



# Restoring Shorelines with the Help of Technology



Presentation by:

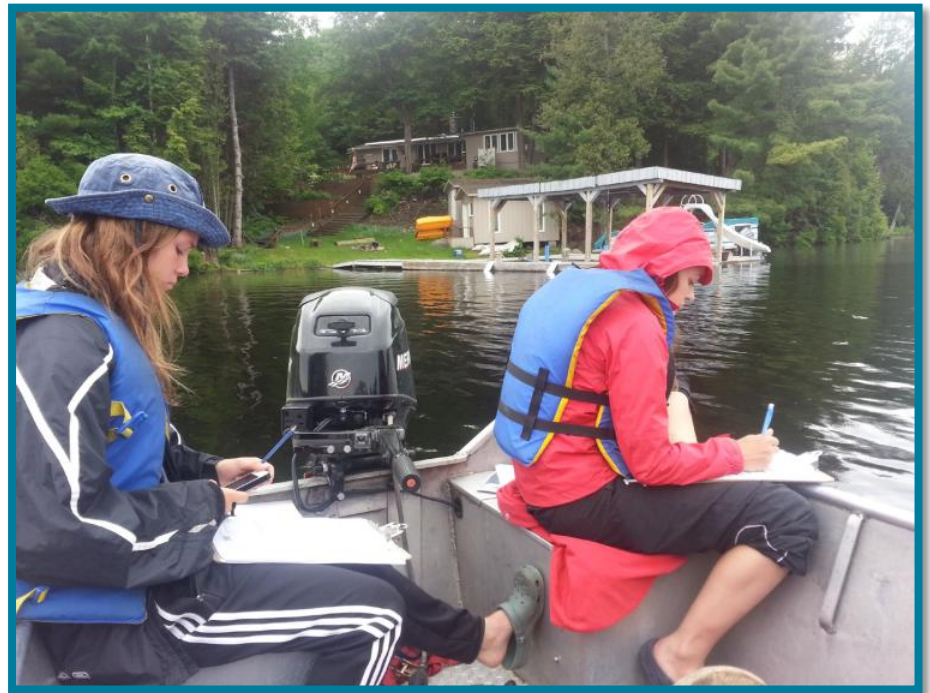


Watersheds  
CANADA

# Who are we?

Watersheds Canada has been working with a diversity of landowners, communities and organizations since 2002 to keep our freshwater healthy, beautiful and available for generations to come.

We *love* what we do,  
and we give it 100% each  
and every day.





Watersheds  
C A N A D A

## Our Mission

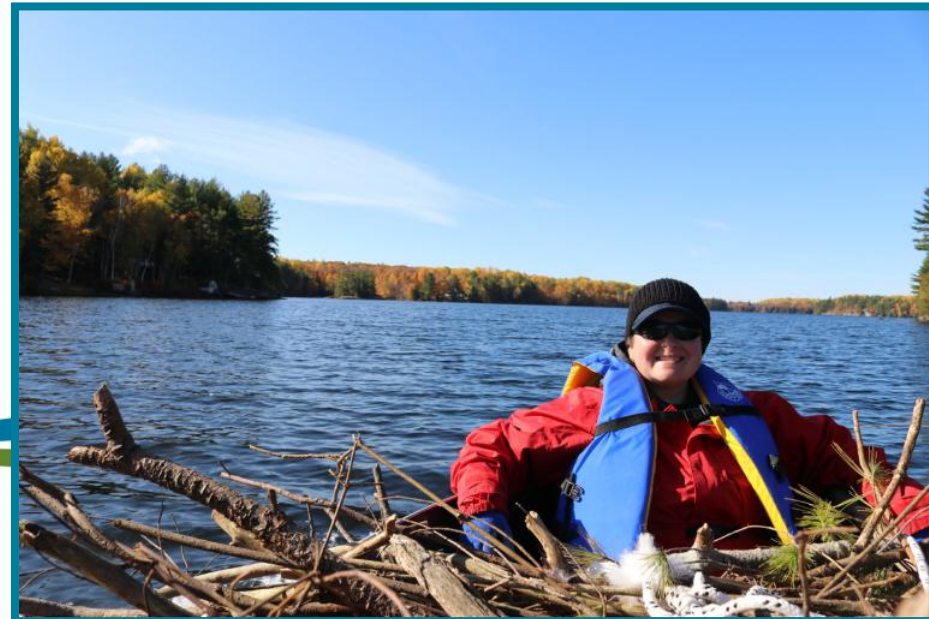
We work with landowners, communities, and organizations to protect lakes and rivers through developing effective, transferable, long-term solutions.

Your Lakes. Your Rivers. Your Future.

[watersheds.ca](http://watersheds.ca)

# Our Programs

- **Love Your Lake**
  - Shoreline property assessments,
- **Fish Habitat Enhancement**
  - Walleye Spawning Beds, Brook Trout Creeks, Brush Bundles
- **Natural Edge Program**



# The Natural Edge Program

Designed to help landowners create a natural shoreline by planting a selection of native trees, shrubs, and wildflowers suitable for their property

Restoring the *Ribbon* of Life

# Landowners Receive

- Free Site Visit
- Custom Planting Plan
- Ordering of Plants and Materials
- Planting and/or support

All at a reduced rate

25% landowner contribution or \$250 starter kit



# The start of the program

- **Site visits**
  - Maps were hand drawn, measurements and photos were taken
- **Planting Plans**
  - Made using a word template,
    - photos and shapes inserted, tables created for each plan

## Plant Selection Summary

The following shrubs and trees are chosen for their suitability and survivability given the current soil and light conditions in each compartment on your property, as well as preferable features.

Plant Species	Compartments					Potted	Bareroot
	A	B	C	D	E		
Bearberry	5					5	
Black Chokeberry	8	7				6	9
Blue Lupine					3	3	
Bracken Fern		6				6	
Fragrant Sumac	3					1	2
Harebell				4		4	
Hemlock				2		2	
Highbush Cranberry				7		3	4
Meadowsweet			6				6
Nannyberry			8			3	5
New England Aster					3	3	
Pasture Rose	10	7					17
Red Maple				1		1	
Red Osier Dogwood				12			12
Silky Dogwood			8			2	6
Wild Columbine					5	5	
Witch Hazel		1	2			3	
Yarrow					3	3	
Subtotal	26	21	24	22	18	50	61
<b>Totals</b>		<b>111</b>					<b>111</b>

## Plant Information

The following table summarizes key information about each plant selected for your property.

Plant Species	Height	Features
Bearberry	10-25cm	A low evergreen shrub, the Bearberry grows well on rocky outcrops along shorelines, and can establish itself well in shallow soils. It grows small leathery leaves and attractive white and pink flowers that are followed by bright red berries that attract bears. The fruit is edible and the roots, leaves and stems are all used in traditional herbal medicine.
Black Chokeberry	Up to 2.5m	A medium sized shrub with edible fruit, the Black chokeberry needs full sun to partial shade and can tolerate soil conditions from loamy and moist to rocky and dry. The Black chokeberry is beautiful in all seasons, with showy clusters of white flowers in the spring, dark purple fruits in the fall and bright red-orange leaves in the fall.
Blue Lupine	60cm	Blue Lupine is a beautiful blue flower that grows well in dry sandy soils and forms small colonies. It is a nitrogen fixer meaning it adds nutrients to the soil.
Bracken Fern	<2m	Bracken Ferns have large, triangular fronds that are easily adaptable and provide full, thick ground-cover for shady areas. The plants contain a carcinogenic compound and are not recommended to be eaten.
Fragrant Sumac	1-2m	Fragrant Sumac is able to tolerate and thrive in many conditions, including drought. It is well suited for locations such as slopes and banks where it can provide stabilization and erosion control. With glossy green leaves in the summer and vibrant red leaves and berries in the fall, Fragrant Sumac is a gorgeous addition to your property.
Harebell	15-50cm	A small plant, Harebell has blue/purple star shaped flowers and grows well in dry sandy soils. It attracts hummingbirds and is deer resistant.
Hemlock	30m	An extremely shade tolerant tree, Eastern Hemlock can grow into a large tree with wide, far reaching branches and live to be approximately 600 years old. The Eastern Hemlock requires high levels of soil moisture and is not tolerant of pollution, drought, and wind exposure. It is highly valued habitat for a variety of birds and mammals, providing essential winter shelter and food for white-tailed deer.
Highbush Cranberry	3-4m	A medium sized woody shrub that grows well along the moist soil

### Compartment A Naturalization Area

The following photograph shows the area to be planted with native shrubs to stabilize the soil.



□ Compartment A

Pasture Rose

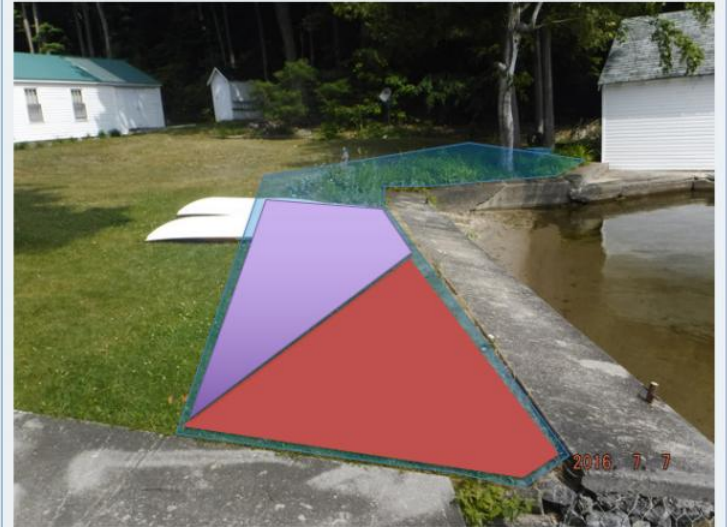
Black Chokeberry

Fragrant Sumac

Bearberry

### Compartment B1 Naturalization Area

The following photograph shows the first half of compartment B, to be planted with native shrubs to stabilize the soil.



□ Compartment B

Pasture Rose

Black Chokecherry

## Schedule B – Financial Investment Summary

The following section outlines the total cost of your project. It has been divided into 2 sections; 1- Plants and Material, 2- Services. It also includes the breakdown of the landowner contribution and the portion that will be paid by Watersheds Canada, as outlined in the Project Costs Total table.

The Natural Edge program has received generous funding to help support the costs of plants, materials, and project coordination and delivery, making this program possible.

Plants & Materials			
Item	Quantity	Cost/Item	Subtotal
<b>Bareroot Plant Stock</b>			
Black Chokeberry	9	\$2.25	\$20.25
Fragrant Sumac	2	\$2.25	\$4.50
Highbush Cranberry	4	\$2.25	\$9.00
Meadowsweet	6	\$2.25	\$13.50
Nannyberry	5	\$2.25	\$11.25
Pasture Rose	17	\$2.25	\$38.25
Red Osier Dogwood	12	\$2.25	\$27.00
Silky Dogwood	6	\$2.25	\$13.50
<b>Potted Plant Stock</b>			
Bearberry	5	\$9.05	\$45.25
Black Chokeberry	6	\$11.30	\$67.80
Blue Lupine	3	\$3.50	\$10.50
Bracken Fir	6	\$9.05	\$54.30
Fragrant Sumac	1	\$11.30	\$11.30
Harebell	4	\$3.50	\$14.00
Hemlock	2	\$11.30	\$22.60
Highbush Cranberry	3	\$11.30	\$33.90
Nannyberry	3	\$11.30	\$33.90
New England Aster	3	\$3.50	\$10.50

Red Maple	1	\$11.30	\$11.30
Silky Dogwood	2	\$11.30	\$22.60
Wild Columbine	5	\$3.50	\$17.50
Witch Hazel	3	\$11.30	\$33.90
Yarrow	3	\$3.50	\$10.50

Tending Materials			
Mulch (per plant)	111	\$0.95	\$105.45
Tree Guards (per tree)	1	\$1.50	\$1.50
Soil (per plant)	111	\$0.50	\$55.50

Subtotals & Taxes	
Bareroot Plant Stock	\$137.25
Potted Plant Stock	\$399.85
Tending Materials	\$162.45
<b>Plants &amp; Materials Subtotals</b>	<b>\$699.55</b>

Services			
Item	Quantity	Cost/Item	Subtotal
Watersheds Canada Site Visit	1- Date	\$150.00	\$0- Provided in kind
Plant Stocking	111	\$2.00	\$222.00
Mulching & tree guard installation	111	\$1.50	\$166.50
Shipping & handling of materials	-	-	\$25.00
Planting plan	-	-	\$350.00
Project management and delivery	-	-	\$400.00
Administration fee	-	-	\$20.00
<b>Services Total</b>			<b>\$1,183.50</b>

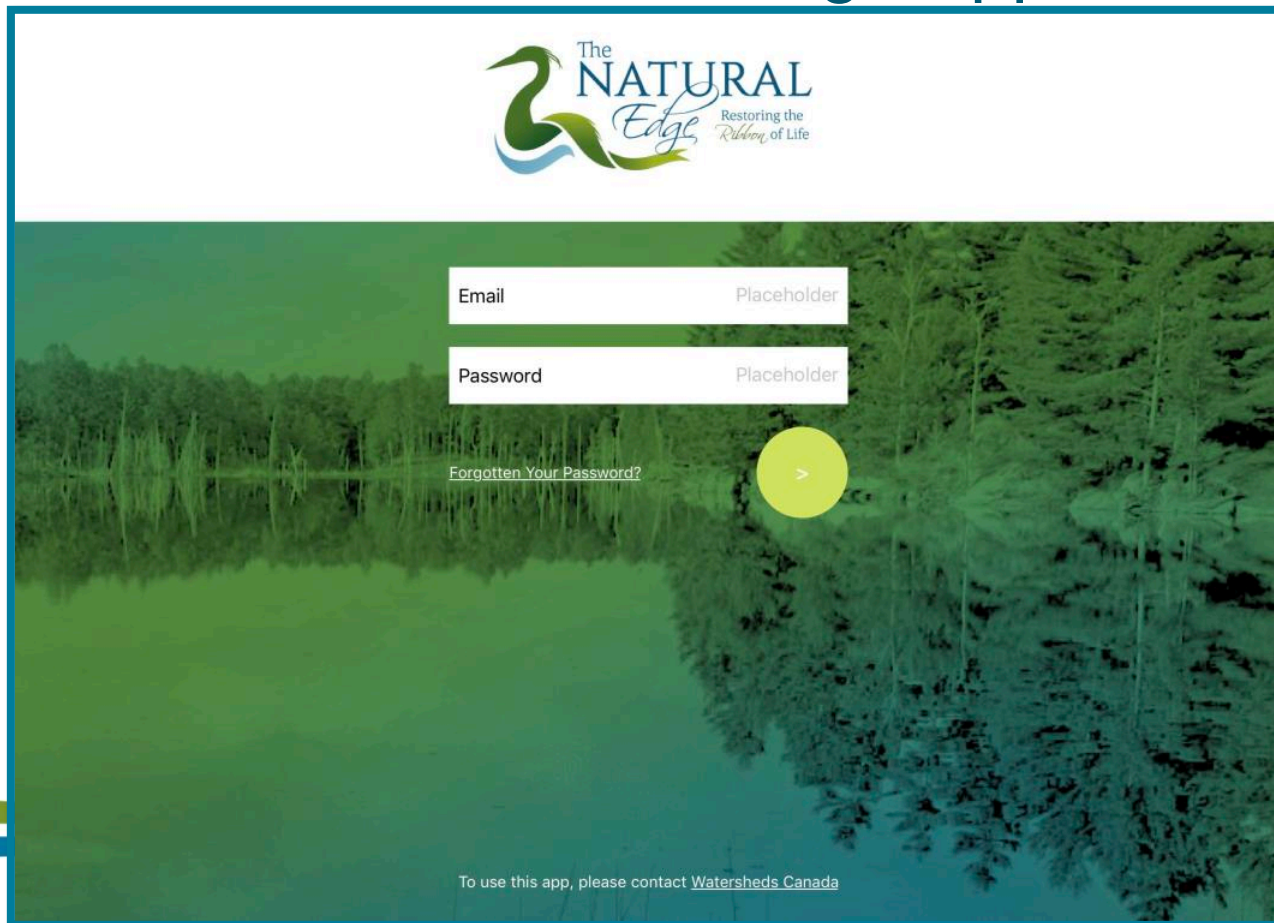
# Slow turnaround

- Each plan would take either a half to a full day to make, 4 to 7 hrs, depending on the size of the property.
- Landowner would review and changes would be made before the plan was approved and agreement was signed.

# How can we improve the program?

Increase efficiency + reach more landowners +  
work with more partners =

## The Natural Edge App



# The Natural Edge App

- A mobile application for on-site design
- An online Admin system
  - Partner Account
  - Generates Planting Plan
  - Native Plant Database



# Native Plant Database

# The App and Admin System

# Our Sites



Public Lands



Private Property

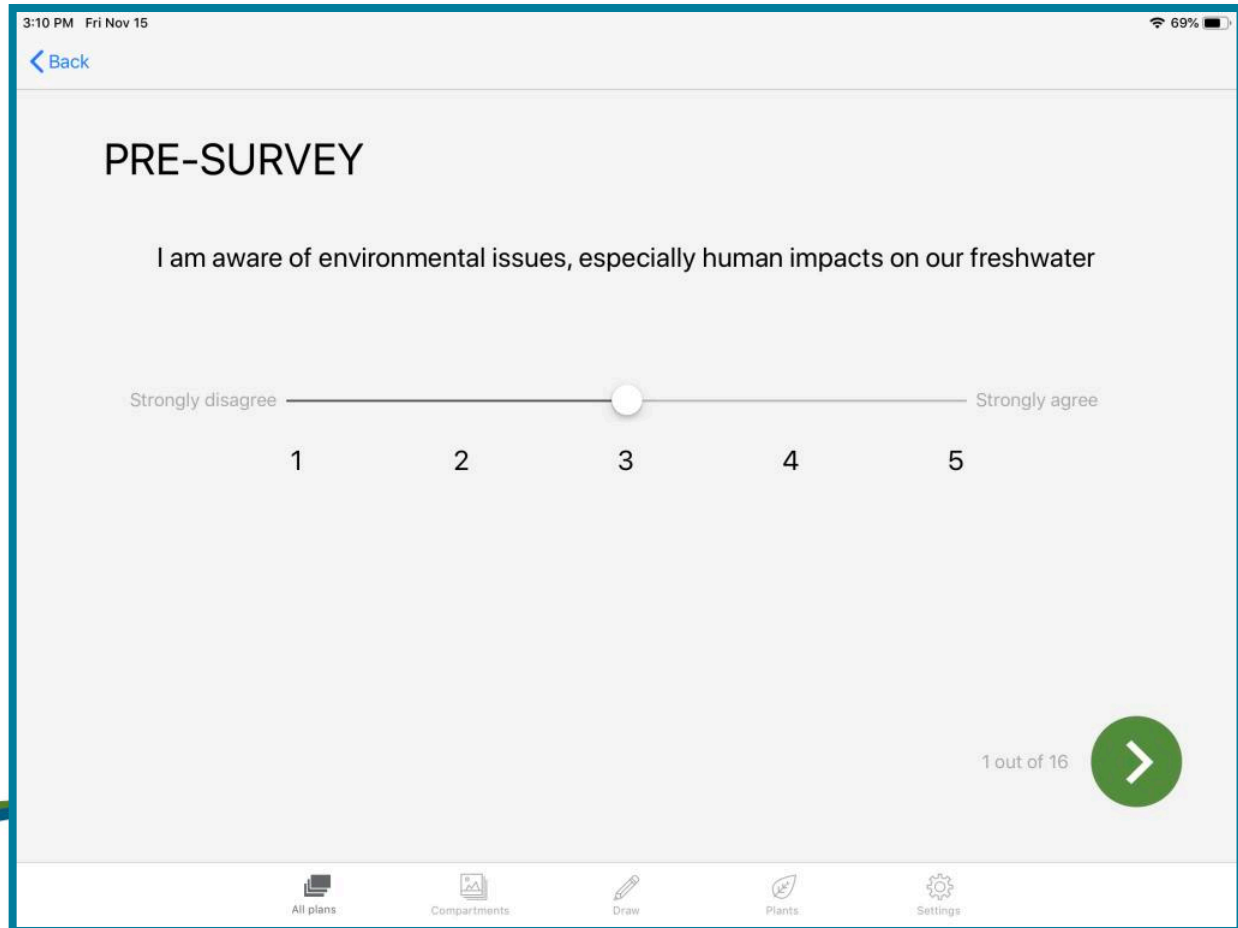


Agricultural Sites



# Impact

- Pre and Post – Planting Surveys
  - Change in attitude
  - Need for program
- Built into the app



3:10 PM Fri Nov 15 69%

< Back

## PRE-SURVEY

I am aware of environmental issues, especially human impacts on our freshwater

Strongly disagree ————— Strongly agree

1 2 3 4 5

1 out of 16

All plans Compartments Draw Plants Settings

The screenshot shows a mobile application interface for a pre-survey. At the top, the status bar displays the time (3:10 PM), date (Fri Nov 15), and battery level (69%). Below the status bar is a navigation bar with a blue arrow and the text '< Back'. The main content area is titled 'PRE-SURVEY' and contains the statement 'I am aware of environmental issues, especially human impacts on our freshwater'. Below the statement is a horizontal Likert scale with a white slider knob positioned at the number 3. The scale is labeled 'Strongly disagree' on the left and 'Strongly agree' on the right, with numbers 1, 2, 3, 4, and 5 marked along the axis. At the bottom right of the main content area, it says '1 out of 16' and a green circular button with a white right-pointing arrow. The bottom of the screen features a navigation bar with five icons: 'All plans' (a stack of papers), 'Compartments' (a diagram of a compartment), 'Draw' (a pencil), 'Plants' (a leaf), and 'Settings' (a gear).

# In Ontario, since 2013

- 288 properties naturalized covering over 115,000m<sup>2</sup>
- Over 53,000 native trees, shrubs and wildflowers planted!



# Natural Edge Program available to Partners

For \$1,200 per year, partners receive:

- The Natural Edge App
- Training and Support
- Program brochures
- Native Plant Care Guide
- Habitat Creation Manual
- Wildflower Garden Guide

# Thank-you

## The Natural Edge Shoreline Naturalization Program 2019

Funded by the Daniel and Susan Gottlieb Foundation

### Contact info:

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