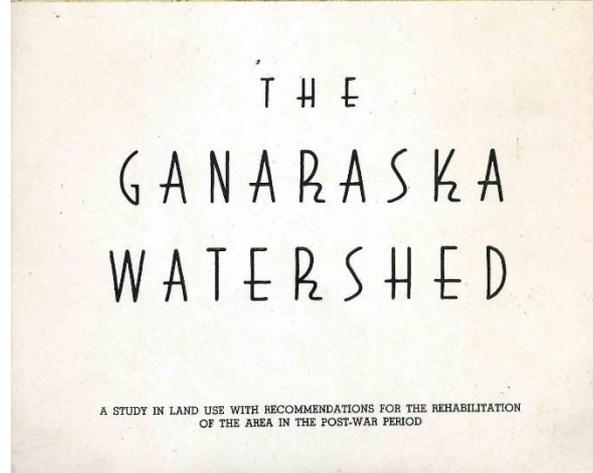
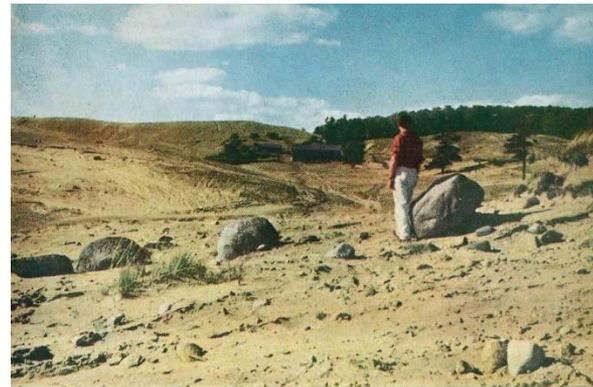
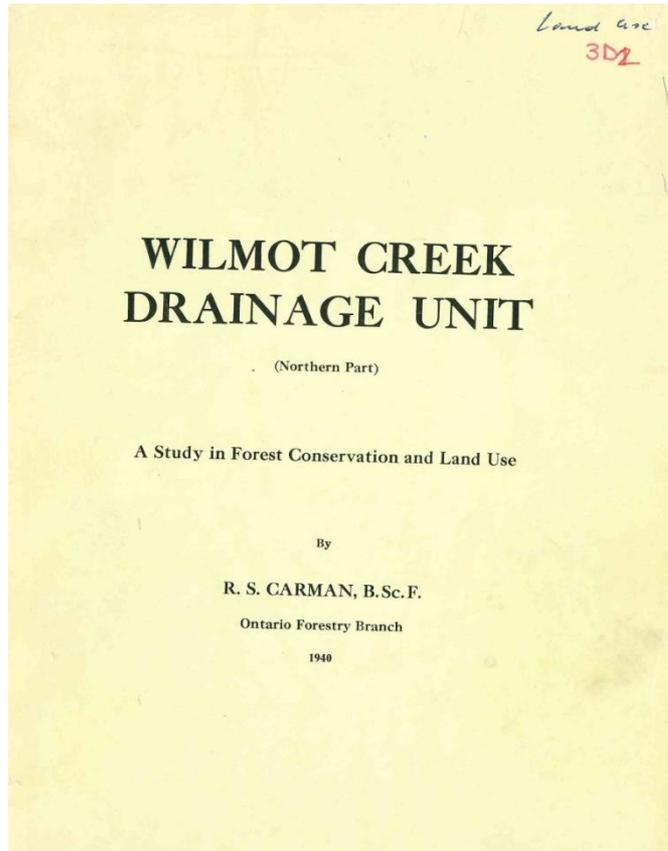


The 1930s and 1940s

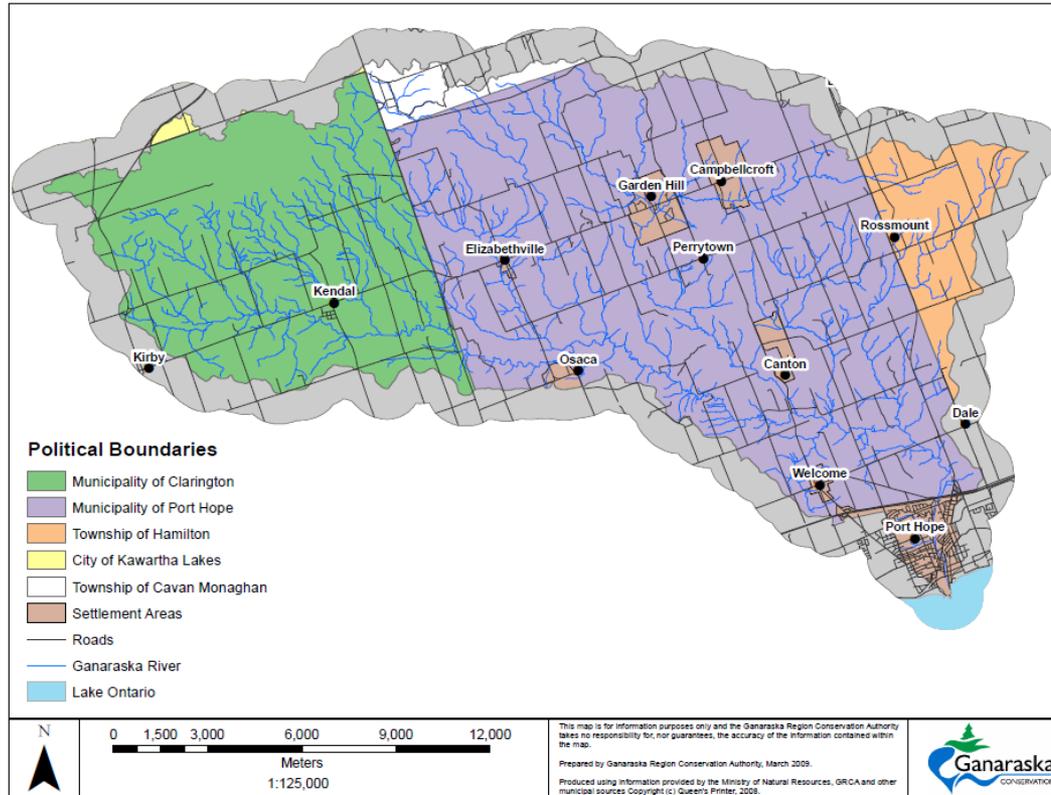


Arthur Richardson (1890-1971)





Ganaraska River Conservation Authority



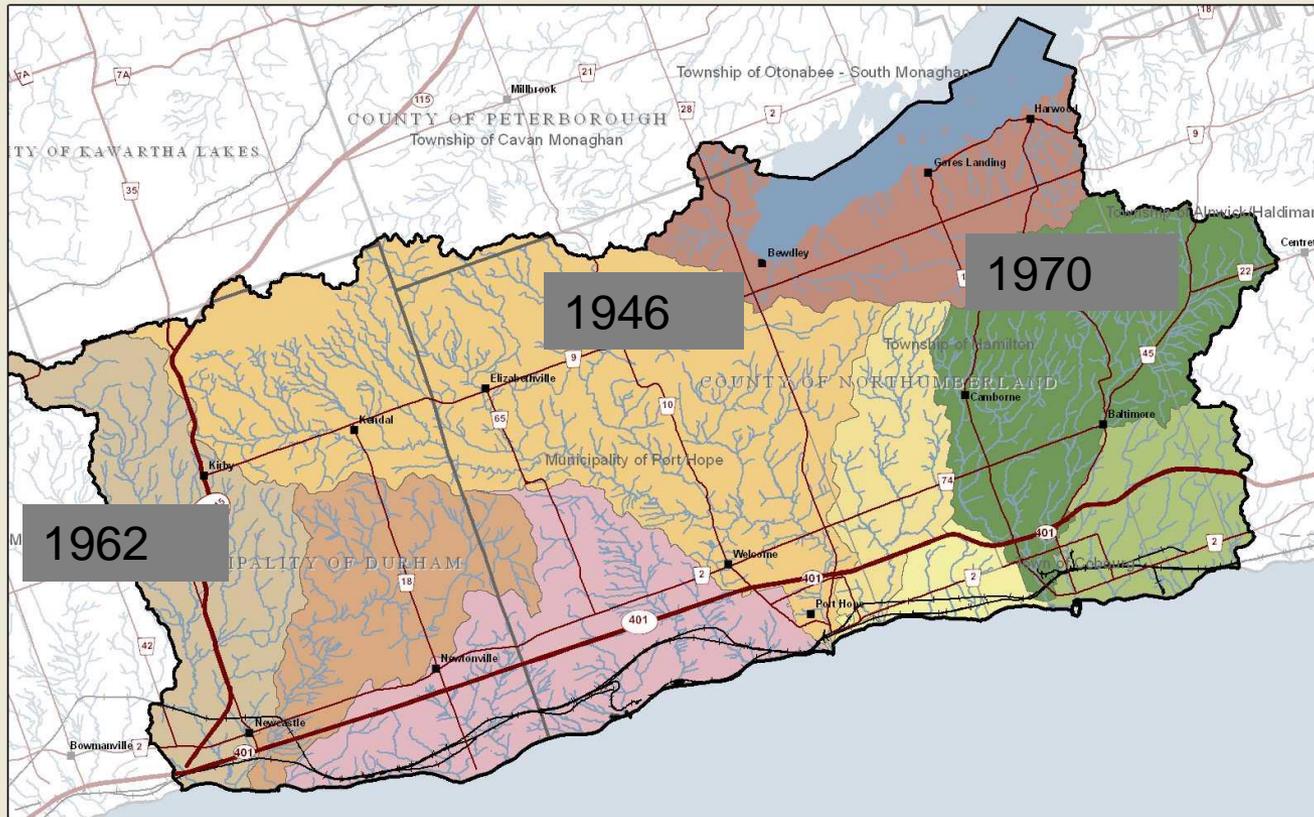
Planting of the Forest



Hurricane Hazel, 1954



1962 and 1970 Expansion



Ganaraska Region Conservation Authority

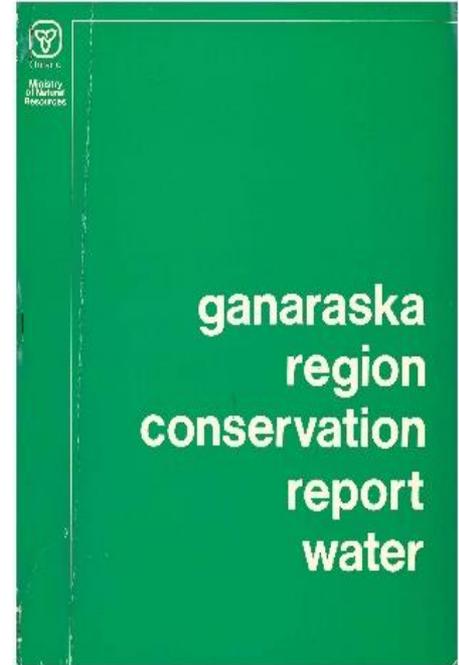
Subwatershed Units

-  ORCA Boundary
 -  Settlement
 -  Road
 -  Highway
 -  Multi-Lane Highway
 -  Railway
 -  Upper and Single Tier Municipalities
 -  Lower Tier Municipality
 -  Waterbody
 -  Watercourse
- Watersheds and Subwatersheds**
-  Cobourg Creek Watershed
 -  East Lake Ontario Watershed
 -  East of Gages Creek Watershed
 -  Gages Creek Watershed
 -  Ganaraska River Watershed
 -  Graham Creek Watershed
 -  Rice Lake South and West Shores
 -  West Lake Ontario Watershed
 -  Wilm of Creek Watershed



This map is for information purposes only, and the Ganaraska Region Conservation Authority is not responsible for any errors or omissions, or for any consequences arising from the use of the information contained on this map.
Revised by Ganaraska Region Conservation Authority, Dec 2018.
Product and information provided by the Ministry of Natural Resources, GFC and other municipal sources.
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Printed by: _____
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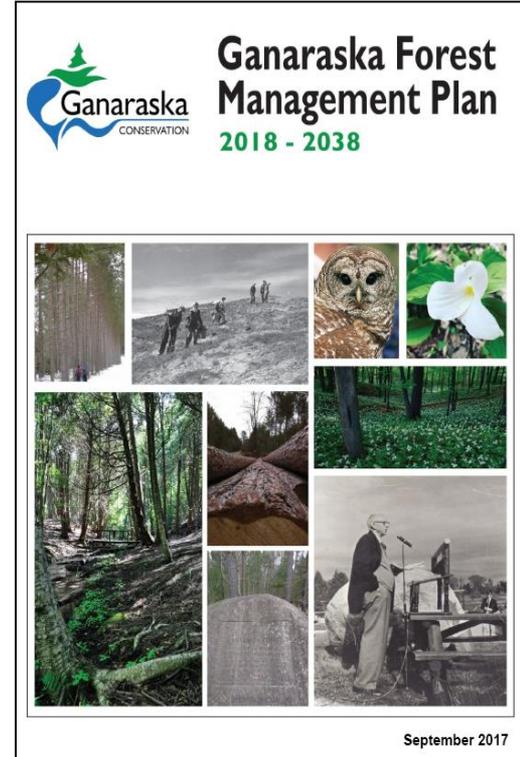


Conservation Areas





Ganaraska Forest



Outdoor Education





Ganaraska Forest Centre



The 1990s

From Time on 1/19/95

End Is Near for Orono Forestry

It is "absolutely definite" that the Orono Forestry Station will be closing within the year, says Katherine Cox, of the Ministry of Natural Resources. According to her, "nothing can be changed" to stop the closure of three different nurseries. "It is in the process of winding down... the three nurseries will be closed by July 1996."

The closure of the Orono nursery will put nine full time staff out of work, as well as 10 seasonal and 25 full time/part time employees. The nurseries find themselves the victims of government streamlining and an overall reduction in government employees. The government said that the expected demands for trees for reforestation projects is dropping, so the nurseries are not needed. The government believes that the St. Williams Nursery located near London, as well as private nurseries will be more than adequate to handle all of the required tree production. Over the next two years, the Ministry will recognize over \$2 million in annual savings.

What will happen to the employees is also up in the air. Re-deployment advice will be coming to Orono to see if the full time employees could be used elsewhere. Every effort will be made to find places, but there are no guarantees. Mike Hutton, a resource technician in

charge of pest management, does not feel very optimistic. "I've got zero chance of new placement. They are saying they'll make every effort, but there is no place for them to go." Mr. Hutton will not be one of the ones to qualify for replacement.

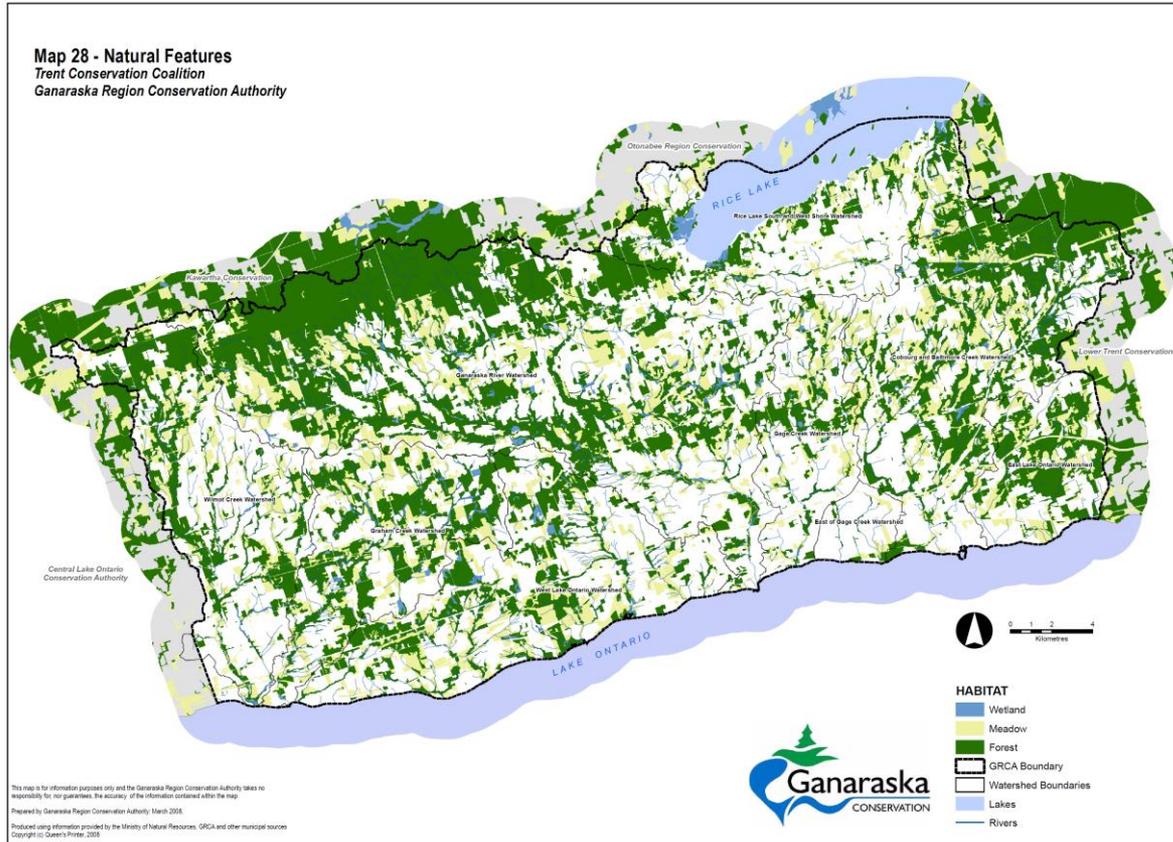
The closure was not entirely unexpected. Mr. Hutton says, "we all expected it, but it is still a shock. It's always disappointing when you lose your job." The government is offering a severance package to the workers, but that has not

been discussed with them. The forestry was scheduled to close in 1992, but was saved by Gord Mills' intervention. No intervention will be able to save the forestry this time. More information will be available by the end of the week.

The land's future is uncertain. The forestry own 1350 acres of land in the Orono area. The government is accepting proposals to see what will be done with the land and the assets. In the event that no one comes forward with any proposals for purchasing and using the land for agricultural or horticultural purposes, the lands under production and structures could be sold publicly. Forested lands would not be made available for sale.



The 2000s





GNT

GOVT

FDR

RES

A

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E

VIII



Atlantic Salmon Returning





Clean Water-Healthy Land Stewardship Program



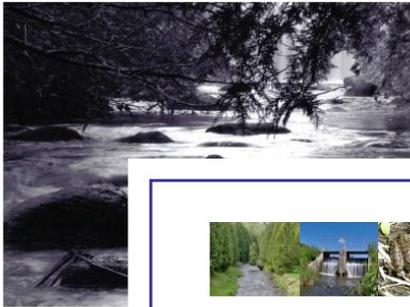
Watershed Management Planning



Cobourg Creek Background Report:
Abiotic, Biotic and Cultural Features

for preparation of the
Cobourg Creek Watershed Plan

November 2008



Cobourg Creek Watershed Plan 2008

Prepared by



GRCA Approval, March 19, 2009
Resolution Number FA 12/09

ontario.ca/PPS

Provincial Policy Statement, 2020

Under the *Planning Act*

Ontario 



TERRESTRIAL NATURAL
HERITAGE STRATEGY

October 2013

of FA 27/13

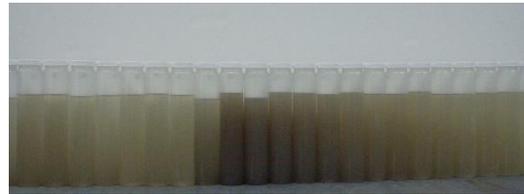
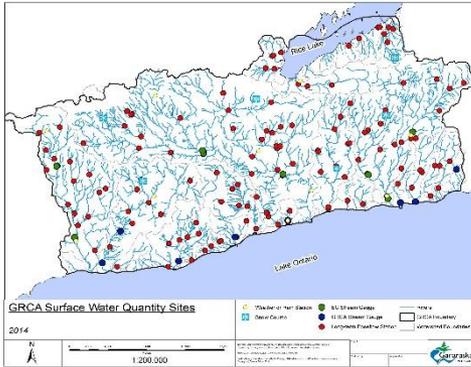


Ganaraska Region
Watershed Monitoring Plan
towards an integrated approach

2.2.1 of the PPS: Planning authorities shall protect, improve or restore the *quality and quantity of water* by:

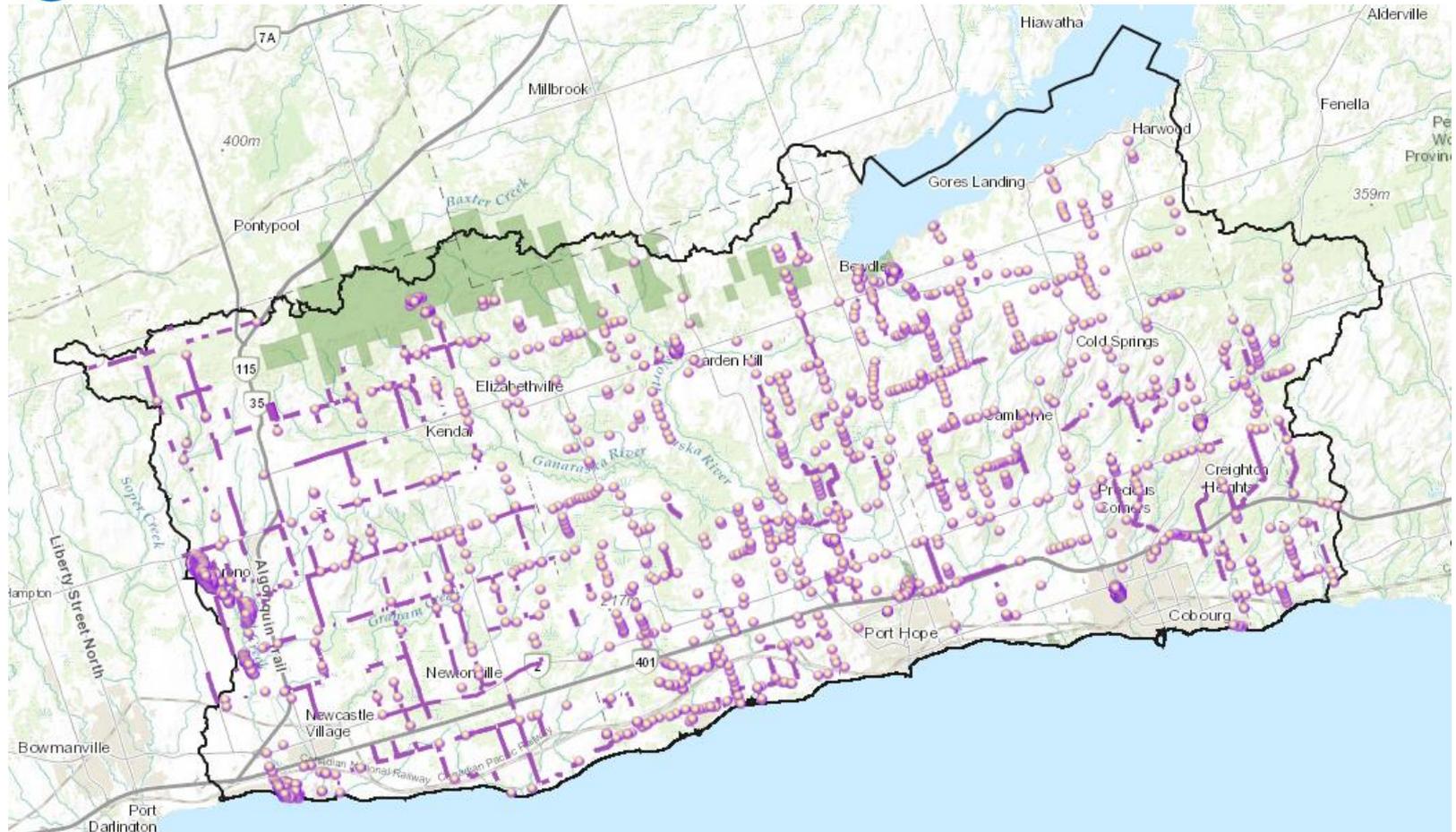
- using the *watershed* as the ecologically meaningful scale for integrated and long-term planning, which can be a foundation for considering cumulative impacts of development;

Watershed Monitoring



GRCA staff monitors amphibians, birds, fish, benthic invertebrates, stream habitat and partners with MECP to monitor surface water (PWQMN) and groundwater (PGWMN) within the watershed.

Invasive Species Monitoring

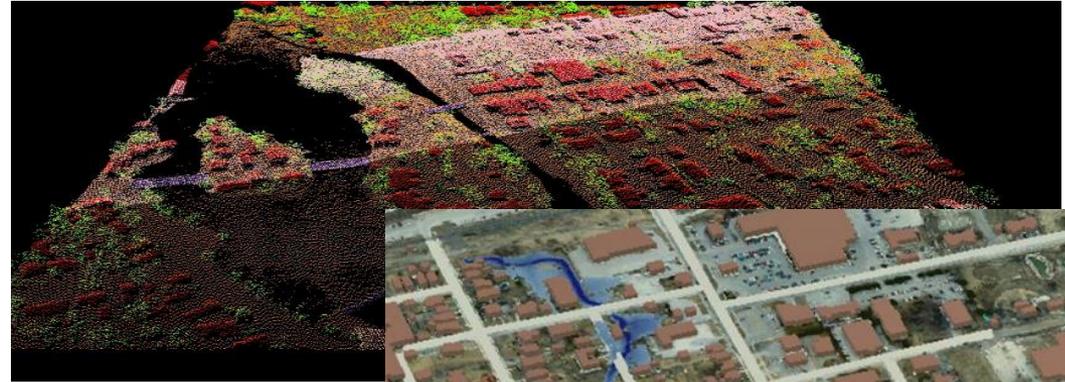


GRCA staff has been monitoring invasive species populations within the watershed for the last 10 years. Staff recently developed a collector app to simplify data collection. There is opportunity to partner with municipalities to expand the monitoring into the urban areas.

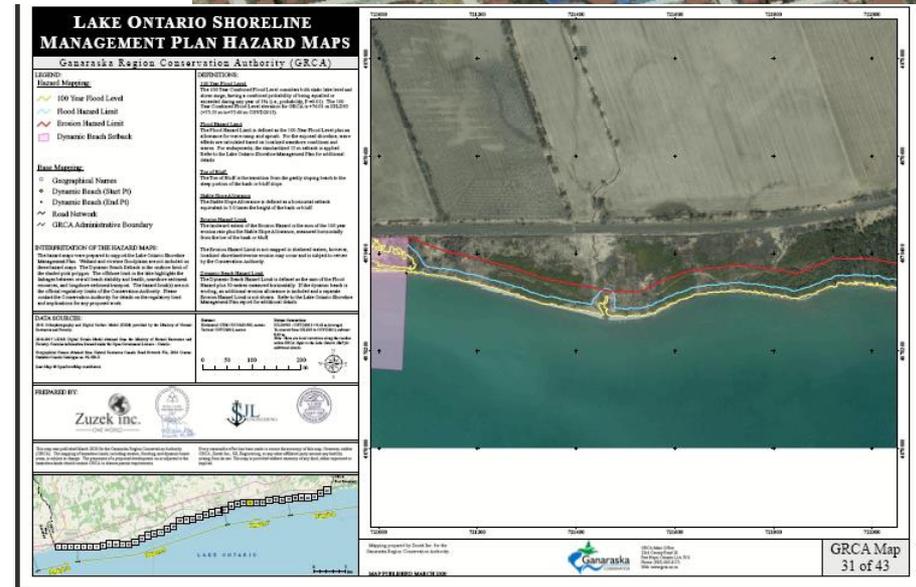
Natural Hazards



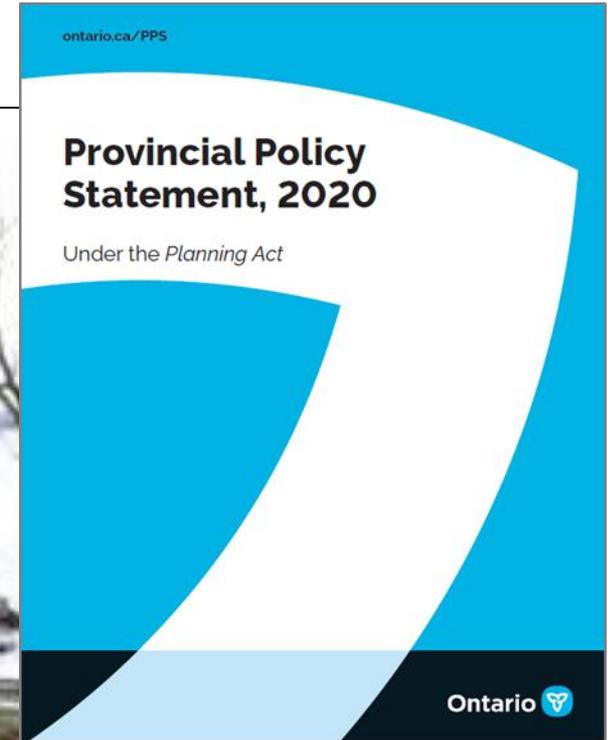
Flood Forecasting and Warning



- GRCA has flood hazard mapping for all creek systems
- We monitor weather and stream gauge networks during storms for watershed response and provide watershed residents with flood forecasting and warning services
- Have been updating flood hazard mapping for creek/ riverine systems
- This work is ongoing and limited by available funding
- Completed 2020 update to shoreline flooding and erosion hazard areas
- Regulation mapping updates planned



Planning and Regulations

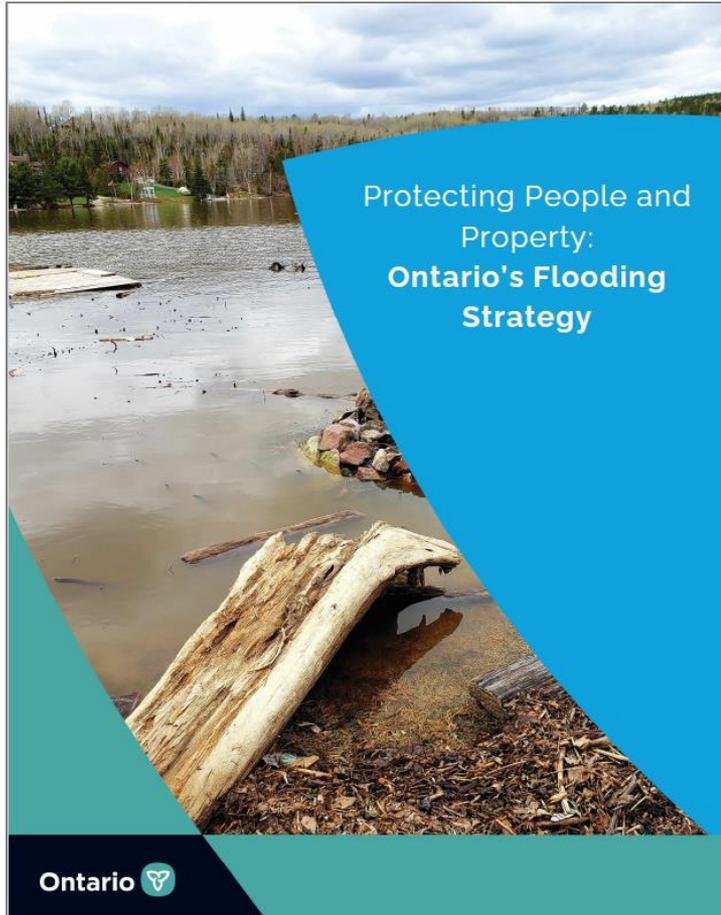


Section 3.1.3 of PPS: Planning authorities shall prepare for the *impacts of a changing climate* that may increase the risk associated with natural hazards.



Climate Change and Flooding

Province's Flood Strategy produced in 2020 and presented Five Priorities

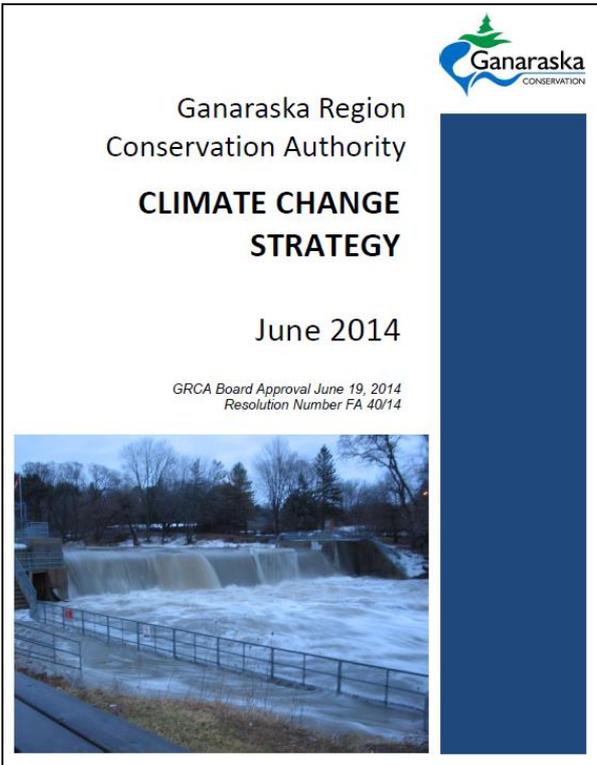


- Priority #1: Understand Flood Risks
- Priority #2: Strengthen Governance of Flood Risks
- Priority #3: Enhance Flood Preparedness
- Priority #4: Enhance Flood Response and Recovery
- Priority #5: Invest in Flood Risk Reduction

- Province has not provided funding to support implementation of the strategy
- Flood standards are based on historic data, not future projections
- Climate change impacts are not fully understood
- Significant implications to design (i.e. IDF curves, pipe sizes, etc.)

Climate Change Initiatives

GRCA's strategy contains a number of important goals relevant to our Municipal Partners:

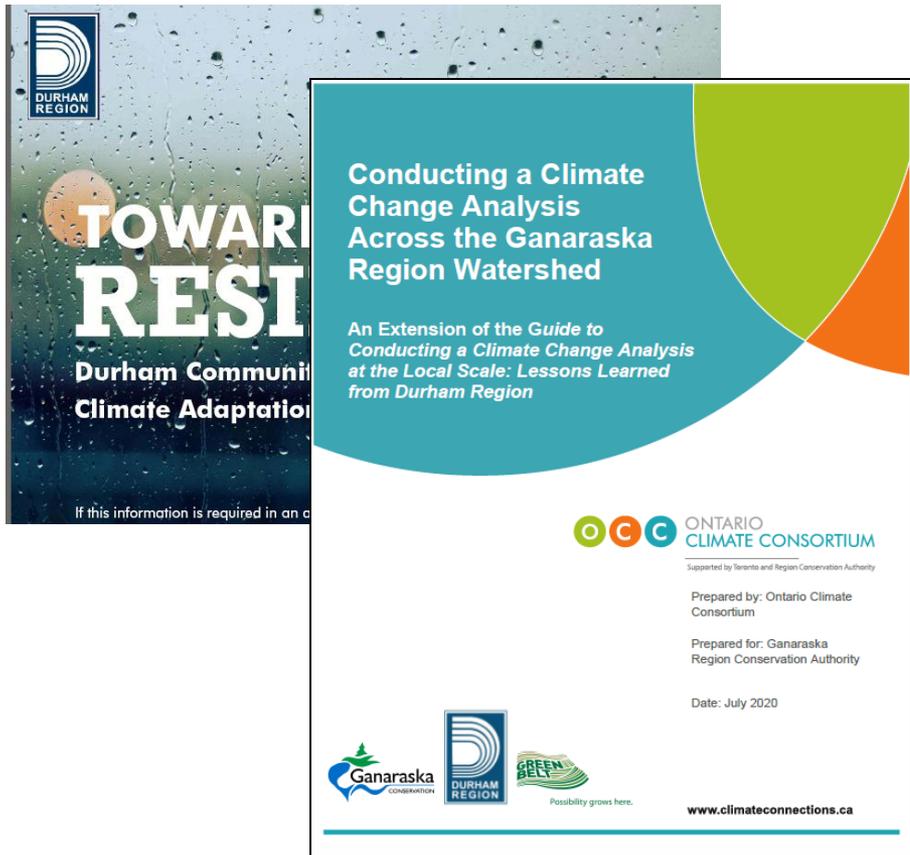


- **Goal 1:** Refine the definition of natural hazard areas to address the protection of people and property under climate change conditions.
- **Goal 2:** Improve flood forecasting methods to better warn residents of potential flooding and erosion events.
- **Goal 3:** Incorporate new science that addresses climate change impacts on surface water and groundwater management.
- **Goal 4:** Incorporate new standards and requirements that address climate change into proposed and existing development recommendations.
- **Goal 7:** Incorporate climate change considerations into current watershed monitoring programs.



Climate Change Initiatives

- Staff very involved in ROD adaptation plan
- GRCA retained OCC to build on Durham analysis to prepare a Climate Change Analysis for GRCA watershed
- Will be sharing the projection data with all partners in the near future
- Will likely experience a wetter and warmer climate, with a longer growing season of seven weeks, increased presence of pests (which may outweigh the benefits to agriculture under climate change)
- More extreme weather events and experience higher intensity storms with greater amounts of precipitation in all seasons



TOWARD RESILIENCE
Durham Community Climate Adaptation

Conducting a Climate Change Analysis Across the Ganaraska Region Watershed

An Extension of the *Guide to Conducting a Climate Change Analysis at the Local Scale: Lessons Learned from Durham Region*

OCC ONTARIO CLIMATE CONSORTIUM
Supported by Toronto and Region Conservation Authority

Prepared by: Ontario Climate Consortium
Prepared for: Ganaraska Region Conservation Authority
Date: July 2020

   www.climateconnections.ca



Climate Change Adaptation

- Ongoing updates to floodplain and erosion hazard mapping
- 2D hydraulic models needed in key areas to refine flood spills
- Working together on flood mitigation efforts (i.e. Kerr St 100-year facility)
- Modernization of flood forecasting program to improve gauge network and incorporate real-time radar
- Emergency preparedness efforts (assessing flood risk on municipal roads for emergency route planning, etc.)
- Would encourage collaboration on new standards and innovations to incorporate climate change impacts (i.e. green standard, stormwater, LID training, etc.)





Thank you

GRCA staff are happy to be a resource to the
Town of Cobourg
Sustainability & Climate Change Emergency
Advisory Committee

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