Chippewas of Georgina Island Climate Change Adaptation Program Overview

This presentation delivered by:

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Our Partners

- Aboriginal Affairs and Northern Development Canada (funder)
- OCCIAR
- MOECC
- MNRF
- Turtle Island Conservation
- Lake Simcoe Region Conservation Authority

Georgina Island First Nation

The Chippewas of Georgina Island First Nation is located both on and off the east shore of Lake Simcoe and is approximately 100 km north of the GTA, within the Township of Georgina. The First Nation Reserve No.33 consists of three separate Islands (Georgina 1,416 ha., Snake 135 ha., and Fox 20 ha.) and two mainland access points (Virginia Beach Marina and Island Grove Marina).

Background and Link to Climate Change

- The Georgina Island First Nation is progressive on environmental issues and have developed and implemented many different plans and policies related to the environment
- The sensitivity of the natural environment to changes in weather and climate affect the ecosystems and socioeconomic aspects of the community.
- Current observations of changing weather and climate including stronger winds which occur more frequently, longer periods without rain (drought) and intense rainfalls provide evidence that climate is changing in the area.

Climate Change Adaptation Planning

- Responded to Climate Change Adaptation call from Aboriginal Affairs and Northern Development Canada in 2011
- Proposed a phased, 3 year project to develop a Climate Change Adaptation Plan for the community using a holistic approach
- Success for year 1, 2 and 3
- Recently been approved for year 4

Year One

Objectives

- Project Initiation and Engagement
- Information Sessions and Advisory Committee
- Traditional Ecological Knowledge (TEK) Gathering
- Develop vulnerability and adaptation planning framework

Project Initiation and Engagement

Three "information sessions/bingo's" were hosted within the community to:

- Inform the community of the project
- Encourage participation and
- Ensure feedback

Information Sessions

Public Engagement

- Session one: Project objectives were presented and community was requested to participate on the Advisory Committee
- Session two: Community was asked for feed back on TEK survey
- Session three: Report back to community on TEK results and proposal submission for year two

- Community loved the format of the information sessions and were very engaged

Advisory Committee

Advisory Committee

- a group of ten consisting of community members including youth, adults and elders.

Tasks of Advisory Committee:

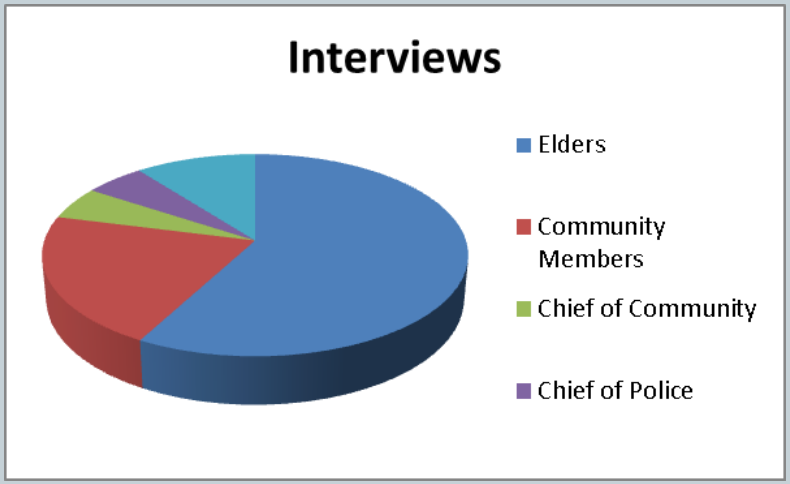
- Working together to customize Traditional Ecological Knowledge survey specifically towards Climate Impacts/Changes within Georgina Island
- Also a list of potential interviewees was developed by the Advisory Committee.

Traditional Ecological Knowledge Survey

Inspired by Dr. Dave Pearson's Survey "Adaptation Planning in the Far North" Specifically geared towards Georgina Island living:

- Changes in the "bush"
- Changes in wet areas
- Changes in fish
- Changes in birds, animals and insects
- Weather changes in the different seasons, Changes in air/clouds
- Changes in Winter Weather
- Effects of Climate Change on Community Infrastructure
- Weather Emergencies and Health

- 19 interviews conducted, involving Elders, Community Members, Councillor's, Chief of Police and Chief of Georgina Island
- The Traditional Ecological Knowledge embedded within each interviewee has been documented, summarized and presented back to the community through a final workshop



Survey Results

- **Changes in the "bush":** Fiddle heads, pigweed
- **Changes in wet areas:** colour and temperature of the lake, creeks have dried up
- **Changes in fish:** cold water fish are in decline
- **Changes in birds, animals and insects:** whippoorwill and mourning doves have disappeared
- **Weather changes in the different seasons, Changes in air/clouds:** early spring, long hot summers
- **Changes in Winter Weather:** winters are warmer, ice quality, less snow
- **Effects of Climate Change on Community Infrastructure:** rough winds affect roof shingles
- **Weather Emergencies and Health:** community members get rashes from water

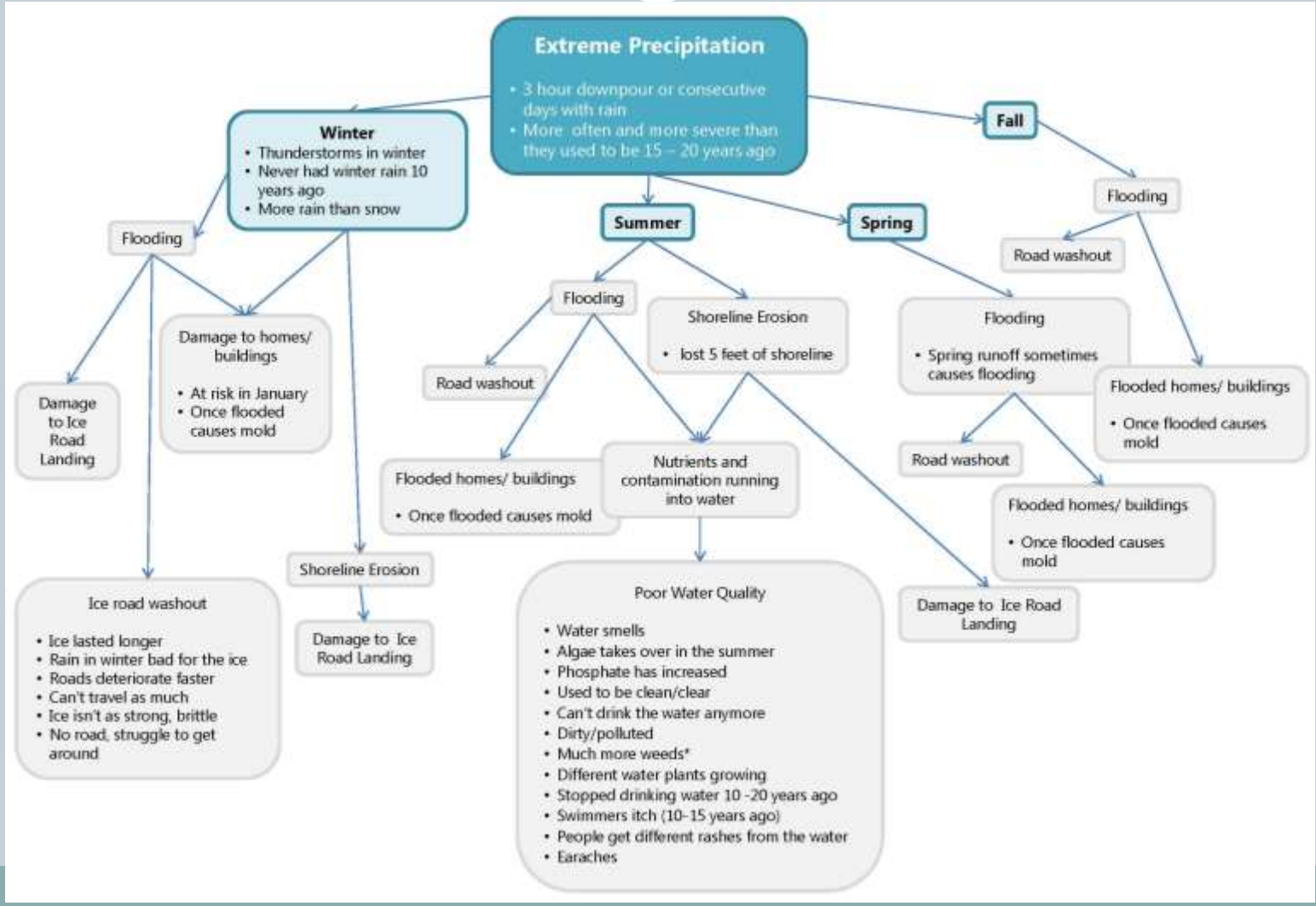
Vulnerability, risk, and adaptive capacity

- Step 1: Let's get started
- Step 2: Gather data
- Step 3: Current vulnerability
- Step 4: Prioritize future risk
- Step 5: Identify adaptation options
- *Step 6: Implement adaptation actions*
- *Step 7: Monitor progress*

Year Two - Objectives

- Conduct vulnerability, risk, and adaptive capacity assessment
- Research, collection, and translation of regional **climate data** for the Lake Simcoe Watershed
- Review western science to compare results of Lake Simcoe Vulnerability Assessments to Traditional Ecological Knowledge results
- Public Engagement: Communicate results of assessments and continue working closely with Advisory Committee
- Incorporate climate change into Georgina Island sub watershed planning

Identify Current Vulnerabilities
Impact Trees



Prioritized Impacts

Climate Hazard	Impacted Areas	Impact (taken directly from TEK survey responses)
Changes in Winter	Transportation	Road deteriorates faster
		Can't travel as much
		No road, struggle to get around
		Ice pile-up
		Damage to ice road landings
		Pressure cracks
		Using the Scoots more
		Stress on ferry due to breaking through the ice
	Ice Quality	Ice lasted longer
		Rain is bad for the ice
		Freeze-up is getting later and breaks up earlier
		Used to get 20 inches of ice 15 years ago, now lucky to get 10
		Loss of community members from going through the ice
		Used to get strong blue ice
		Ice isn't as strong, brittle

Risk assessment

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Climate Event: Changes in winter (warmer, shorter, more rain, less snow)
Risk Scenario: Transportation - damage to ice road landings
Time Horizon (planning period): 2050s

	Social			Economic			Environmental				Cultural		
Consequence	Health & Safety	Displacement	Loss of Livelihood	Property Damage	Financial Impact	Impact on Community Finances	Air	Water	Land	Ecosystem	Traditional Food	Traditional Medicine	Traditional Lifestyle
Very Low (1)							✓	✓		✓	✓	✓	
Low (2)									✓				
Moderate (3)	✓					✓							
High (4)			✓	✓	✓								
Very High (5)		✓											✓

Consequence = Moderate (3)
Likelihood = Virtually certain to occur (5)

Risk Matrix

Consequence						
	Very High			Transportation: Road deteriorating faster		
	High			Transportation: Pressure cracks		
	Mod-erate			Transportation: Stress on ferry due to break through ice	Ice Quality: Thinning	
	Low		Ice Quality: Ice lasted longer		Ice Quality: Freeze-up getting later and breaking up earlier	
	Very Low					
		Very Unlikely to happen	Occasional Occurrence	Moderately Frequent	Occurs Often	Virtually Uncertain to Occur
		Likelihood				

	Very high risk: immediate controls required
	High risk: high priority control measure required
	Moderate risk: some controls required to reduce risk to lower levels
	Low risk: controls not likely
	Very low risk: does not require further consideration

OCCIAR
Ontario Centre for Climate Impacts and Adaptation Resources

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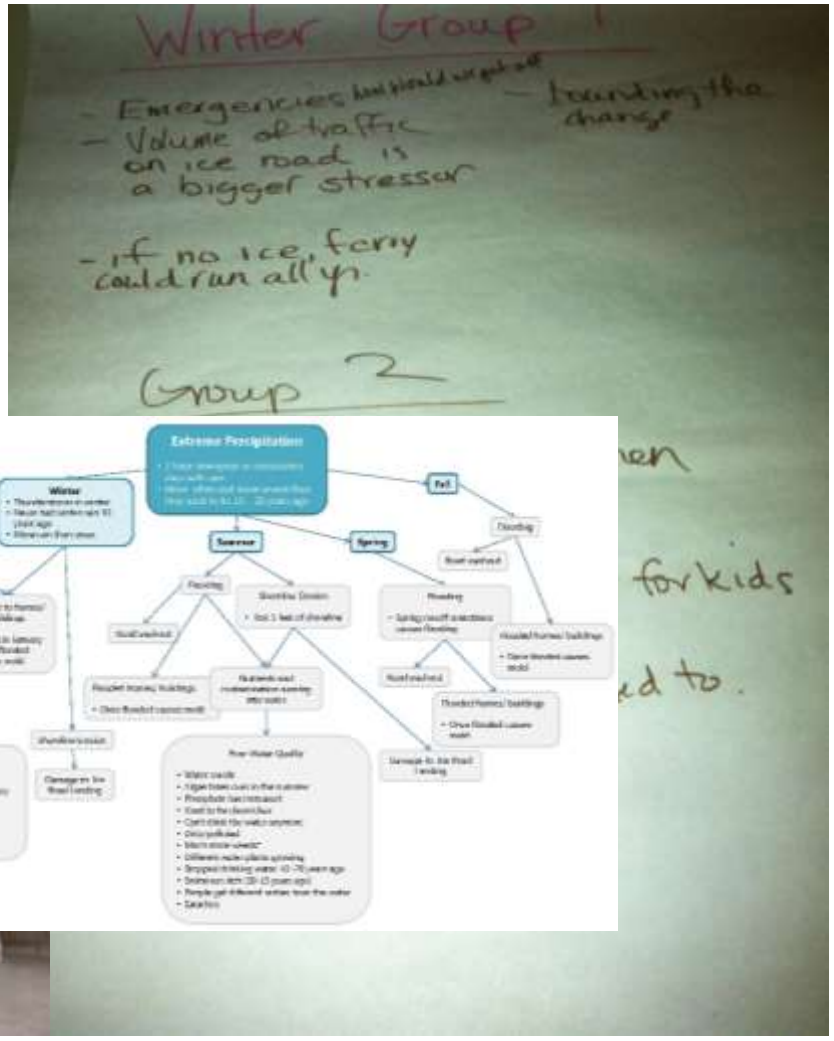
Interactive Workshop

- Changes in Winter
- Changes in Summer
- Extreme Precipitation
- Wind
- Drought



Prioritized Risks

- Ended up with a table of prioritized risks which was a combination of the results of the project team estimating risk, the advisory committee comments, and the community estimating consequence.

- Highest priority risks (very high and high) were moved into Year Three of the project.

Review Western Science

Review	Lake Simcoe Vulnerability Assessments
○ Compare TEK Survey Results to Lake Simcoe Climate Change Vulnerability Assessments	○ Agriculture ○ Wetlands, streams, rivers ○ Water Quality and Quantity ○ Infrastructure ○ Insects ○ Invasive Species ○ Natural Heritage ○ Species at Risk ○ Nature-based Tourism ○ Vegetative Cover ○ Wildlife

Incorporate Climate Change Adaptation into Subwatershed Planning

- Georgina Island currently does not have a Subwatershed Plan
- Work is currently underway with the Lake Simcoe Region Conservation Authority to develop a Subwatershed Plan
- Plan will incorporate Climate Change Adaptation

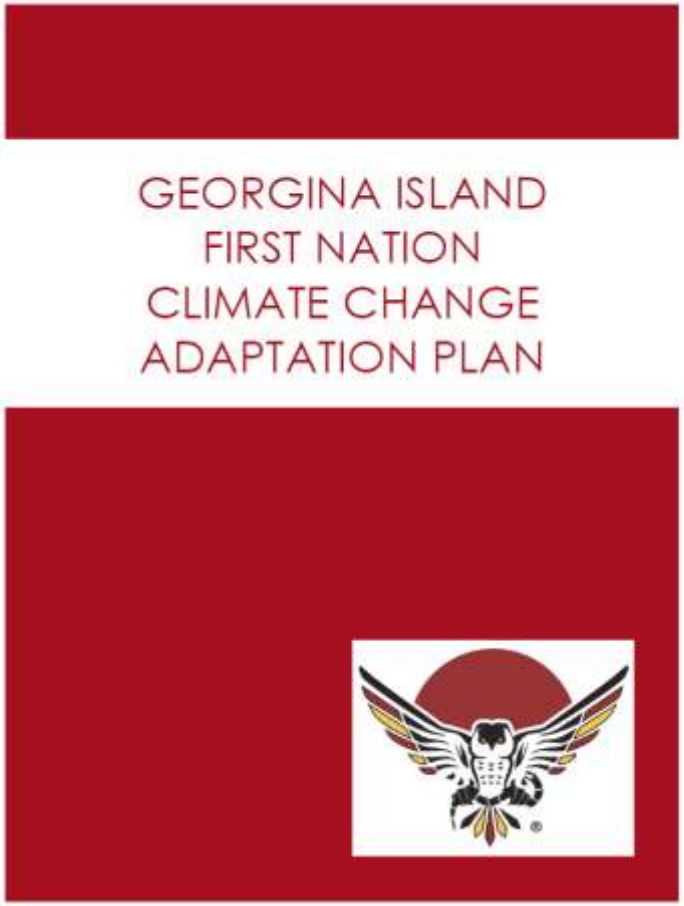


Year Three

Objectives

- Develop adaptation recommendations, adaptation plan and implementation plan;
- Conduct Band Policy review to find opportunities to mainstream climate change into existing policies for the Georgina Island First Nation;
- Public Engagement and Workshops

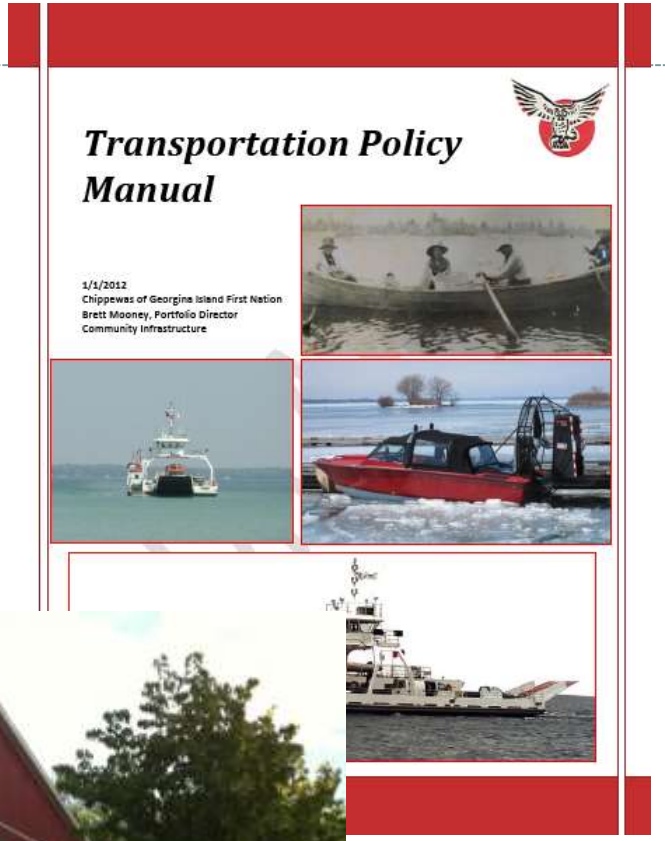
Adaptation Recommendations



Adaptation recommendations to respond to risks associated with current and future climate change

Policy Review

- Health and Safety Manual/Policy
- Land Use Plan
- Pandemic Influenza Contingency Plan
- Transportation Manual
- Forest Management
- Capital Plan
- Drainage Plan



Public Engagement and Workshops

Community Engagement critical component of project!

- 6 Bingo/Information Sessions
- 1 Interactive Workshop
- Ongoing communication from the Community Adaptation Liaison through notices, community radio announcements, website updates, our community App and facebook page

Information Session and Workshop for the OTC First Nations

As part of this project Georgina Island wanted to engage some of the other First Nations to:

- Educate them on the Topic of Climate Change
- Inform and engage them of the importance of Climate Change
- Share with them the work that's been done on Georgina Island

And

- Offer support

Information Sharing

- What is Climate Change
- Georgina Islands Project
- Sub Watershed Planning
- Next Steps –Year Four Proposal

Interactive Session

- 2 groups
- 4 questions
- 1 hour
- Report back

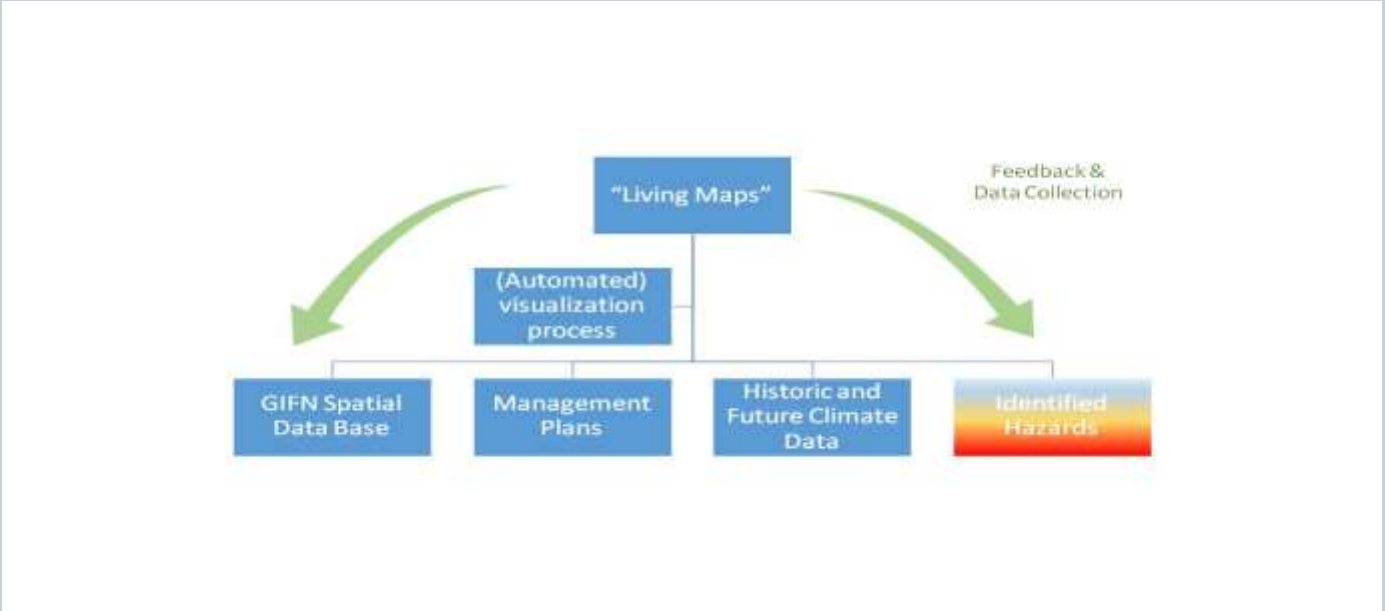
Year Four

Three Objectives

- Hazard Mapping
- Application of Vulnerability Assessments
- ~~Continuation of Policy Review~~

Hazard Mapping

- Translating identified Climate Impacts into GIS Maps
- (Geographic Information System)



Application Of Vulnerability Assessments

- Partnering with two other OTC First Nations
  - **Alderville**
  - **Beausoleil**
  - **Moose Deer Point**
  - **Rama**
  - **Scugog Island**

Information Session and Workshop for Other First Nations

- Share our knowledge and experience
- Assist and support others
- Work together and collaborate

Thank you!

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