

# Lake Dalrymple Management Plan

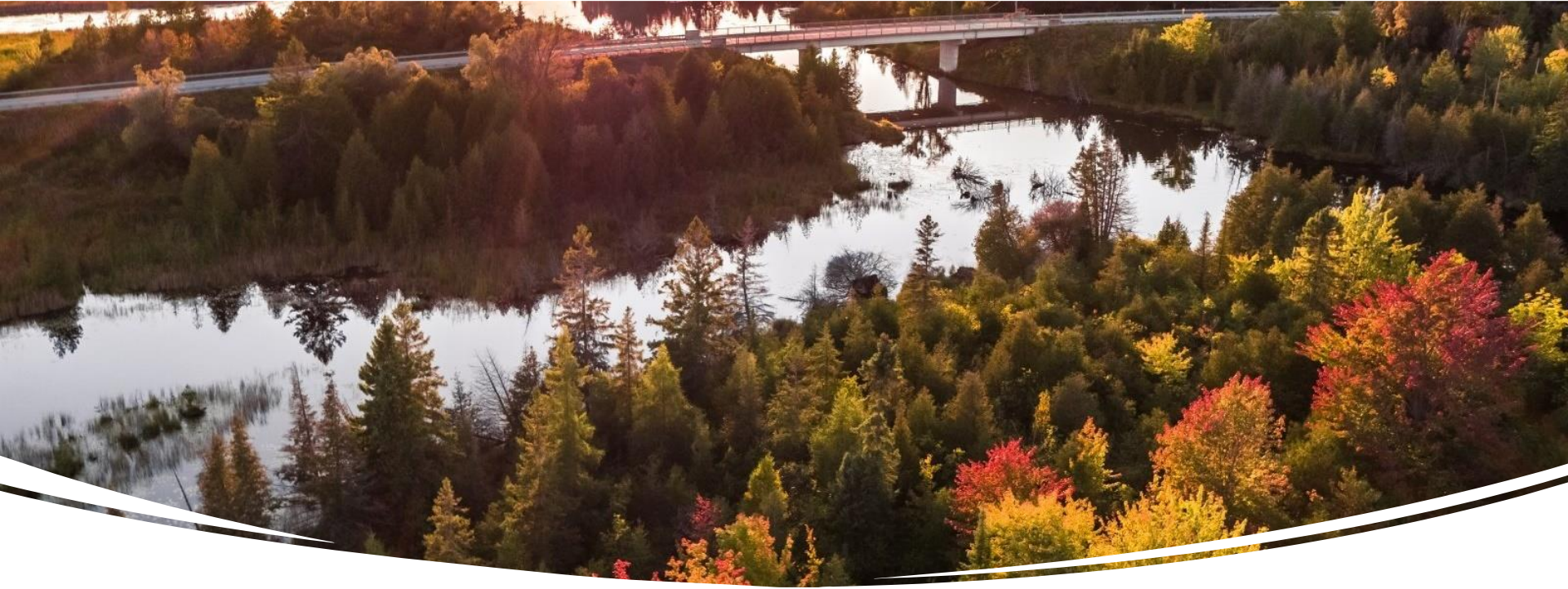
## Public Information Session

Carden Rec Centre

*May 26 and 28, 2022*

Brett Tregunno, Aquatic Biologist  
Kawartha Conservation





# First Nations Acknowledgement

We would like to acknowledge that many Indigenous Nations have longstanding relationships, both historic and modern, with the territories upon which we are located.

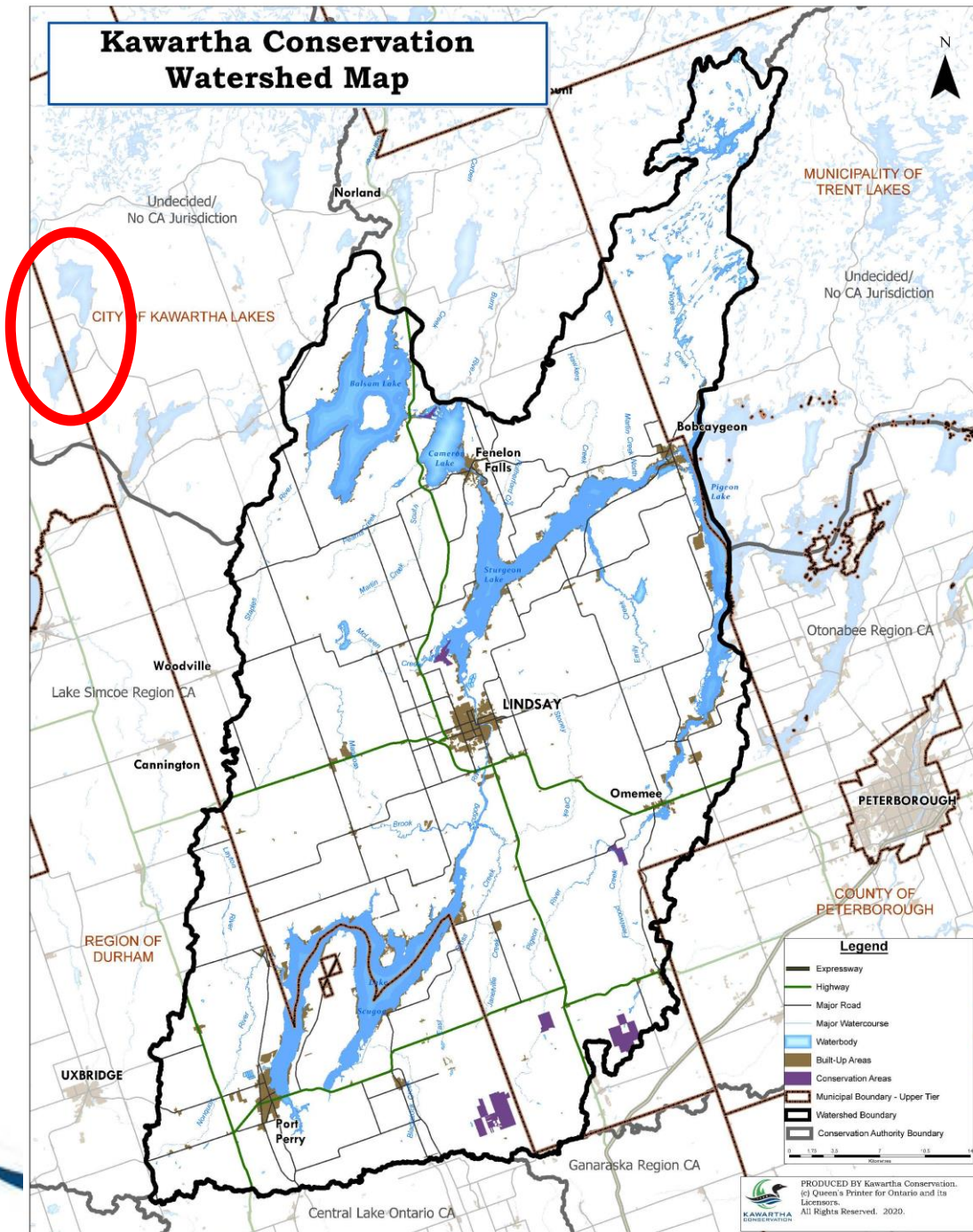
Today, this area is home to many Indigenous peoples from across Turtle Island. We acknowledge that our watershed forms a part of the treaty and territory of the south-eastern Anishinaabeg.

It is on these treaty lands that we live and work. To honour this legacy, we commit to being stewards of the natural environment and to have a relationship of respect with our Treaty partners.





# Kawartha Conservation Watershed Map



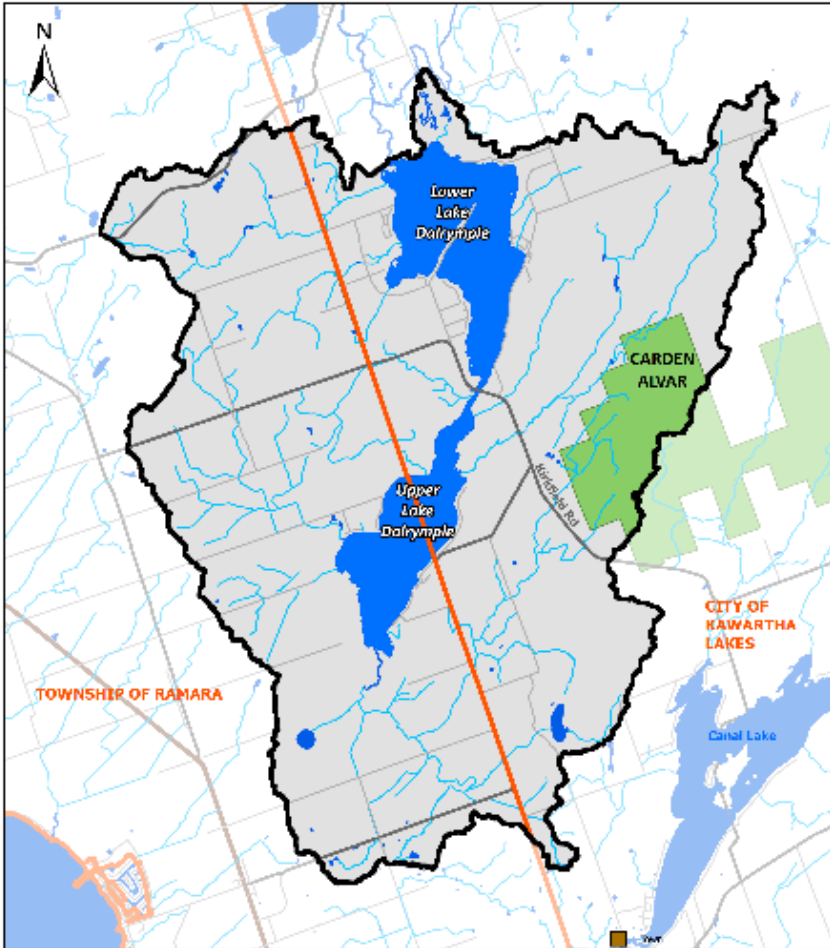
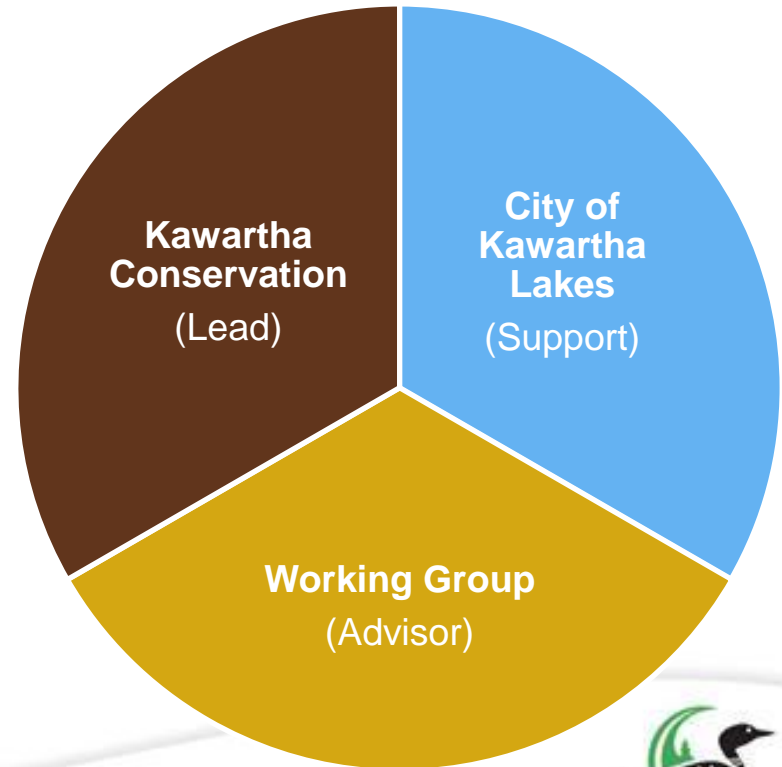
## Kawartha Conservation

- Watershed basis
- Help manage our natural resources and keep people safe from environmental hazards
- Regulations and Planning
- Environmental Monitoring
- Stewardship
- Land Ownership
- Special Projects

# Project Overview

## Lake Dalrymple Management Plan

4 year project  
(2021-2024)



Lake Dalrymple Overview Map



PRODUCED BY Kawartha Conservation with data supplied under license by (c) Queen's Printer for Ontario, 2021.

Scale: 1:95,000



- Hydro
- Lake Bed
- Shoreline
- Water
- Lake Level
- Flooded Area
- Municipal Boundary
- Municipal Boundary

# Project Objectives

- Implement water quality and water quantity sampling networks to identify threats, hotspots, trends, and identify options for priority actions.
- Provide a scientific basis to inform municipal land use policy within the City of Kawartha Lakes.
- Design management activities to achieve Provincial Water Quality Objectives for the lake and its tributaries.
- Protect and improve water quality for all uses.



# Project Objectives

- Foster community participation in the project and understanding of the Kawartha Lakes, their natural and historic heritage, and human impacts.
- Develop and coordinate the necessary partnerships for effective collaboration on all aspects of the planning process and plan implementation.
- Promote a greater dialogue and understanding of issues, conflicting needs, visions and resource uses.
- Identify specific items for ongoing monitoring and advanced research.



# Project Overview - requirements



Science + Community Input = Lake Plan



# What the Lake Plan IS...



- Updated science and community information on the lake and it's drainage basin.
- A suite of management recommendations to inform: policy makers, lake managers, lake/road associations, residents, lake users.
- Allows access to lake rehabilitation and monitoring funding opportunities (for example the CKL WATER Fund)



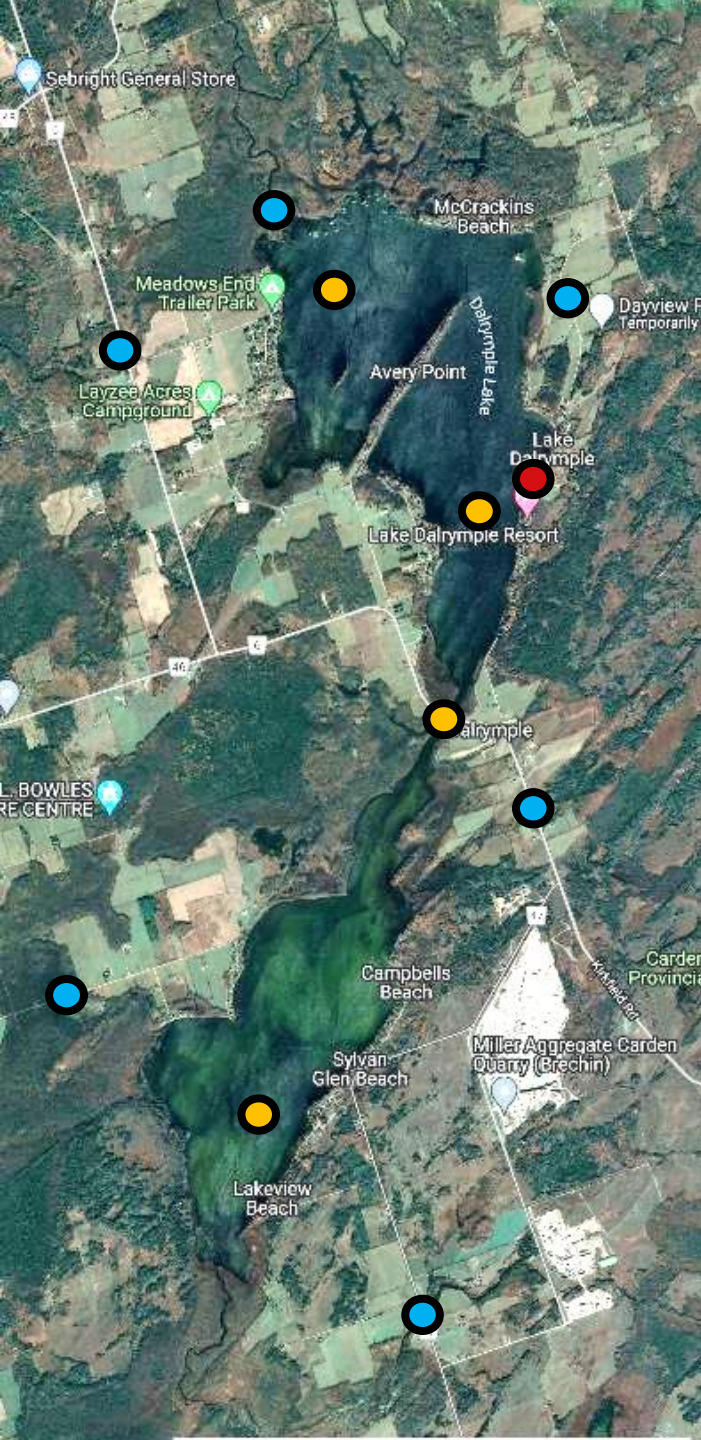


# What the Lake Plan IS NOT...

- Legally binding.
- A forced set of rules.
- Kawartha Conservation adding to our jurisdiction.
- A replacement of existing planning strategies.



# Core Monitoring Locations



## Lake

- 3 sites for quality, 1 in Upper and 2 in Lower.
  - Sampled 1x per month
- 1 site for water levels at bridge
  - Sampled 2x monthly



## Streams and Rivers

- 6 sites, 3 in Upper, 2 at Lower, 1 at lake outflow.
  - Sampled 2x monthly



## Precipitation (rainfall)

- 1 site at the Carden Recreation Centre.
  - Sampled 1x per month for quality
  - Sampled hourly for rainfall amounts



# Additional Monitoring



Water Level Logger



Aquatic Plants



Land Use



Lake Sediment Quality



Stream Fishes





# Public Engagement Survey

- **Engagement Survey**, on website or hardcopy
- Key issues?
- Key values?
- Major changes?



Open until June 30<sup>th</sup>

# Key Issues... so far

- Heavy fishing pressure
- Walleye and muskellunge now rare
- Ice fishing pressure
- 'Toxic dump' on the former Black property on Hwy 47
- High runoff potential into lake from shallow soils, and pollution related issues
- Dug airplane canal
- Potential for more shoreline development
- Out of date shoreline septic systems
- Mid summer algae blooms
- Overall water quality in lake

# Key Issues... so far

- Receding water levels over time
- Nutrient loading
- Heavy metal accumulation in sediments
- Bacterial levels in water, especially in summer
- Control of public boat launch at narrows
- Rocks in narrows re navigation issues
- Weed and algae growth
- Recreational boating: safety, noise, and pollution
- Impacts of quarries
- Dissolved oxygen under ice in winter
- Invasive species

# Online Data Portal

Kawartha Conservation - Lake Dalrymple Management Plan [Welcome](#) [About](#) [Water Quality](#) [Vertical Lake Profiles](#) [Water Quantity](#) [Thermal](#)

## Welcome to the Lake Dalrymple Management Plan Dashboard

This interactive dashboard will be used to deliver the most up to date results from [Kawartha Conservation's Lake Dalrymple Management Plan](#).



Across the top menu panel, you can view results from the following monitoring programs:

- Water Quality
- Vertical Lake Profiles
- Water Quantity (Lake and stream water levels)
- Thermal Regimes of Streams

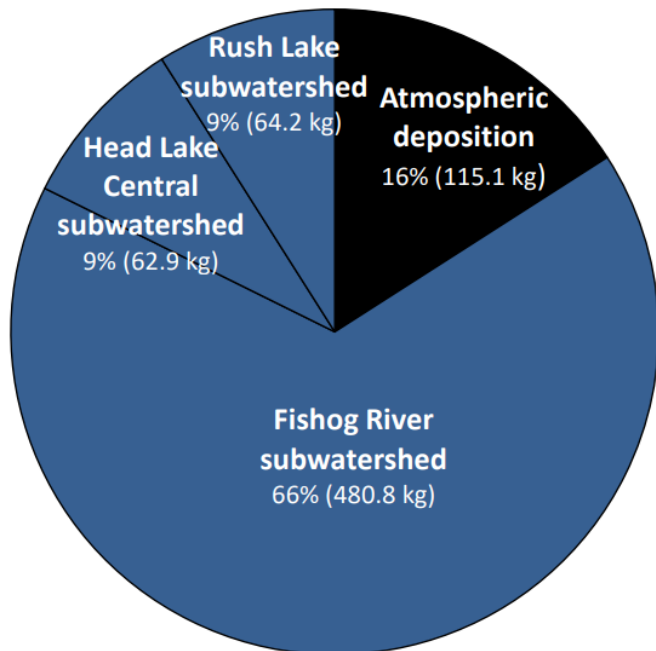
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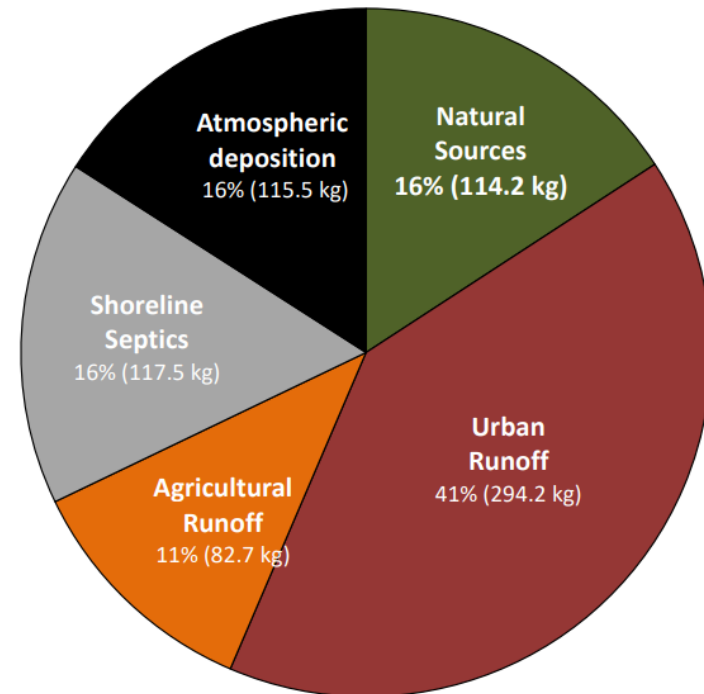


# Examples of 'outcomes' from other lake plans

Phosphorus loading by WATER SOURCE  
(avg/year)



Phosphorus loading by SECTOR  
(avg/year)



From: Head and Rush Lake Management Plan

# Examples of 'outcomes' from other lake plans

Subwatershed	Forests Benchmark = >50%		Wetlands Benchmark = >10%		Streamside Vegetation Benchmark = >75%	
	Existing %	Needed % (ha)	Existing %	Needed % (ha)	Existing %	Needed % (ha)
Corben Creek North	77	-	31	-	96	-
Corben Creek South	55	-	6	4 (76)	95	-
Four Mile Lake Central	69	-	7	3 (60)	92	-
Merrett Creek	76	-	58	-	94	-
<b>Total Four Mile Lake Planning Area</b>	<b>68%</b>	<b>-</b>	<b>19%</b>	<b>-</b>	<b>95%</b>	<b>-</b>

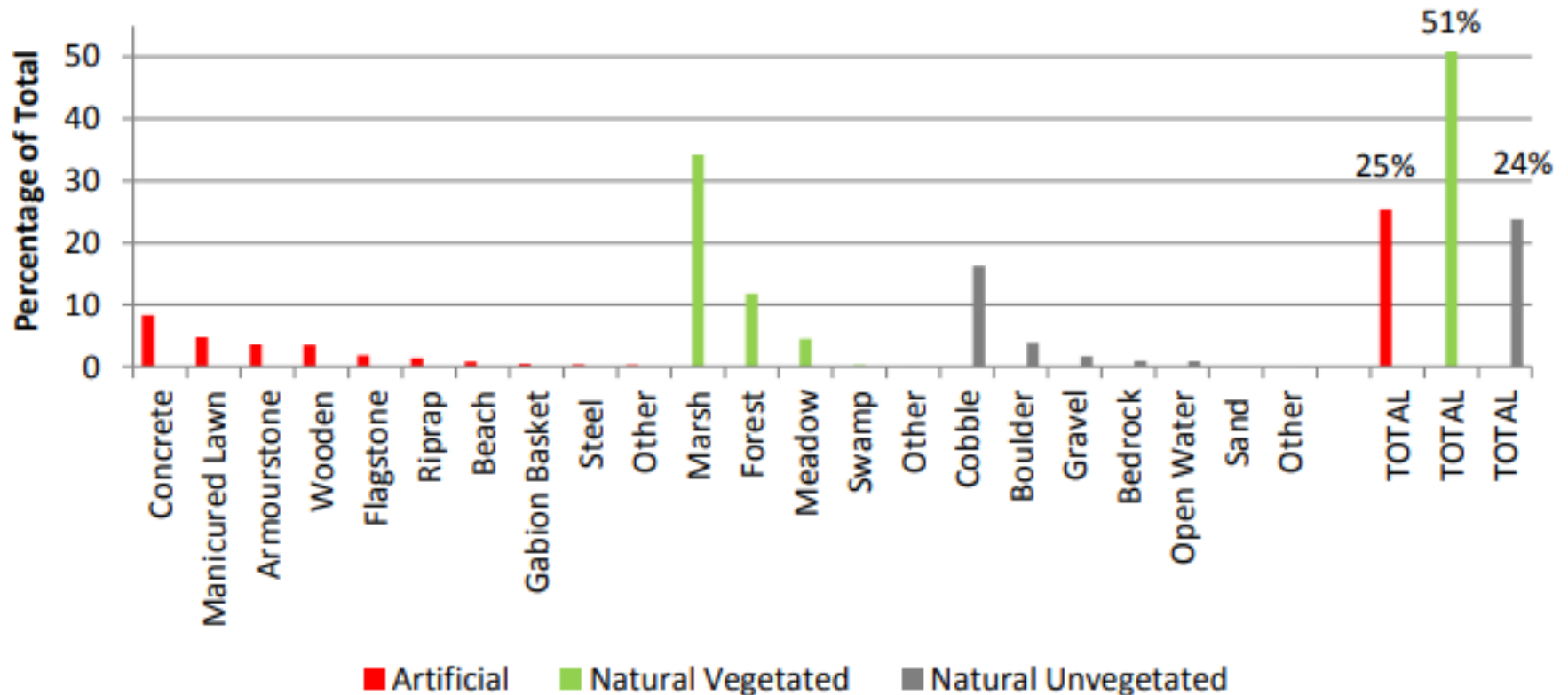
Red highlight: existing amount does not meet benchmark

Green highlight: existing amount meets benchmark



# Examples of 'outcomes' from other lake plans

## Shoreline Characteristics at Water's Edge



*From: Sturgeon Lake Management Plan*

# Examples of 'outcomes' from other lake plans

## **Action A1: Septic system maintenance**

Undertake responsible management of septic systems, including routine inspections, along shoreline properties.

### **Priority**

- High

### **Priority areas**

- Densely populated shoreline areas; older septic systems
- Septic systems in close proximity to the public beach

### **Lead and (partner) implementers**

- Four Mile Lake residents; City of Kawartha Lakes; Haliburton, Kawartha, Pine Ridge District Health Unit; (Four Mile Lake Association; septic system businesses; Federation of Ontario Cottagers' Associations)

### **Initiatives**

- Encourage property owners to conduct periodic inspections of septic system to determine if functioning as designed or if pump-outs, repairs, or replacement is needed.
- Require septic system to be inspected (i.e., as formal conditions from real estate agents, lawyers, etc.) by a licenced installer as a condition of property sale/purchase."
- Conduct regular pump-outs, every 3 to 5 years depending on use or when scum and sludge occupy more than one-third of capacity, to ensure septic system is functioning as designed.
- Take advantage, if necessary, of the recently approved City of Kawartha Lakes "Septic Rehabilitation Loan Program." This allows owners to enter into a longer-term payback agreement to access funds to repair or improve their system.
- Host periodic "dock talk" extension services and local workshops with a focus on helping homeowners understand, inspect, and manage septic systems.
- Create a comprehensive inventory of all septic systems around Four Mile Lake, detailing type, location, year of construction, and other information.
- Continue investigating official complaints of potentially malfunctioning systems to address potential health hazards and determine corrective actions as required.
- Consider the feasibility of expanding the City of Kawartha Lakes Mandatory Maintenance Sewage System Program to include Four Mile Lake. This inspection program is intended identify systems that aren't being properly maintained and to provide education to home owners to ensure that on-site sewage systems do not cause a public health threat or environmental concerns. Currently this program only applies to wastewater systems on properties located within vulnerable areas of municipal drinking water systems.



*From: Four Mile Lake Management Plan*



# Examples of 'outcomes' from other lake plans



## **Action C2: Responsible construction practices**

Ensure that construction projects, particularly road maintenance works, are conducted in a manner that does not degrade water quality or sensitive habitats.

### **Priority**

- Medium

### **Priority areas:**

- Roads with steep slopes and highly erodible soils,
- Roads that drain immediately into lake-connecting watercourses, and
- All construction worksites.
- Perched culverts along streams.

### **Lead and (partner) implementers**

- City of Kawartha Lakes; watershed residents; (construction industry)

### **Deliverables**

- Avoid conducting construction projects during sensitive periods for fish and wildlife, where this is appropriate.
- Identify and install effective measures to prevent disturbed soils and sediments from migrating into the watercourses. Use standards outlined in the document, *Erosion and Sediment Control Guideline for Urban Construction* (Toronto and Region Conservation Authority, 2006). For example:
  - Focus on site-level containment of sediments, recognizing that advanced controls are often required to protect sensitive natural heritage features.
  - Plant disturbed areas with soil-stabilizing vegetation, preferably native species.
  - Use sediment blankets or matting for disturbed banks.
  - Work in low-flow periods; develop a back-up plan in case of heavy rains/melt.
- Host periodic workshops for contractors, consultants, project managers, and developers to ensure effective communications and knowledge of the most up-to-date measures for controlling the movement of sediments off-site.
- Address perched culverts at road-stream crossings to ensure that resident and migratory aquatic organisms fishes have unimpeded access up and down tributaries on a year-round basis. For example the following locations have perched culverts: Shadow Lake North subwatershed at Monck Rd., Shadow Lake Northeast subwatershed at Monck Rd. and at Shadow Lake Road 10.

*From: Shadow and Silver Lake Management Plan*

# Closing

Thank you!

[www.KawarthaConservation.com](http://www.KawarthaConservation.com)

Lake Dalrymple Management Plan Webpage

Engagement Survey

Key Findings, News, Historical Reports

Examples of Lake Management Plans

**Contact Us!**

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