

APPENDIX

A

to

REPORT

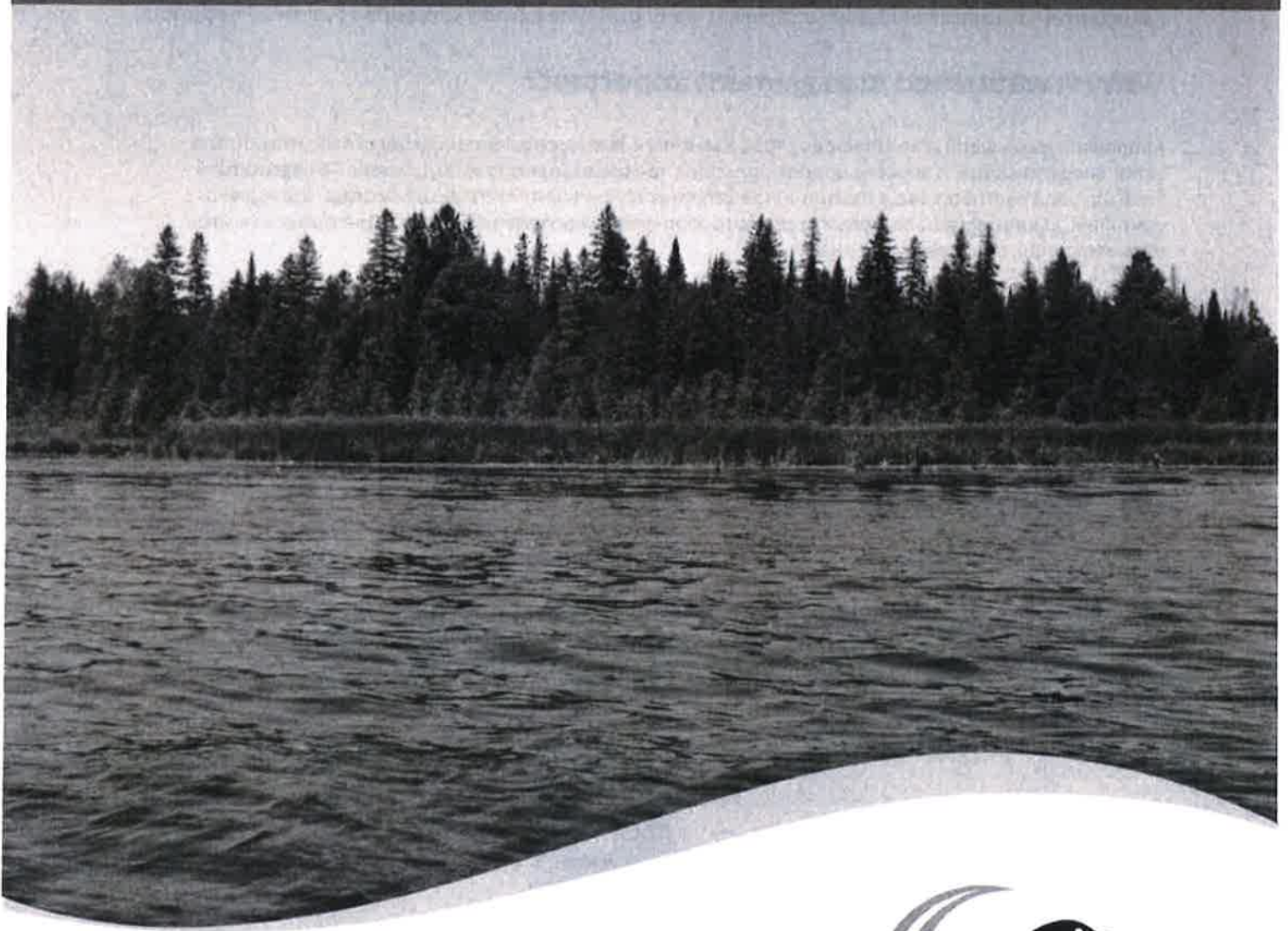
PLAN 2018-054

FILE NO.

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# Lake Management Implementation Action Plan

May 16, 2018



**KAWARTHA  
CONSERVATION**

Discover • Protect • Restore

# About Kawartha Conservation

## Who we are

We are a watershed-based organization that uses planning, stewardship, science, and conservation lands management to protect and sustain outstanding water quality and quantity supported by healthy landscapes.

## Why is watershed management important?

Abundant, clean water is the lifeblood of the Kawarthas. It is essential for our quality of life, health, and continued prosperity. It supplies our drinking water, maintains property values, sustains an agricultural industry, and contributes to a tourism-based economy that relies on recreational boating, fishing, and swimming. Our programs and services promote an integrated watershed approach that balance human, environmental, and economic needs.

## The community we support

We focus our programs and services within the natural boundaries of the Kawartha watershed, which extend from Lake Scugog in the southwest and Pigeon Lake in the east, to Balsam Lake in the northwest and Crystal Lake in the northeast – a total of 2,563 square kilometers.

## Our history and governance

In 1979, we were established by our municipal partners under the *Ontario Conservation Authorities Act*.

The natural boundaries of our watershed overlap the six municipalities that govern Kawartha Conservation through representation on our Board of Directors. Our municipal partners include the City of Kawartha Lakes, Region of Durham, Township of Scugog, Township of Brock, Municipality of Clarington, Municipality of Trent Lakes, and Township of Cavan Monaghan.



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# Acknowledgements

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Chris Marshall	City of Kawartha Lakes
Colleen Collins	Chamber of Commerce
Dave Pridham	Kawartha Conservation
Dave Warren	Shadow Lake Association
Doug Elmslie	City of Kawartha Lakes
Doug Erlandson	Balsam Lake Association & Chair of Community Advisory Panel
Doug Lowles	Head Lake High Shores Assoc. & Head & Rush Lake Stewardship Group
Doug Timmins	Four Mile Lake Association
Gord Miller	City of Kawartha Lakes, Director, Kawartha Conservation
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Pat Warren	Environmental Advisory Committee
Saul Chernos	Four Mile Lake Association
Steve Strangway	City of Kawartha Lakes

Funding for Lake Management Planning activities has been provided by the City of Kawartha Lakes



# Executive Summary

Implementation of the Lake Management Plans is important to our economy, the attractiveness of the area for tourism and to the continued growth of our communities that have developed around the lakes and rivers. Using these Plans to inform decision making is in direct accordance with the Strategic Plan for the City of Kawartha Lakes, specifically under the goal of Healthy Environment. The work proposed through this Action Plan will help to improve water quality, build community understanding and capacity, and attract additional investment in our community. Our lakes are important to our economy, our quality of life, and our environment.

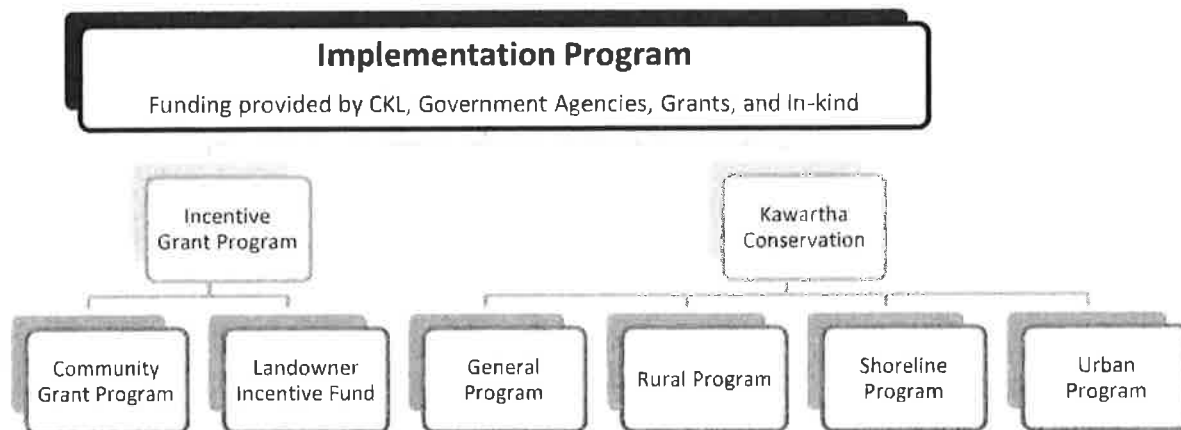
Implementation is more than just a list of projects and programs. Implementation means our beaches are open in the summer for residents and tourists to use. It means healthier fisheries that attract anglers all year long. Implementation means beautifying our urban communities with rain gardens instead of mud puddles. Implementation means building a community that is proud of our lakes, our towns, and our rural countryside. Implementation supports our locally grown food and better drinking water quality. Implementation is about building and supporting the community we want to live and play in.

The Lake Management Planning process has, over the last ten years, engaged our community and identified concerns and priorities on issues affecting the health and appeal of the Kawartha Lakes. This process has also increased community awareness and involvement, and leveraged substantial external funding through early implementation efforts. Building on the momentum established through early implementation efforts will help increase program uptake and encourage more in-the-ground action. Details on the early implementation efforts can be found in Appendix D on page 51.

The Lake Management Implementation Action Plan proposes to maintain and build on this momentum of involvement and investment generated through the planning process with the goal of maintaining and improving the appeal of our lakes as an engine for economic growth. The Plan summarizes the greatest common concerns expressed by residents throughout the City and proposes science-based solutions to address these concerns. An annual review with each lake community will identify targets for that year and to continue to leverage external funding to assist with the financial viability of achieving these targets.

## Recommendations

The Task Force recommends two program areas for implementation.



## Incentive Grant Program

The **Community Grant Program** provides funding for actions directly linked to the recommendations within the Lake Management Plans. This fund will empower community groups and individuals to deliver projects within our community and leverage the investment of the City of Kawartha Lakes.

Projects may include aquatic plant control measures, establishing community rain gardens or implementing an invasive species mitigation program within their community. This fund empowers groups like cottage associations to take action to manage aquatic plant growth within their lake or other similar projects at the local level. Groups can apply for funding for their projects, with matching contributions being both cash and in-kind. In these projects, the community group is the lead organization; however other partners and supporters may be involved.

It is recommended that Kawartha Conservation take a leadership role in administering and reporting on the fund under the guidance of a Grant Selection Committee. For more information on the Community Grant Program see page 15.

The **Landowner Incentive Fund** will enable private landowners to implement best management practices that will have a direct impact on the health of our lakes. This is also a matching grant program with leveraged funds coming from the landowner as well as other government agencies. This program provides incentives to help landowners take action. Projects will be approved by a committee but may include fencing cattle out of streams, re-establishing native vegetation in riparian areas, or implementing low impact development projects on their property to reduce runoff and flooding. For more information on the Landowner Incentive Fund project, see page 17.

## Kawartha Conservation Program

The second stream includes programs developed and lead by Kawartha Conservation. These programs will attract community investment and build partnerships that leverage knowledge, effort, and impact, and help others to achieve Lake Management Plan objectives. The programs of Kawartha Conservation are captured under four main categories of General Programs, Rural Programs, Shoreline Programs, and Urban Programs. The specific projects proposed, over a 5 year period, have been evaluated by the Task Force and the following recommendations have been made.

### **General Program**

**Implementation Oversight and Coordination** will ensure collaboration between multiple partners including the various agencies with jurisdiction over our lakes. Projects such as the remediation of the Bobcaygeon dam are outside the jurisdiction of Kawartha Conservation but it is recognized that this type of project is of significant interest to the community and may pose a benefit to water quality and habitat. Facilitating this type of project will ensure that priority actions from the Lake Management Plans are highlighted in other agencies. More details on this project can be found on page 21.

The **Sedimentation and Erosion Control Planning Program** will advance erosion and sediment control practices for projects in-and-around water for the construction and construction related industries. The release of materials from construction and development sites to local watercourses can have significant long-term impacts on water quality, community aesthetics, fish habitat and others. More details on this project can be found on page 23.



## Rural Program:

The **Agricultural Stewardship Program** provides information and support to help our farming community implement best management practices on their properties such as working with farmers to construct fencing along creeks to keep the cattle from polluting the water. Farmland makes up nearly 50% of the Kawartha Watershed and is particularly important in sustaining our rural communities. For more information on this program see page 27.

The **Rural Residential Stewardship Program** provides information and resources to landowners about wells, septic, and woodlot management, to protect the quality of our drinking water. Supporting these landowners when making land management decisions will have a positive impact on the health of our lakes and the beauty of our region. For more information on this program see page 29.

The **Investigative Upstream Monitoring Program** includes the monitoring of streams which will provide information on when and what nutrients are entering our watercourses. By identifying the source of these nutrients, action can be taken to resolve the situation before it becomes a larger problem in our lakes. For more information on this program see page 31.

## Shoreline Program:

The **Aquatic Plant Control Project** will scientifically test the effectiveness of existing technologies to establish their impact so that permitting agencies can better support their use. The results from these tests will provide landowners with better tools to control aquatic plants at the site level and reduce our reliance on pesticides in the water. For more information on this program see page 35.

The **Shoreline Stewardship Program** will help landowners address issues such as erosion, nutrient runoff, and aquatic plants along their shorelines. Community beaches will act as public demonstration sites that will address the high E-coli readings that result in beach closures. Managing shoreline properties is essential if we want to improve the state of our lakes. For more information on this program see page 37.

The **Shoreline Planning and Policy Background Project** will review best practices that other municipalities use to protect the waterfront such as Zoning, Site Plan, Development Permit Areas or Tree Cutting Bylaws. This research will help to identify the tools that the City of Kawartha Lakes could use to protect the waterfront areas that are so important to the water quality and long term health of the lakes. For more information on this program see page 39.

The **Near Shore Monitoring Project** includes taking water samples closer to the shore and will act as an early warning system to identify where pollution is entering the lake. This monitoring is proactive in identifying the problem areas so that solutions can be found to resolve issues before they become larger problems over time. For more information on this program see page 41.

## Urban Program:

The **Bluescaping Program** will result in the implementation of low impact development features at the lot level. This program approaches solutions from all levels including working with landowners, developers, landscapers, and the policy and permitting agencies. This improved collaboration will result in wise and effective development choices as well as cost effective retrofits which will reduce the impact our urban areas have on stormwater ponds and surface water. For more information on this program see page 44.



## Recommended Investment:

The Task Force considered each program area at three different funding levels. The recommendations below are a result of considering a balance of effectiveness, priorities, and budget constraints.

Program		2019	2020	2021	2022	2023
<b>Incentive Grant Program</b>						
	Community Grant Program	15,500	15,500	36,500	36,500	36,500
	Landowner Incentive Fund	30,000	30,000	30,000	30,000	30,000
<b>Kawartha Conservation Program</b>						
<b>General Program</b>						
	Implementation Oversight & Coordination	65,700	65,700	65,700	88,700	88,700
	Sedimentation & Erosion Control Planning	33,300	21,400	33,300	21,400	33,300
<b>Rural Program</b>						
	Agricultural Stewardship	27,900	27,900	55,800	27,900	27,900
	Rural Residential Stewardship			38,400	38,400	38,400
	Investigative Upstream Monitoring	34,700	34,700	34,700	44,400	34,700
<b>Shoreline Program</b>						
	Aquatic Plant Control	18,900	18,900	18,900	19,300	
	Shoreline Stewardship	46,000	46,000	46,000	46,000	46,000
	Shoreline Planning & Policy Background	23,300	36,400			
	Near Shore Monitoring	28,600	28,600	28,600	10,300	
<b>Urban Program</b>						
	Bluescaping	33,100	43,700	43,700	43,700	43,700
<b>Total Municipal Investment</b>		<b>357,000</b>	<b>368,800</b>	<b>431,600</b>	<b>406,600</b>	<b>379,200</b>
<b>Grant Funding Leveraged</b>		<b>135,600</b>	<b>140,600</b>	<b>248,100</b>	<b>155,300</b>	<b>140,000</b>
<b>In-Kind Support Leveraged</b>		<b>135,100</b>	<b>131,000</b>	<b>151,700</b>	<b>146,800</b>	<b>135,300</b>
<b>Total Program Value</b>		<b>627,700</b>	<b>640,400</b>	<b>831,400</b>	<b>708,700</b>	<b>654,500</b>



Recommendations on program levels and length are based on the potential impact of the program on the environment and the economy, the capacity of Kawartha Conservation and partners to reach the objectives, and the funding impact on the City of Kawartha Lakes and the other supporting foundations. The recommended programs and service levels will garner 78% return on investment over the 5 year period proposed.





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# 1.0 Introduction

The Kawartha Lakes are an important part of our economy, and attract significant tourism investment in the region because of the healthy fisheries, clear water, and public access to the resource. Our lakes contribute to an improved quality of life for residents as many are attracted to the area because of the lifestyle that living by the lakes provide. These values are mirrored in the City of Kawartha Lakes Strategic Goals of a vibrant growing community, exceptional quality of life, and a healthy environment.

Lake Management Plans have been completed for all major lakes in the City of Kawartha Lakes, to determine the current state of the lakes in terms of lake health and community values and to help understand what actions can be undertaken to improve them. Stakeholder engagement was a priority through the planning process and included regular meetings of a Community Advisory Panel and Science and Technical Committee, Annual General Meetings of Lake Associations, local public open houses, many one-on-one direct meetings with representatives from Lake Associations and agency representatives, and a Stewardship Summit. These consultations, combined with science-based findings, identified 15 to 30 management recommendations proposed for each Lake to maintain or improve the health of our lakes including actions such as shoreline naturalization, urban stormwater management and responsible development and construction practices.

A Task Force was established in January to provide guidance on the development of this Implementation Action Plan. Representation on the Task Force includes City Councillors, City staff, members of the Community Advisory Panel, representatives from business sectors of the community and a member of Kawartha Conservation's Board of Directors.

The implementation of the Lake Management Plans is a vital step in ensuring that our communities have access to clean water for drinking, recreation, and in support of the local economy.

## 2.0 Purpose

The purpose of this report is to outline the multi-year strategy for developing programs to deliver the recommended actions in the Lake Management Plans and to support the Strategic Goals of the City of Kawartha Lakes. Specifically, protecting and enhancing the water quality and utilizing the Lake Management Plans to inform decision making under the goal of A Healthy Environment. It also provides an outline for the investment in local community group initiatives that play an important role in the implementation of the lake based plans. The goal of the Implementation Strategy is to ensure the effective and efficient use of limited resources across a number of implementing agencies to improve the economic, social, and environmental wellbeing of our lake based communities.



## 3.0 Developing the Implementation Action Plan

In reviewing the recommended actions from each of the Lake Management Plans, the Task Force developed a prioritization matrix (Appendix A) that would identify common and lake-specific issues to be considered. This matrix compares all the recommendations from each Plan and summarizes common, high priority trends and issues that can be addressed through the development of programs and projects.

These Plans, while specific to each lake community, have some common recommended actions that can be developed into City wide programs for the improvement of water quality. Programs such as the proposed Shoreline Program target community beaches for restoration to ensure our lakes are safe for swimming and are visually appealing, impacting tourism as well as community pride.

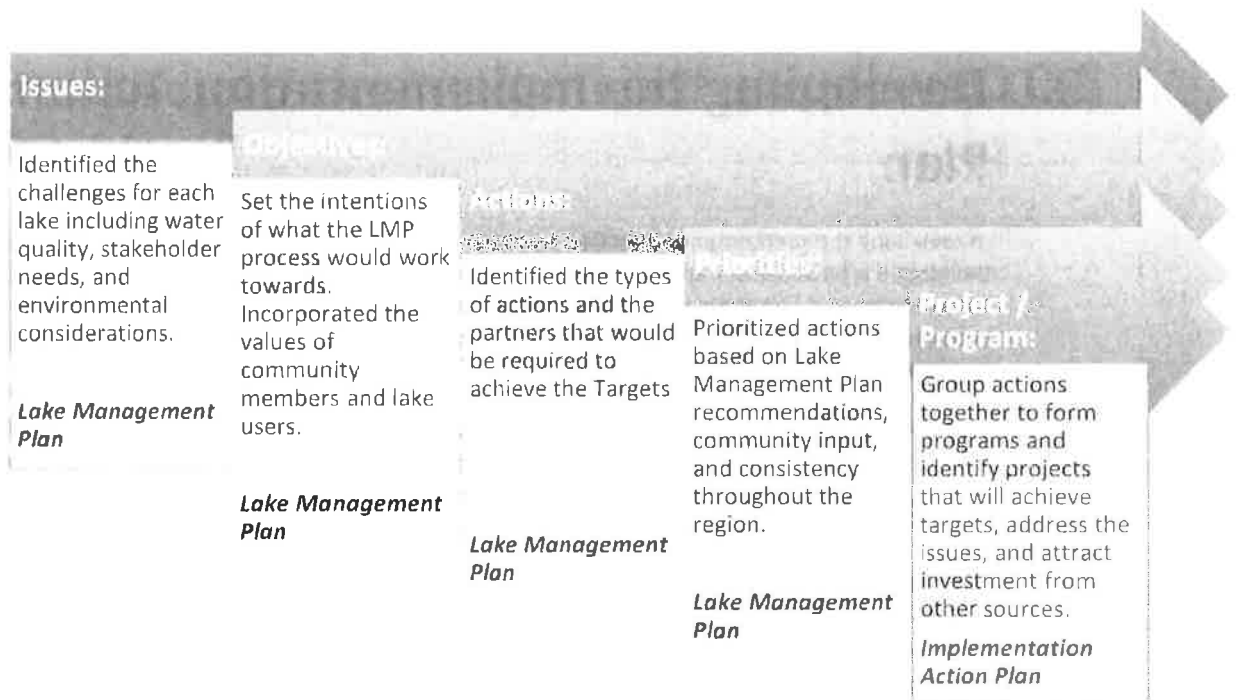
Some of the recommended actions are specific to one or two lakes and can be developed into pilot projects within those communities. Projects such as the development of aquatic plant management or the organizing of community partners to discuss water level management on lakes are examples of these types of investments.

The Task Force recommendations include the following:

- Develop programs to lead the implementation of high priority actions to ensure quick results
- Provide opportunities for other organizations and groups to take the lead on projects should be considered
- Include short and longer term projects need to be included
- Provide options to implementation programs that include a sliding scale of investment and service
- Limit the number of programs developed to ensure we are able to deliver on the key elements within the Plans.

Based on the above points and the prioritization matrix, programs were developed and vetted by the Task Force to ensure they were designed to meet the community needs. Recommendations were also vetted by the Community Advisory Panel in concert with the Task Force. The following graphic demonstrates how programs and projects were assessed for implementation.





## 4.0 Program Design

Implementing all the projects required to support a healthier and more vibrant lake community takes multiple partners. It requires community groups to mobilize the local community spirit and elevate locally important issues. It requires agency involvement to provide coordination, direction, supporting legislation and technical support. It also requires the individual to recognize the need and to be willing to participate.

Evaluating the capacity and engagement of our community groups to lead or partner with implementation projects has highlighted some barriers to implementation. The common themes include:

- Lack of resources
- Lack of capacity within small community groups
- Stakeholder engagement
- Lack of knowledge or knowledge gaps

Continued identification of additional barriers to implementation will be key to ensure that the implementation of these Lake Management Plans is successful and that our lake communities are empowered to implement strong projects that will have an impact on the health of our lakes.

The design of the Implementation Action Plan is two-fold. It recognizes the unique needs of grass roots organizations to raise their capacity to implement programs within their community and builds on the valuable resource of the Conservation Authority to deliver watershed wide programs. Each group will have their own priorities and work plans to consider before adopting a program.

Kawartha Conservation has a long history of developing implementation projects like the removal of piers in Fenelon Falls, the naturalizing of municipal shoreline properties, and the installation of low impact development demonstration sites. All of these projects have contributed to the implementation of the recommendations within the Lake Management Plans and have leveraged significant investment in the City of Kawartha Lakes from various levels of government, private foundations and corporate sponsors.

Developing a two pronged approach to implementation will enable a more coordinated approach to the actions of many. A centralized administration model of this program will ensure that projects meet the recommendations of the priority matrix, track the impact of community action, and provide both short and long-term gains to the community.

## 4.1 Enabling Implementation

The landscape of the City of Kawartha Lakes is readily separated into three unique communities; Shoreline, Urban, and Rural. Each of these communities have projects that meet the high priority items within the prioritization matrix. In addition, there are some projects and programs that are of general benefit to all three communities.



The Shoreline community refers to any property that abuts or is adjacent to a lake or major tributary within the watershed. The Urban community refers to properties that fall within the urban centres of Lindsay, Fenelon Falls, Bobcaygeon, and Omemee. The Rural community refers to any property that does not fall within the urban centers in the City of Kawartha Lakes. Urban properties may be Agricultural in nature or may be non-agricultural (rural residential). Each of these communities have unique challenges to protecting the quality and quantity of the water that enters our lakes. The programs designed for these communities address those unique qualities and address the priorities identified in the matrix.

The Task Force identified programs for each of these communities and further worked to identify areas of programs where community organizations could, with varying degrees of support, lead the implementation within their communities, as well as where Kawartha Conservation should lead the implementation.

### 4.1.1 Incentive Grant Program

The Incentive Grant Program will provide an investment into grassroots organizations and individuals looking to implement projects linked to the Lake Management Plan recommendations. It will be based on an application process where groups can identify the project details, benefits,



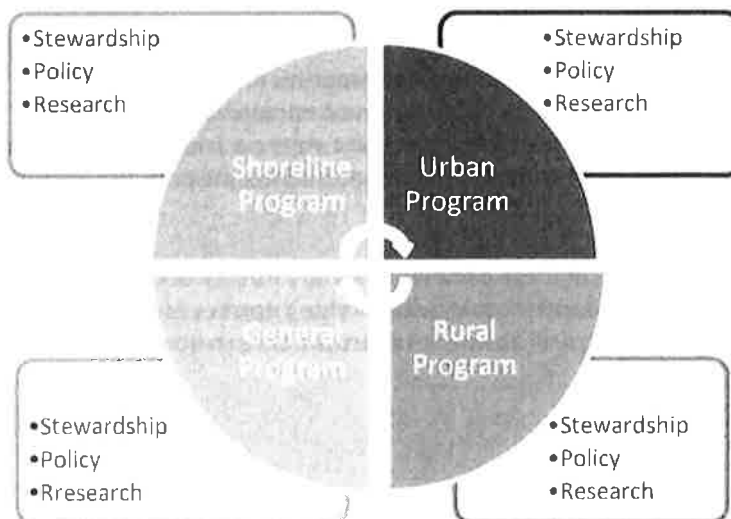
and leverage funds. This program provides freedom for community groups to participate at a level they are comfortable with. A Landowner incentive fund to improve the quality of water that passes through or over their property is another component of this program. As demonstrated through early implementation successes, working with landowners like the agricultural community has leveraged significant investment from other government agencies and private landowners (see Appendix D). These projects result in improved water quality throughout our community.

A review committee will be established that will include representation from the City of Kawartha Lakes, lake Associations, Kawartha Conservation, and special interest groups (agriculture, tourism, urban communities). The review committee will set annual priorities for funding including actions and goals as well as provide support and guidance on suggested tools and implementation success models.

The focus of the funding will be on achieving the high priority action items from the prioritization matrix. These may include aquatic plant management actions, the coordination of a community workshop on water level management, or the implementation of a community rain garden to reduce runoff. These are extremely important projects that have significant impact on their communities. While agencies may be partners in the delivery, the funding mechanism is designed to help community groups act as the lead organization.

#### 4.1.2 Kawartha Conservation Program

The Task Force recommended that Kawartha Conservation continue to take the lead on key programs that will demonstrate short and long term gains in the implementation of the recommendations. These programs will provide services to all the community groups identified earlier; Shoreline, Urban, and Rural and will be driven by informed decision making and community values.



Within each of these Programs are elements that include stewardship actions, policy development and ongoing research to strengthen implementation outcomes. While each of these elements can function independently, it is through the cross connections from one element to another where we will see the greatest impact on the health and vitality of our lakes and communities.

Programs were developed with a sliding scale for implementation service and budget. A significant focus on leveraging Municipal contributions with other grants, partners, and in-kind was also factored into each of the program options. Full program descriptions, timelines, and budgets are included in Appendix B.

Many of the program recommendations are based on previous successes that Kawartha Conservation has experienced with program delivery. Building on the momentum established through early implementation efforts will help increase program uptake and encourage more in-the-ground action. Details on the early implementation efforts can be found in Appendix D on page 51.

## 4.2 Multi-Year Strategy

Phasing in aspects of the Implementation Strategy will allow for short and long-term projects to proceed while always demonstrating in-the-ground action year over year. This steady pace of implementation will also allow for the development of funding partnerships with other levels of government and private foundations, ensuring the leveraging of the City's investment. Some programs will vary in intensity over time, allowing for a deeper investment in other areas. The Community Grant Program, for example, may start off slowly, building interest and capacity in the early stages, and then increase as groups become aware and able to implement more robust projects over time.

The following table provides recommendations on when programs or projects should be introduced and the funding level associated with the recommendation. The recommendations below are a result of considering a balance of effectiveness, priorities, and budget constraints.



Table 1-1: Proposed 5-Year Implementation Projects and Timeline

Program		2019	2020	2021	2022	2023
<b>Incentive Grant Program</b>						
	Community Grant Program	15,500	15,500	36,500	36,500	36,500
	Landowner Incentive Fund	30,000	30,000	30,000	30,000	30,000
<b>Kawartha Conservation Program</b>						
<b>General Program</b>						
	Implementation Oversight & Coordination	65,700	65,700	65,700	88,700	88,700
	Sedimentation & Erosion Control Planning	33,300	21,400	33,300	21,400	33,300
<b>Rural Program</b>						
	Agricultural Stewardship	27,900	27,900	55,800	27,900	27,900
	Rural Residential Stewardship			38,400	38,400	38,400
	Investigative Upstream Monitoring	34,700	34,700	34,700	44,400	34,700
<b>Shoreline Program</b>						
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	Shoreline Stewardship	46,000	46,000	46,000	46,000	46,000
	Shoreline Planning & Policy Background	23,300	36,400			
	Near Shore Monitoring	28,600	28,600	28,600	10,300	
<b>Urban Program</b>						
	Bluescaping	33,100	43,700	43,700	43,700	43,700
<b>Total Municipal Investment</b>		<b>357,000</b>	<b>368,800</b>	<b>431,600</b>	<b>406,600</b>	<b>379,200</b>
<b>Grant Funding Leveraged</b>		<b>135,600</b>	<b>140,600</b>	<b>248,100</b>	<b>155,300</b>	<b>140,000</b>
<b>In-kind Support Leveraged</b>		<b>135,100</b>	<b>131,000</b>	<b>151,700</b>	<b>146,800</b>	<b>135,300</b>
<b>Total Project Value</b>		<b>627,700</b>	<b>640,400</b>	<b>831,400</b>	<b>708,700</b>	<b>654,500</b>

Level 1	Level 2	Level 3
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## 4.3 Coordination and Reporting

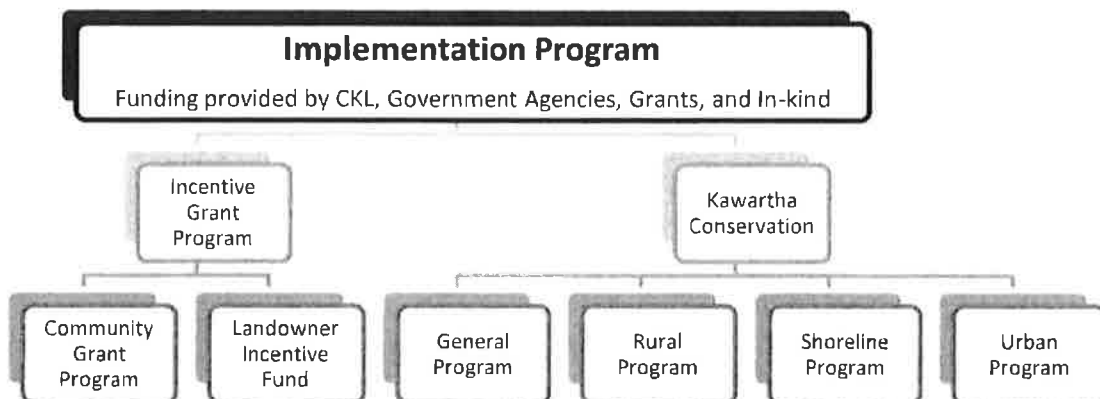
Implementation activities have taken place over the past few years as the focus has shifted from the plan phase. Kawartha Conservation has refined programs to target high priority actions across the watershed. Community groups have, when possible, taken on community driven projects. While the Community Advisory Panel allows for the sharing between members, it has become apparent that there is no centralized coordination of these activities and no common strategy between agencies or community groups. What has resulted is a number of agencies and community groups investing energy and resources into the projects or programs without a coordinated reporting mechanism that can capture all the outcomes of these programs.

With this proposal, Kawartha Conservation will provide City Council with annual reporting on the projects and programs of the Authority as well as the projects supported through the Community Grant Program. This coordinated reporting will include details on the measures of success, investment leveraged through Municipal support, and a full financial accounting of the programs and projects.

In addition, Kawartha Conservation will provide program and project updates to the larger community through annual presentations to the Community Advisory Panel, Stakeholder groups, and through other community meetings. The Lake Management Plans had a clear message that stakeholders want to be kept informed of the progress on implementation. This ongoing accountability to the community is vital to the Implementation Strategy.

## 5.0 Conclusion

The implementation of the Lake Management Plans is an important investment in our community. The work proposed through this Strategy will help to improve water quality, build community understanding and capacity, and attract additional investment in our community. Our lakes are important to our economy, our quality of life, and our environment.



This proposal requests two areas of support. Support for Kawartha Conservation's expertise and services in developing and delivering implementation projects designed to improve our lakes, and support for community groups wanting to lead local projects aimed at implementing the recommendations from the Lake Management Plans.

The recommendation of the task force is to support the programs and projects proposed here. The five-year strategy, as laid out in the project table on page 8, has been developed to aid in decision making and to demonstrate the commitment that the Task Force has in implementing the recommendations of our Lake Management Plans. Based on the recommendations of the Task Force, the Municipal investment in implementation will result in a return on investment of 78%.

Implementation is more than just a list of projects and programs. Implementation means our beaches are open in the summer for residents and tourists to use. It means healthier fisheries that attract anglers all year long. Implementation means beautifying our urban communities with rain gardens instead of mud puddles. Implementation means building a community that is proud of our lakes, our towns, and our rural countryside. Implementation supports our locally grown food and better water quality. Implementation is about building and supporting the community we want to live and play in.



# Appendix A

## Prioritization Matrix.

A summary of recommendations and priority level for all Lake Plans, ordered by weighted valued

Recommendation	Strategy	Urban/Rural						Rural			# of Highs(3)	# of Mediums(2)	# of Lows(1)	# of Any	Weighted Value
Responsible Development and Construction	Urban and Rural Infrastructure	Balsam/Cameron	Canal/Mitchell	Scugog	Pigeon	Sturgeon	Four Mile	Head/Rush	Shadow/Silver		7	1	0	8	
Shoreline Naturalization	Stewardship					M	M				7	1	0	8	
Urban Stormwater BMP Projects	Stewardship						M				7	1	0	8	
Invasive Species Management	Stewardship										7	0	0	7	
Coordinated Monitoring of Lake Health	Research and Monitoring	M				M	M				5	3	0	8	
Septic System Management	Stewardship	M			M						5	2	0	7	
Keeping stakeholders informed	Communications and Outreach										6	0	0	6	
Implementing other community plans	Strategic Planning				M		M	M			4	3	0	7	
Management of Public Waterfronts	Urban and Rural Infrastructure	M			M		M				4	3	0	7	
Public/Technical Advisory Committees	Communications and Outreach						M				5	1	0	6	
Stormwater Management Planning	Urban and Rural Infrastructure										5	0	0	5	
Aquatic Plant Management Options	Communications and Outreach										5	0	0	5	
Agricultural BMP Projects	Stewardship	M			M			L	L		3	2	2	7	
Enhanced Shoreline Protection	Strategic Planning						M				4	1	0	5	14
Pilot Projects	Research and Monitoring			M		M					3	2	0	5	13
Profiling Lake Values	Communications and Outreach						M	M			3	2	0	5	13
Research on Emerging Pressures	Research and Monitoring	L			L	M	M	M	M		1	4	2	7	13

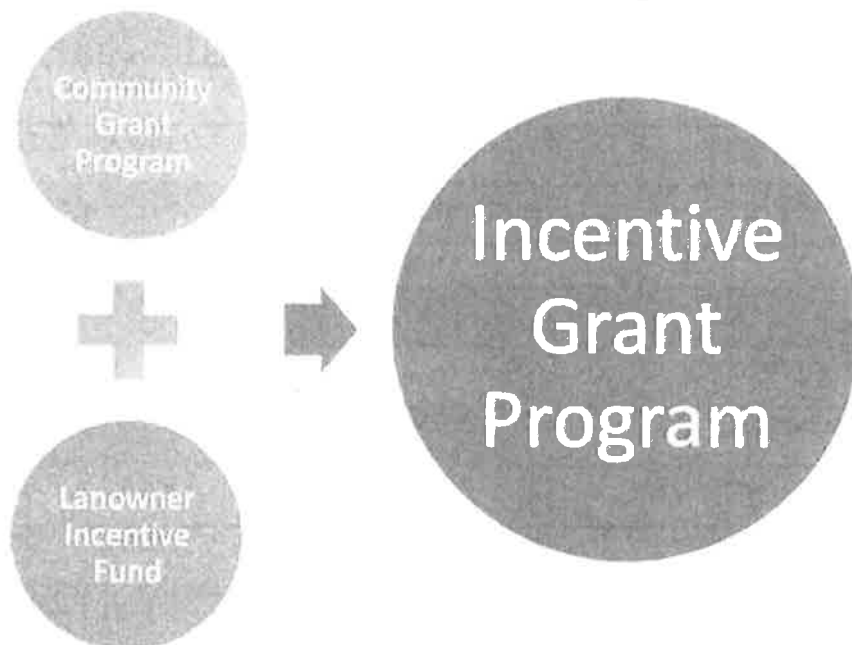


Recommendation	Strategy	Urban/Rural						Rural			# of Lows(1)	# of Mediums(2)	# of Highs(3)	# of Any	Weighted Value
		Balsam/Cameron	Canal/Mitchell	Scugog	Pigeon	Sturgeon	Four Mile	Head/Rush	Shadow/Silver						
Official Plan Updating and Consistency	Strategic Planning										4	0	0	4	12
Responsible Boating	Stewardship	M			M	M	M	M	M		0	6	0	6	12
Obtaining Community Input	Communications and Outreach										3	1	0	4	11
Sewage Treatment and Landfill	Urban and Rural Infrastructure	M			M	M					1	3	0	4	9
Reforestation Program	Stewardship	M		M	M	M					0	4	0	4	8
Collaboration With Partners	Communications and Outreach	M				M					1	2	0	3	7
Lake Level Management Planning	Strategic Planning										2	0	0	2	6
Shoreline Permitting Coordination	Strategic Planning	M			M	M					0	3	0	3	6
Youth Programming	Communications and Outreach	M			M	M					0	3	0	3	6
Protect large tracts of natural lands	Strategic Planning				M		M		M		0	2	0	2	4
CANWET and PREDICT models	Research and Monitoring										1	0	0	1	3
Colonial Waterbird Research	Research and Monitoring										1	0	0	1	3
Maintain Special Policy Area	Strategic Planning										1	0	0	1	3
Protecting Significant Groundwater Recharge Areas	Strategic Planning										1	0	0	1	3
Routine Water Levels Communications	Communications and Outreach										1	0	0	1	3
Scugog WATER Fund	Stewardship										1	0	0	1	3
Watershed Planning	Strategic Planning										1	0	0	1	3
Wild Rice Management	Strategic Planning										1	0	0	1	3
Stewardship Strategy	Stewardship										1	0	0	1	3
Socioeconomic Valuation	Research and Monitoring	L			L	L					0	0	3	3	3
Lake Dredging	Urban and Rural Infrastructure			M							0	1	0	1	2
Regulation	Strategic Planning			M							0	1	0	1	2
Rural Landowner Stewardship Guide	Stewardship			M							0	1	0	1	2

# Appendix B

## Program Descriptions

### Stream 1: Incentive Grant Program



# Incentive Grant Program

The Incentive Grant Program contains the following detailed projects:

1. Incentive Grant Program
  - a. Community Grant Program
  - b. Landowner Incentive Fund

Level 1

Level 2

Level 3

	2019	2020	2021	2022	2023
<b>Community Grant Program</b>					
Municipal Contribution	15,500	15,500	36,500	36,500	36,500
Grant Funding Leveraged	5,000	5,000	8,000	8,000	8,000
In Kind Support Leveraged	10,000	10,000	25,000	25,000	25,000
<b>Total Project Value</b>	<b>30,500</b>	<b>30,500</b>	<b>69,500</b>	<b>69,500</b>	<b>69,500</b>

	2019	2020	2021	2022	2023
<b>Landowner Incentive fund</b>					
Municipal Contribution	30,000	30,000	30,000	30,000	30,000
Grant Funding Leveraged	45,000	45,000	45,000	45,000	45,000
In Kind Support Leveraged	75,000	75,000	75,000	75,000	75,000
<b>Total Project Value</b>	<b>150,000</b>	<b>150,000</b>	<b>150,000</b>	<b>150,000</b>	<b>150,000</b>

<b>Combined Incentive Grant Program Budget</b>	2019	2020	2021	2022	2023
Municipal Contribution	45,500	45,500	66,500	66,500	66,500
Grant Funding Leveraged	50,000	50,000	53,000	53,000	53,000
In Kind Support Leveraged	85,000	85,000	100,000	100,000	100,000
<b>Total Project Value</b>	<b>180,500</b>	<b>180,500</b>	<b>219,500</b>	<b>219,500</b>	<b>219,500</b>

# Community Grant Program

**Program Lead:** Kawartha Conservation

**Program Partners:** City of Kawartha Lakes, Private Foundations, Chamber of Commerce, Lake Association(s)

**Timeline:** Initial investment from 2019 – 2023. It is recommended that this program start small to build momentum and capacity within the community

**Recommended Funding Level:** Level 1 for 2019 – 2020  
Level 2 for 2021-2023

The implementation of all the recommendations within the Lake Management Plans is too much for any single organization to take on. Grassroots organizations play a unique role within our community and they have an exceptional ability to get things done at the local level. Recognizing that these organizations have their own priorities, and capacity challenges, the Community Grant program will provide support to local groups so that they are empowered to take action towards implementing the Lake Management Plan recommendations.

With an investment from the Municipality, Kawartha Conservation will work with other agencies to leverage the funding towards implementing projects that will have a positive impact on the water



Above is a community planting event that could be supported through the Community Grant Program.

quality in our lakes. In addition, KRCA will work with the grassroots organizations to identify other funding sources for the projects and programs they are looking to deliver. The Community Grant Program will provide community groups with the tools and support to have a greater impact on the landscape.

This Program allows for individual groups to identify projects that are meaningful to them and their communities, while also directly implementing the recommendations set out by the Lake Management

Plans.

A committee will be established to review all project applications and to make recommendations on funding levels. Representation on this committee will include individuals from the Community Advisory Panel, the City of Kawartha Lakes, the Agricultural Community, CLEAC, Lake Associations and others. The committee will be able to identify priority projects each year and promote them throughout the City of Kawartha Lakes so that local groups can be engaged and active on the landscape.



The Community Grant Program supports community led initiatives such as:

<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<ul style="list-style-type: none"> <li>✓ Community planting projects</li> <li>✓ Aquatic plant management</li> <li>✓ Shoreline studies</li> <li>✓ Community engagement projects</li> <li>✓ Workshops/ Conferences</li> <li>✓ Other LMP Recommended Actions</li> <li>✓ <b>\$10,000 in Grants available</b></li> </ul>	<ul style="list-style-type: none"> <li>✓ Community planting projects</li> <li>✓ Aquatic plant management</li> <li>✓ Shoreline studies</li> <li>✓ Community engagement projects</li> <li>✓ Workshops/ Conferences</li> <li>✓ Other LMP Recommended Actions</li> <li>✓ <b>\$25,000 in Grants available</b></li> </ul>	<ul style="list-style-type: none"> <li>✓ Community planting projects</li> <li>✓ Aquatic plant management</li> <li>✓ Shoreline studies</li> <li>✓ Community engagement projects</li> <li>✓ Workshops/ Conferences</li> <li>✓ Other LMP Recommended Actions</li> <li>✓ <b>\$40,000 in Grants available</b></li> </ul>
<b>Municipal funding:</b> \$15,500 <b>Financial contribution:</b> \$5,000 <b>In-Kind:</b> \$10,000 <b>Total Value:</b> \$30,500 <b>ROI:</b> 97%	<b>Municipal funding:</b> \$36,500 <b>Financial Contribution:</b> \$ 8,000 <b>In-Kind:</b> \$25,000 <b>Total Value:</b> \$69,500 <b>ROI:</b> 91%	<b>Municipal funding:</b> \$82,900 <b>Financial Contribution:</b> \$15,000 <b>In-Kind:</b> \$30,000 <b>Total Value:</b> \$97,900 <b>ROI:</b> 54%

The Community Grant program provides suggestions as to the types of projects that could receive funding while leaving room for the creativity of individual groups. The guiding principle is that the projects should address the priority actions as recommended in the Lake Management Plans. Individual project level funding and the number of projects will vary depending on the level of funding available. While all projects will be considered, the caps per project will vary from one level of programming to the next.

The Task Force recommends building this program over the five year period to build community capacity and interest. Starting at the Level 1 program will build momentum gradually and ensure that the program demonstrates success from the start. The consequences of not growing the capacity of the program over the first five years include a lack of community participation and a reduced ability to implement larger and more sophisticated projects.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*



## Landowner Incentive Fund

**Program Lead:** Kawartha Conservation

**Program Partners:** City of Kawartha Lakes, OMAFRA, Ministry of Natural Resources and Forestry, Private Landowners, Fisheries and Oceans Canada

**Timeline:** Initial investment from 2019 - 2023

**Recommended Funding Level:** Level 2 for 2019 - 2023



The Landowner Incentive Fund will support projects like this Kawartha Farm Stewardship Project which divert runoff from livestock areas, protecting and improving surface water quality.

Much of the land base in the City of Kawartha Lakes is privately owned. Managing that private property can be challenging and the stewardship programs are designed to provide landowners with advice, guidance, and support to help them make the best decisions for themselves and for the rest of the community. The actions we take on private property affect the overall health and wellbeing of our community's shared water resources. Over the past few years, Kawartha Conservation has been building relationships with OMAFRA and other provincial agencies to help provide incentive funding to landowners in the Kawartha Lakes. This funding, matched by individual landowners, has led to the implementation of

significant projects that have helped improve water quality in our community. Details on the success of the Kawartha Farmland Stewardship program can be found in Appendix D. This funding, however, is only available to small sections of our community based on funding priorities within the province.

The Incentive Program will provide seed money to landowners who want to implement projects that will have a beneficial impact on our collective water quality. The Incentive Program is designed to inspire further investment from other Agencies and private landowners. It will help move landowners toward wise land stewardship practices that will have a greater impact on the landscape. Incentive funding continues to be a valuable tool to empowering landowners to make significant changes to the way their properties are managed.

A committee will be established to review all project applications and to make recommendations on funding levels. Representation on this committee will include individuals from the Community Advisory Panel, the City of Kawartha Lakes, the Agricultural Community, CLEAC, Lake Associations and others.



The Landowner Incentive Fund supports landowner led projects such as:

<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<ul style="list-style-type: none"> <li>✓ Shoreline planting projects</li> <li>✓ Agricultural BMP's <ul style="list-style-type: none"> <li>○ Well decommissioning</li> <li>○ Exclusion fencing</li> <li>○ Riparian area planning</li> <li>○ Alternate watering systems</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>✓ Shoreline planting projects</li> <li>✓ Agricultural BMP's <ul style="list-style-type: none"> <li>○ <b>Manure storage</b></li> <li>○ Well decommissioning</li> <li>○ Exclusion fencing</li> <li>○ Riparian area planning</li> <li>○ Alternate watering systems</li> </ul> </li> <li>✓ <b>Septic upgrade grants</b></li> <li>✓ <b>Rainwater harvesting</b></li> <li>✓ <b>Low Impact Development solutions</b></li> </ul>	<ul style="list-style-type: none"> <li>✓ Shoreline planting projects</li> <li>✓ Agricultural BMP's <ul style="list-style-type: none"> <li>○ Manure storage</li> <li>○ Well decommissioning</li> <li>○ Exclusion fencing</li> <li>○ Riparian area planning</li> <li>○ Alternate watering systems</li> </ul> </li> <li>✓ Septic upgrade grants</li> <li>✓ Rainwater harvesting</li> <li>✓ Low Impact Development solutions</li> <li>✓ <b>LID retrofits (businesses)</b></li> <li>✓ <b>Decommissioning hardened shorelines</b></li> </ul>
<b>Municipal funding:</b> \$20,000 <b>Grant funding:</b> \$30,000 <b>In-Kind:</b> \$50,000 <b>Total Value:</b> \$100,000 <b>ROI:</b> 400%	<b>Municipal funding:</b> \$30,000 <b>Grant funding:</b> \$45,000 <b>In-Kind:</b> \$75,000 <b>Total Value:</b> \$150,000 <b>ROI:</b> 400%	<b>Municipal funding:</b> \$50,000 <b>Grant funding:</b> \$60,000 <b>In-Kind:</b> \$110,000 <b>Total Value:</b> \$220,000 <b>ROI:</b> 340%

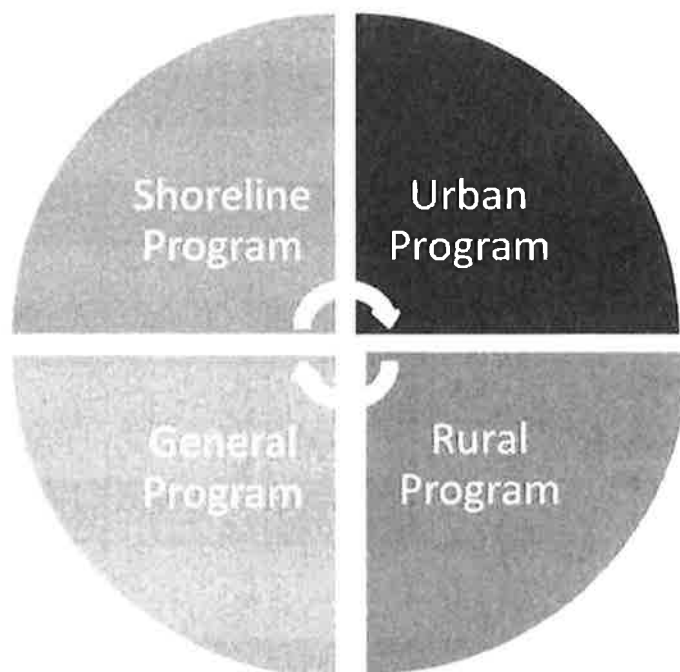
The Task Force recommends the Level 2 funding for this program. To reduce the level of support will result in limited projects being implemented. While specific funding streams will be determined by the advisory committee, the levels of funding or the number of projects will decrease significantly with a lower level of funding. With level 2 funding it is estimated that 38 improvement projects could be completed compared to 25 with the Level 1 funding.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*

## Program Descriptions

### Stream 2: Kawartha Conservation



# General Program

The General Program contains the following detailed projects:

1. General Program
  - a. Implementation Oversight & Coordination
2. General Policy and Legislation
  - a. Sediment and Erosion Control Planning

Level 1
Level 2
Level 3

	2019	2020	2021	2022	2023
<b>Implementation Oversight &amp; Coordination</b>					
Municipal Contribution	65,700	65,700	65,700	88,700	88,700
Grant Funding Leveraged					
In Kind Support Leveraged	10,500	10,500	10,500	19,400	19,400
<b>Total Project Value</b>	<b>76,200</b>	<b>76,200</b>	<b>76,200</b>	<b>108,100</b>	<b>108,100</b>

	2019	2020	2021	2022	2023
<b>Sedimentation &amp; Erosion Control Planning</b>					
Municipal Contribution	33,300	21,400	33,300	21,400	33,300
Grant Funding Leveraged					
In Kind Support Leveraged	3,500		3,500		3,500
<b>Total Project Value</b>	<b>36,800</b>	<b>21,400</b>	<b>36,800</b>	<b>21,400</b>	<b>36,800</b>

<b>Combined General Budget</b>	2019	2020	2021	2022	2023
<b>Municipal Contribution</b>	<b>99,000</b>	<b>87,100</b>	<b>99,000</b>	<b>110,100</b>	<b>122,000</b>
<b>Grant Funding Leveraged</b>					
<b>In Kind Support Leveraged</b>	<b>14,000</b>	<b>10,500</b>	<b>14,000</b>	<b>19,400</b>	<b>22,900</b>
<b>Total Project Value</b>	<b>113,000</b>	<b>97,600</b>	<b>113,000</b>	<b>129,500</b>	<b>144,900</b>

## Implementation Oversight & Coordination

**Program Lead:** Kawartha Conservation

**Program Partners:** Community Advisory Committee, Science & Technical Committee, Trent Severn Waterway, Ministry of Natural Resources and Forestry, Ministry of the Environment, City of Kawartha Lakes, First Nations, Lake Associations, Community groups, Academia.

**Timeline:** This is a multi-year project proposal to communicate with external stakeholders and enhance partnership opportunities to assist in various aspects of the implementation plan

**Recommended Funding Level:** Level 2 for 2019–2021,  
Level 3 for 2022-2023

All management decisions, as well as remedial and restorative actions, depend on sound scientific data and knowledge. A key component of this project is collaboration among groups and institutions already active on the lake. There is great value in using the expertise of local community members, volunteers, and citizen scientists. We promote the sharing of local, traditional and scientific knowledge and expertise.

This program will ensure that collaboration will continue between multiple partners at various levels to ensure that projects and programs within partner agencies include actions recommended within the Lake Management Plans. The need for this type of program is highlighted by Stewardship Summit held in 2017. Details on the success of this program are outlined in Appendix D.

Projects such as the remediation of the Bobcaygeon dam are outside the control and jurisdiction of Kawartha Conservation. It is, however, recognized that this type of project is of significant interest to the community and may pose a benefit towards water quality and habitat. The program proposed here will enable Kawartha Conservation to raise the profile of these types of projects and develop partnerships to address them. In addition, this program will ensure the overall coordination of all programs and projects administered by Kawartha Conservation, Community Groups, and Municipal and Agency Partners.

Many people have a stake in the implementation of the Lake Management Plans. They are grouped into target audiences by the different forms of communication and outreach required for implementing the plan. Audience groups include shoreline property owners, lake associations, road monitors, First Nations communities, agricultural and rural landowners, urban residents, businesses, tourists and other visitors, municipal councillors and staff, agencies and related organizations, developers, funders, and Kawartha Conservation staff and Board of Directors.



Bobcaygeon Dam – working with agencies to determine if alternate designs will improve fish habitat (walleye spawning)



### Level 1

- ✓ Coordinate regular meetings of the CAP and other advisory groups
- ✓ Address issues as they arise from partners and community groups
- ✓ Coordinate implementation projects at KRCA

Municipal funding:	\$29,500
Grant funding:	\$0
In-Kind:	\$6,000
<b>Total Value:</b>	<b>\$35,500</b>
<b>ROI:</b>	<b>20%</b>

### Level 2

- ✓ Coordinate regular meeting of the CAP, Science and Technical Committee and other advisory groups
- ✓ **Actively work with community groups to continue to address issues connected with water quality and habitat.**
- ✓ Coordinate the implementation and reporting on implementation projects involving KRCA, partner groups and agencies.
- ✓ **Develop inter-agency partnerships to raise the profile of the Implementation Action Plan**
- ✓ **Attendance & presentation at Annual General Meetings of community groups**
- ✓ **Disseminating scientific & technical information through various means (e.g. publications, Science forum, website, social media)**

Municipal funding:	\$65,700
Grant funding:	
In-Kind:	\$10,500
<b>Total Value:</b>	<b>\$76,200</b>
<b>ROI:</b>	<b>16%</b>

### Level 3

- ✓ Coordinate regular meeting of the CAP, Science and Technical Committee and other advisory groups
- ✓ Actively work with community groups to continue to address issues connected with water quality and habitat.
- ✓ Coordinate the implementation and reporting on implementation projects involving KRCA, partner groups and agencies.
- ✓ Develop inter-agency partnerships to raise the profile of the Implementation Action Plan
- ✓ Attendance & presentation at Annual General Meetings of community groups
- ✓ Disseminating scientific & technical information through various means (e.g. publications, Science forum, website, social media)
- ✓ **Liase with community groups and organizations to build community leadership and capacity.**
- ✓ **Organize & facilitate multi-partner public forums and information sessions on topics of interest.**

Municipal funding:	\$88,700
Grant funding:	\$0
In-Kind:	\$19,400
<b>Total Value:</b>	<b>\$108,100</b>
<b>ROI:</b>	<b>22%</b>

The Task Force recommends Level 2 for this project because it allows for integration and coordination across agencies and community groups. This level is proactive and creates opportunities to collaborate with other agencies that have jurisdiction over the lakes. In 2022 it is recommended to increase the program to the Level 3 to begin building capacity and leadership within community organizations. This will build the overall capacity to implement the plan through multiple organizations and agencies. The level 1 program is not recommended because it is reactionary and less coordinated.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*

# Sediment and Erosion Control Planning

**Program Lead:** Kawartha Conservation, Fleming College

**Program Partners:** City of Kawartha Lakes, Development Industry, Fisheries and Oceans Canada

**Timeline:** This is a 5-year project proposal, with annual deliverables. This project builds on the 2018 CKL Lake Plan Implementation Urban and Rural Infrastructure work plan.

**Recommended Funding Level:** Level 2 for 2019, 2021, 2023  
Level 1 for 2020, 2022

Release of materials from construction/development sites to local watercourses can have significant long-term impacts, including filling in shallow areas, smothering fish habitat, water pollution, and poor aesthetics, among others. As such, better erosion and sediment control management is a priority



Effective sedimentation and erosion control measures protect surface water and our infrastructure. Working with the municipality and the construction industry will reduce the risk to our waterways.

recommendation in all Lake, Watershed, and Stormwater Management Plans to address this significant threat to the health of local lakes and connecting waters.

Responsible and ongoing development is a priority the Municipality, and sediment and erosion control planning is a required part of this process. Effective erosion and sediment control planning between municipalities, contractors, conservation authorities, and other construction partners reduces construction delays and protects the local environment.

This is a five-year proposal that requires ongoing collaboration among technical and planning staff at the conservation authority, public works and site inspection staff at the municipality, and a proposal

for a program involving faculty and students at the Heavy Equipment Operators program at Fleming College.

The purpose of this project is to increase local expertise and application of erosion and sediment control standards when reviewing, undertaking, and inspecting development and site alteration projects. Training and expert resource materials will be learned, provided to, and shared among staff at municipalities, Kawartha Conservation, local contractors, and the Heavy Equipment Operator's course at Fleming College.



### Level 1

- ✓ Enhanced staff expertise including certification by CISEC (Certificated Inspector of Sediment and Erosion Control).
- ✓ Attendance at TRIECA (industry conference among subject experts).
- ✓ Coordinated site visits to local construction sites.

<b>Municipal funding:</b>	<b>\$21,400</b>
Grant funding:	\$0
In-Kind:	\$0
<b>Total Value:</b>	<b>\$21,400</b>
<b>ROI:</b>	<b>0%</b>

### Level 2

- ✓ Enhanced staff including certification by CISEC (Certificated Inspector of Sediment and Erosion Control).
- ✓ Attendance at TRIECA (industry conference among subject experts).
- ✓ Coordinated site visits to local construction sites.
- ✓ **Organize an annual workshop, in partnership with local experts and contractors.**
- ✓ **Create and distribute factsheets, and other relevant field-reference information.**

<b>Municipal funding:</b>	<b>\$33,300</b>
Grant funding:	\$0
In-Kind:	\$3,500
<b>Total Value:</b>	<b>\$36,800</b>
<b>ROI:</b>	<b>11%</b>

### Level 3

- ✓ Enhanced staff expertise in erosion and sediment control planning, including certification by CISEC (Certificated Inspector of Sediment and Erosion Control).
- ✓ Attendance at TRIECA (industry conference among subject experts).
- ✓ Coordinated site visits to local construction sites.
- ✓ Organize an annual workshop, in partnership with local experts and contractors.
- ✓ Create and distribute factsheets, and other relevant field-reference information.
- ✓ **Work with Fleming College to initiate an extracurricular course on Erosion and Sediment Control Techniques to offer certification opportunities/courses for contractors and equipment operators.**
- ✓ **Work with Heavy Equipment Operators Course at Fleming College to introduce erosion and sediment control techniques in their curriculum.**

<b>Municipal funding:</b>	<b>\$42,700</b>
Grant funding:	\$3,500
In-Kind:	\$25,000*
<b>Total Value:</b>	<b>\$71,200</b>
<b>ROI:</b>	<b>67%</b>

\* Level 3 grant is an Education Grant to develop the program with Fleming College and is only a potential for the last 4 years of the project.

The Task Force recommends alternating between Level 1 and Level 2 as it will include multiple information transfer opportunities which will support improved service on-the-ground. Reducing the level of support will result in a limited transfer of knowledge which could result in duplication of effort and missed opportunities for effective erosion control measures.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*



# Rural Program

The Rural Program contains the following detailed projects:

1. Rural Stewardship
  - a. Agricultural Stewardship
  - b. Rural Residential Stewardship
2. Rural Monitoring and Research
  - a. Investigative Upstream Monitoring

Level 1
Level 2
Level 3

		2019	2020	2021	2022	2023
<b>Agricultural Stewardship</b>						
	Municipal Contribution	27,900	27,900	55,800	27,900	27,900
	Grant Funding Leveraged	5,500	5,500	80,000	5,500	5,500
	In Kind Support Leveraged	1,300	1,300	2,100	1,300	1,300
	<b>Total Project Value</b>	<b>34,700</b>	<b>34,700</b>	<b>137,900</b>	<b>34,700</b>	<b>34,700</b>

		2019	2020	2021	2022	2023
<b>Rural Residential Stewardship</b>						
	Municipal Contribution			38,400	38,400	38,400
	Grant Funding Leveraged			30,000	30,000	30,000
	In Kind Support Leveraged			1,400	1,400	1,400
	<b>Total Project Value</b>			<b>69,800</b>	<b>69,800</b>	<b>69,800</b>

		2019	2020	2021	2022	2023
<b>Investigative Upstream Monitoring</b>						
	Municipal Contribution	34,700	34,700	34,700	44,400	34,700
	Grant Funding Leveraged					
	In Kind Support Leveraged					
	<b>Total Project Value</b>	<b>34,700</b>	<b>34,700</b>	<b>34,700</b>	<b>44,400</b>	<b>34,700</b>



Combined Rural Budget		2019	2020	2021	2022	2023
	<b>Municipal Contribution</b>	<b>62,600</b>	<b>62,600</b>	<b>128,900</b>	<b>110,700</b>	<b>101,000</b>
	<b>Grant Funding Leveraged</b>	<b>5,500</b>	<b>5,500</b>	<b>110,000</b>	<b>35,500</b>	<b>35,500</b>
	<b>In Kind Support Leveraged</b>	<b>1,300</b>	<b>1,300</b>	<b>3,500</b>	<b>2,700</b>	<b>2,700</b>
	<b>Total Project Value</b>	<b>69,400</b>	<b>69,400</b>	<b>242,400</b>	<b>148,900</b>	<b>139,200</b>

# Agricultural Stewardship

**Program Lead:** Kawartha Conservation

**Program Partners:** City of Kawartha Lakes, , OMAFRA, Kawartha Lakes Country Living Show, Kawartha Land Trust, East Central Farm Stewardship Collaborative, OSCIA, OFA, Commodity Groups

**Timeline:** This program should continue for the full 5 years (2018-2022)

**Recommended Funding Level:** Level 2 for 2019-2020 and 2022-2023, Level 3 for 2021

Farmland makes up nearly 50% of the Kawartha watershed, and is particularly important in sustaining our rural communities, with agriculture and healthy lakes being the two pillars of our vibrant local



Example of exclusion fencing and riparian planting recommendations made during a site visit as part of our early implementation projects (Appendix D).

economy. Farms can have significant impact and benefits on watershed health. Land management decisions can make a big difference. Soil management and lake management have the same goals – keep the nutrients and soil particles on the land and out of the water.

Our agricultural stewardship programs provide a range of technical services and incentives to assist farmers in practicing beneficial farmland management to improve groundwater and surface water quality, and help to meet Lake Management Plan targets. Programs are geared to meet the needs of various agricultural commodity groups within the City of Kawartha Lakes. They focus

on priority actions such as managing soil loss by increasing natural cover, reducing agricultural runoff, enhancing riparian areas, and protecting sensitive areas from livestock damage.

The proposed program builds on the success of the Kawartha Farmland Stewardship Program highlighted in Appendix D. This program has leveraged significant support from external agencies and the Agricultural community. Programming includes outreach at agricultural commodity group meetings, as well as the delivery of an annual farm stewardship conference which brings speakers with new ideas from outside of the community as while providing a forum for local champions to share their success stories and lessons learned. A soil health and water quality innovation pilot project attracts investment from outside of the community. A pilot project will increase local knowledge of innovation with impacts to soil and water on the farm and to the watershed.



This program also facilitates ongoing participation with the East Central Farm Stewardship Collaborative. This is a local collaborative of 15 organizations that provide resources for farmers to implement farm stewardship projects. Participation provides opportunities to combine resources with partners and stack incentive funding to increase individual project values.

<p><b>Level 1</b></p> <ul style="list-style-type: none"> <li>✓ Presentations at (4) agricultural commodity group meetings</li> <li>✓ On-Farm consultation to facilitate the implementation of best management practices</li> <li>✓ Participation in the East Central Farm Stewardship Collaborative</li> </ul>	<p><b>Level 2</b></p> <ul style="list-style-type: none"> <li>✓ Presentations at (7) agricultural commodity group meetings</li> <li>✓ On-Farm consultation to facilitate the implementation of best management practices</li> <li>✓ Participation in the East Central Farm Stewardship Collaborative</li> <li>✓ <b>Deliver an Agricultural Stewardship Conference</b></li> <li>✓ <b>Highlight new technologies available to landowners</b></li> </ul>	<p><b>Level 3</b></p> <ul style="list-style-type: none"> <li>✓ Presentations at (7) agricultural commodity group meetings</li> <li>✓ On-Farm consultation to facilitate the implementation of best management practices</li> <li>✓ Participation in the East Central Farm Stewardship Collaborative</li> <li>✓ Deliver an Agricultural Stewardship Conference</li> <li>✓ Highlight new technologies available to landowners</li> <li>✓ <b>Implementation of a Soil Health and Water Quality Innovation Pilot Project</b></li> </ul>
<p><b>Municipal funding:</b> \$13,400  <b>Grant funding:</b> \$0  <b>In-Kind:</b> \$700  <b>Total Value:</b> \$14,100  <b>ROI:</b> 5%</p>	<p><b>Municipal funding:</b> \$27,900  <b>Grant funding:</b> \$5,500  <b>In-Kind:</b> \$1,300  <b>Total Value:</b> \$34,700  <b>ROI:</b> 24%</p>	<p><b>Municipal funding:</b> \$55,800  <b>Grant funding:</b> \$80,000  <b>In-Kind:</b> \$2,100  <b>Total Value:</b> \$137,900  <b>ROI:</b> 147%</p>

The Task Force recommends a baseline of Level 2 program with an increase in service to Level 3 for one year. This level of programming will support our agricultural sector to implement BMPs and protect our water while also showcasing new technologies. The City of Kawartha Lakes has a significant and well respected agricultural community. By developing these relationships and working together towards a healthier lake system, we are better able to affect change on the landscape. Reducing the level of activity will make this relationship building more difficult and will impact the number of in-the-ground projects we can accomplish.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*

## Rural Residential Stewardship

**Program Lead:** Kawartha Conservation

**Program Partners:** City of Kawartha Lakes, Real Estate Board, Ontario Woodlot Association, Forests Ontario, MNRF, Kawartha Lakes Country Living Show, Kawartha Land Trust, Kawarthas Naturally Connected

**Timeline:** This program should be developed for implementation starting in 2021

**Recommended Funding Level:** Level 2 for 2021-2023

Rural landowners have a unique opportunity to impact their watershed's health simply because they often own and manage large areas (e.g. 10-100 acres), which are home to valuable ecosystem features which protect our water resources and overall health. For example, private rural properties often include significant forested lands, wetlands, streams, pollinator habitat. It is imperative that these features are maintained in proper functioning order.

The private landowners who make management decisions about these features come from varying backgrounds and knowledge sets. For example, some rural landowners have lived their entire life in the country and have a strong understanding of rural land management principles, while others have relocated from an urban area and have not yet developed the skills and knowledge required for rural land management. Rural land management can be complex and complicated, and as our climate changes the level of complexity increases. For example extreme weather conditions, increasing



populations of forest pests and invasive species all pose new challenges for rural land managers.

Example of a tree planting project based on site visit recommendations

The goal of the rural stewardship program is to provide tools and resources for rural landowners to help them protect and enhance the quality of the watershed, while saving themselves money, time and effort when managing their land.

Resources provided include on-site landowner consultations, self-assessment workshops, trees for planting along rural roads, and support for invasive species management (workshops, inventories and recommendations).



<p><b>Level 1</b></p> <ul style="list-style-type: none"> <li>✓ 4 rural land management workshops</li> <li>✓ 5 consults and stewardship action plans created for private lands</li> </ul> <p> <b>Municipal funding:</b> \$15,200  <b>Grant funding:</b> \$0  <b>In-Kind:</b> \$0  <b>Total Value:</b> \$15,200  <b>ROI:</b> 0% </p>	<p><b>Level 2</b></p> <ul style="list-style-type: none"> <li>✓ 6 rural land management workshop</li> <li>✓ 10 consults and stewardship action plans created for private lands</li> <li>✓ <b>Administration of cost sharing program improvement project (LSHRP etc.)</b></li> <li>✓ 4 invasive species management workshops</li> <li>✓ <b>Trees for Rural Roads 20 sites</b></li> </ul> <p> <b>Municipal funding:</b> \$38,400  <b>Grant funding:</b> \$30,000  <b>In-Kind:</b> \$1,400  <b>Total Value:</b> \$69,800  <b>ROI:</b> 82% </p>	<p><b>Level 3</b></p> <ul style="list-style-type: none"> <li>✓ 6 rural land management workshop</li> <li>✓ 15 consults and stewardship action plans created for private lands</li> <li>✓ Administration of cost sharing program improvement project (LSHRP etc.)</li> <li>✓ 4 invasive species management workshops</li> <li>✓ <b>Trees for Rural Roads 30 sites</b></li> <li>✓ 10 private land invasive species inventories and management recommendations</li> </ul> <p> <b>Municipal funding:</b> \$64,400  <b>Grant funding:</b> \$46,000  <b>In-Kind:</b> \$2,100  <b>Total Value:</b> \$112,500  <b>ROI:</b> 75% </p>
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This program is being piloted in Durham Region in 2018 and 2019. As such, the Task Force recommends beginning implementation in 2020 at Level 2. The recommended delivery level will provide support to private landowners, leading to improved and maintained ecosystem function on large rural lots. Reducing to the next level of delivery will decrease the level of landowner interaction, exclude invasive species and trees for rural roads programming.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*

## Investigative Upstream Monitoring

**Program Lead:** Kawartha Conservation

**Program Partners:** Fleming College - **Best option only-water chemistry sampling**

**Timeline:** This is a multi-year project proposal to determine 'hot spots' (areas of water quality degradation) along streams identified in the completed lake management plans.

**Recommended Funding Level:** Level 2 for 2019 - 2023

While our water quality in Kawartha Lakes is generally good, there are areas where we need to take action to improve the quality of our surface water. Many of our shoreline property owners take their drinking water directly out of our lakes. These lakes are fed by many small streams and larger rivers which is why it is important to protect the water that runs into them. The Lake Management Planning process helped to identify which streams entering our lakes have high concentrations of nutrients. Poor quality water in our streams and rivers increases the potential for blue green algal blooms, risks to human health, the increase in aquatic plant growth, and the degradation of fish spawning areas.

Investigative monitoring focuses on these streams and rivers and helps to identify areas where nutrients and contaminants are entering our surface water. Knowing the point source of these nutrients will help us to design and implement stewardship restoration projects to address the nutrient loading at these sites. Previous success with this program is outlined in Appendix D and highlights the impact that this program has on focusing in-the-ground projects. This level of monitoring will help to focus the implementation of stewardship projects so that they have the greatest impact on our water quality.



Rivers and streams run across the land and into our lakes. Monitoring these streams will identify key areas where nutrients are entering our waterways.

The intention of the Investigative Upstream Monitoring Program is to reduce the data gaps by performing more comprehensive water quality & quantity data collection (more sites on one stream) over a three year period, in order to identify areas of water quality degradation and plan for remediation or restoration efforts through our stewardship department. Ten streams have been identified as high priority streams which are in need of further investigative monitoring. This monitoring project will continue past the current five year planning scope by changing streams on a rotating planning cycle of 3 years with reporting in the 4<sup>th</sup> year.



<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<ul style="list-style-type: none"> <li>✓ 3 year monitoring period</li> <li>✓ 3 stream (7 sites based on average road crossings)</li> <li>✓ 2 high flows (2 Spring) and 2 low flows (1 summer, 1 fall) - 4 sampling events</li> <li>✓ Flow data collected simultaneously -Ontario Stream Assessment Protocol</li> <li>✓ Water chemistry sampling 4 x a year</li> <li>✓ Parameters include: nutrients (phosphorus &amp; nitrogen, total suspended solids)</li> <li>✓ Produce summary report including recommendations for stewardship prioritization projects.</li> </ul>	<ul style="list-style-type: none"> <li>✓ 3 year monitoring period</li> <li>✓ 3 streams (21 sites based on road crossings )</li> <li>✓ 4 high flows (4 Spring) and 4 low flows (2 summer, 2 fall) - 8 sampling events</li> <li>✓ Flow data collected simultaneously -Ontario Stream Assessment Protocol</li> <li>✓ Water chemistry sampling 8 time a year</li> <li>✓ Parameters include: nutrients (phosphorus &amp; nitrogen, total suspended solids, chloride- proxy for road salt)</li> <li>✓ Produce summary report including recommendations for stewardship prioritization projects.</li> </ul>	<ul style="list-style-type: none"> <li>✓ 3 year monitoring period</li> <li>✓ 3 streams (21 sites based on road crossings )</li> <li>✓ Installation of fixed, continuous flow loggers deployed on all streams (3 per stream).</li> <li>✓ Develop rating curve for each stream</li> <li>✓ Install staff gauge</li> <li>✓ bi weekly water chemistry sampling (wet &amp; dry events- year round including winter sampling-26 times a year)</li> <li>✓ Produce summary report including recommendations for stewardship prioritization projects.</li> <li>✓ Produce journal article(s).</li> </ul>
<b>Municipal funding: \$17,300</b> Grant funding: \$0 In-Kind: \$0 <b>Total Value: \$17,300*</b> <b>ROI: 0%</b>	<b>Municipal funding: \$34,700</b> Grant funding: \$0 In-Kind: \$0 <b>Total Value: \$34,700*</b> <b>ROI: 0%</b>	<b>Municipal funding: \$146,500</b> Grant funding: \$0 In-Kind: \$0 <b>Total Value: \$146,500*</b> <b>ROI: 0%</b>

\*The 4<sup>th</sup> year budget increases slightly due to additional reporting requirements.

The Task Force recommends Level 2 programming as this meets the objectives of identifying upstream hot spots with scientific rigor which will provide stewardship prioritization for remedial action. The consequence of reducing the program has implications that due to fewer samples and the identification of stewardship actions will become less targeted.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*



# Shoreline Program

The Shoreline Program contains the following detailed projects:

1. Shoreline Stewardship
  - a. Aquatic Plant Control
  - b. Shoreline Stewardship
2. Shoreline Policy / Legislation
  - a. Shoreline Planning and Policy Background
3. Shoreline Monitoring / Research
  - a. Near Shore Monitoring

Level 1
Level 2
Level 3

		2019	2020	2021	2022	2023
<b>Aquatic Plant Control</b>						
	Municipal Contribution	18,900	18,900	18,900	19,300	
	Grant Funding Leveraged	5,000	5,000	5,000	5,000	
	In Kind Support Leveraged	5,600	500	500		
	<b>Total Project Value</b>	<b>29,500</b>	<b>24,400</b>	<b>24,400</b>	<b>24,300</b>	

		2019	2020	2021	2022	2023
<b>Shoreline Stewardship</b>						
	Municipal Contribution	46,000	46,000	46,000	46,000	46,000
	Grant Funding Leveraged	36,000	36,000	36,000	36,000	36,000
	In Kind Support Leveraged	2,000	2,000	2,000	2,000	2,000
	<b>Total Project Value</b>	<b>84,000</b>	<b>84,000</b>	<b>84,000</b>	<b>84,000</b>	<b>84,000</b>



		2019	2020	2021	2022	2023
<b>Shoreline Planning &amp; Policy Background</b>						
	Municipal Contribution	23,300	36,400			
	Grant Funding Leveraged					
	In Kind Support Leveraged					
	<b>Total Project Value</b>	<b>23,300</b>	<b>36,400</b>			

		2019	2020	2021	2022	2023
<b>Near Shore Monitoring</b>						
	Municipal Contribution	28,600	28,600	28,600	10,300	
	Grant Funding Leveraged	28,600	28,600	28,600	10,300	
	In Kind Support Leveraged	24,000	24,000	24,000	15,000	
	<b>Total Project Value</b>	<b>81,200</b>	<b>81,200</b>	<b>81,200</b>	<b>35,600</b>	

<b>Combined Shoreline Budget</b>		2019	2020	2021	2022	2023
	<b>Municipal Contribution</b>	<b>116,800</b>	<b>129,900</b>	<b>93,500</b>	<b>75,600</b>	<b>46,000</b>
	<b>Grant Funding Leveraged</b>	<b>69,600</b>	<b>69,600</b>	<b>69,600</b>	<b>51,300</b>	<b>36,000</b>
	<b>In Kind Support Leveraged</b>	<b>31,600</b>	<b>26,500</b>	<b>26,500</b>	<b>17,000</b>	<b>2,000</b>
	<b>Total Project Value</b>	<b>218,000</b>	<b>226,000</b>	<b>189,600</b>	<b>143,900</b>	<b>84,000</b>

# Aquatic Plant Control

**Program Lead:** Kawartha Conservation

**Program Partners:** Parks Canada, Shoreline Communities, Academia

**Timeline:** This is a multi-year, multi-phase project proposal to study the effectiveness of aquatic plant control techniques.

**Recommended Funding Level:** Level 3 for 2020 - 2023

Aquatic plant management is a priority recommendation in most of the lake plans. The proliferation of aquatic plants can have significant effects on the enjoyment, perception of water quality, and sustainability of the lakes. As such residents are in need of practical approaches for controlling nuisance aquatic plants along their shoreline. This proposed project is part of a longer and larger scaled theme of investigating emerging technologies as aquatic plant management tools.



This project will scientifically qualify the effectiveness of aerators on controlling aquatic plants and, if effective, aims to have this technology recognized for use by landowners.

Aerators, also known as bubblers among other names, are an emerging aquatic plant control method being used around the lakes by shoreline residents despite unknowns related to their effectiveness at controlling aquatic plants, impacts to the ecology of the nearshore of the lakes, and return on investment. Anecdotal information among users suggests that these methods do in fact have merit in limiting nuisance aquatic plants. (image courtesy of pondenviro.com)

Invasive aquatic plants (e.g., Eurasian Milfoil) growing in the Kawartha Lakes have plagued property owners along its

shoreline for many years. Current management strategies are ineffective in some cases and new methods need to be investigated. The overgrowth of various aquatic plants growing in several of the Kawartha Lakes are thought to be a hazard to swimmers, are known to reduce property value, make boat access to the lakes problematic and generally reduce the recreational value of shoreline access. Aquatic plant communities are, however, extremely beneficial to lake ecology. Aquatic plants are expected, and are in fact necessary to maintain healthy and clear shallow lakes and a balance is required to manage interests.

A 2008 survey of property owners carried out by the Kawartha Lakes Stewards Association found that the majority of survey respondents thought that the amount of plants were increasing and 64% of respondents said they had attempted to control plant growth themselves. Parks Canada restricts the control of aquatic plants close to the shorelines, and requires property owners to apply for a permit for either plant harvesting or herbicide use for limited sections of shoreline in areas known to not be home to species at risk or close to a wetland. Both options are expensive and labour-intensive, and neither is permitted for more than 10 meters of shoreline for the width of one boat accessway.

Approval agencies including Parks Canada are reluctant to approve aerators for use without an extensive permit application process, even though they have the potential to be a relatively effective and low risk

method of controlling aquatic plants. This hesitation includes several reasons and particularly because their impacts to the ecology of the Kawartha Lakes are not well understood.

This proposal is a multi-year project to study the degree to which aerators impact the growth of nuisance aquatic plants, and evaluate the effect on physical, chemical, and biological parameters of nearshore waters. In addition, the viability of using aerators will be conducted to more clearly understand the return on investment of using aerators. Key requirements for a successful project are to secure academic partnerships, federal government approvals, and to secure a wide range of study sites that reflect the various conditions that are in need of aquatic plant control.

<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<ul style="list-style-type: none"> <li>✓ 1 brand/style of aerator.</li> <li>✓ 1 study location.</li> <li>✓ 1 landowner partner.</li> <li>✓ Anecdotal monitoring of performance.</li> <li>✓ Final report</li> </ul>	<ul style="list-style-type: none"> <li>✓ 3 brands/styles of aerators.</li> <li>✓ 3 study locations.</li> <li>✓ 3 landowner partners.</li> <li>✓ Anecdotal monitoring of performance.</li> <li>✓ Final report.</li> <li>✓ <b>Scientific monitoring of physical, chemical, and biological parameters.</b></li> <li>✓ <b>Financial monitoring of energy and effort investments.</b></li> </ul>	<ul style="list-style-type: none"> <li>✓ 5 brands/styles of aerators.</li> <li>✓ 5 study locations.</li> <li>✓ 5 landowner partners.</li> <li>✓ Anecdotal monitoring of performance.</li> <li>✓ Final report.</li> <li>✓ Scientific monitoring of physical, chemical, and biological parameters.</li> <li>✓ Financial monitoring of energy and effort investments.</li> <li>✓ <b>Peer reviewed journal article(s).</b></li> <li>✓ <b>Meeting with stakeholders to discuss findings and applicability.</b></li> </ul>
<b>Municipal funding:</b> \$9,100 <b>Grant funding:</b> \$0 <b>In-Kind:</b> \$600* <b>Total Value:</b> \$9,700** <b>ROI:</b> 7%	<b>Municipal funding:</b> \$16,200 <b>Grant funding:</b> \$0 <b>In-Kind:</b> \$4,800* <b>Total Value:</b> \$21,000** <b>ROI:</b> 30%	

\* The In-kind contribution drops after the 1<sup>st</sup> year

\*\* The cost of the program increases slightly in the last year due to additional reporting requirements. See page 38 for annual budget summary.

<b>Municipal funding:</b>	<b>\$18,900</b>
<b>Grant funding:</b>	<b>\$5,000</b>
<b>In-Kind:</b>	<b>\$5,600*</b>
<b>Total Value:</b>	<b>\$29,500**</b>
<b>ROI:</b>	<b>56%</b>

The Task Force is recommending a Level 3 program here as it includes enhanced academic partnerships including publications, and multi-year sampling of multiple products in various aquatic plant growth situations, provides significant credibility to the study. Reducing the program may result in the science and recommendations of the study being challenged as non-comprehensive and thus not taken as factual and/or applicable to real-world situations. This may negatively impact the acceptance of our findings with the permitting agencies.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*

## Shoreline Stewardship

**Program Lead:** Kawartha Conservation

**Program Partners:** City of Kawartha Lakes, Kawartha Pine Ridge District Health Unit, Real Estate Board, CLEAC, Lake/Cottager's Associations, Landscape Ontario.

**Timeline:** This program should continue for the full 5 years outlined within this proposal.

**Recommended Funding Level:** Level 2 from 2019 - 2023

The majority of shoreline properties in the City of Kawartha Lakes are privately owned. Caring for shoreline properties presents a number of challenges including the landowner's enjoyment of their own property, nutrient loading, erosion, and flooding. The Shoreline Stewardship program provides support to landowners whose daily activities have significant impact on the health of our lakes and the ability for the entire community to enjoy the resource. This program will provide landowner consultations and site plans to help landowners identify and implement in-the-ground projects that will improve water quality. In addition, community workshops will provide practical information, demonstrate how-to projects, and connect landowners to permit information to ensure that projects are effective and appropriately implemented. Lastly, this program will implement beach restoration projects that will improve our public beaches and keep them open to the public. These demonstration sites will be based on the data collected from each site, and will act as a demonstration to other landowners and communities with similar issues.



An example of a naturalized shoreline garden recommended during site visits in previous years.

Highly used public beaches which have experienced multiple beach postings due to high *E.coli* concentrations are the targets for this program. The monitoring aspect of this project aims to determine *E.coli* and nutrient concentrations through sampling on the beach and the surrounding area.

This further investigation will assist in identifying the dynamics of *E. coli* within the beach ecosystem and provide essential data to the local health unit's predictive modelling program. Kawartha Conservation's

monitoring will complement the health unit's Beach *E.coli* daily sampling regime from June to August. This project includes a strong partnership with the Haliburton Kawartha Pineridge District Health Unit and the City of Kawartha Lakes Parks and Recreation department. The outcome of this project will be to identify specific problem areas to mitigate via stewardship projects.

The Shoreline Stewardship program continues to attract investment in our community from other foundations and agencies while taking action to improve the quality of experience our lakes and public beaches provide. Past program success is outlined in Appendix D. Improving the shorelines also improves fish habitat, which supports our local tourism economy. This program has been designed to build the capacity of grassroots organizations wanting to make an impact on their local community.



<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<ul style="list-style-type: none"> <li>✓ 15 site visits – basic drawings</li> <li>✓ Beach Restoration</li> <li>✓ 1 Year /1 Beach monitoring</li> <li>✓ Recommendations for stewardship prioritization projects</li> <li>✓ 4 community workshops</li> <li>✓ Watershed Welcome</li> </ul>	<ul style="list-style-type: none"> <li>✓ 25 site visits – landscape software drawings</li> <li>✓ Beach Restoration</li> <li>✓ 1 Year/ 1 Beach monitoring</li> <li>✓ Recommendations for stewardship prioritization projects</li> <li>✓ 5 community workshops</li> <li>✓ Watershed Welcome</li> <li>✓ <b>Outreach with Landscapers / Real Estate Professionals</b></li> <li>✓ <b>Community volunteers</b></li> <li>✓ <b>Septic Management information (links to funding)</b></li> <li>✓ <b>Community Partner Tool Kit</b></li> </ul>	<ul style="list-style-type: none"> <li>✓ 50 site visits – landscape Software drawings</li> <li>✓ Beach Restoration</li> <li>✓ 1Year/1 Beach monitoring</li> <li>✓ Recommendations for stewardship prioritization projects</li> <li>✓ 5 community workshops</li> <li>✓ Watershed Welcome</li> <li>✓ <b>Landscaping / Real Estate Collaboration Program</b></li> <li>✓ Community Volunteers</li> <li>✓ <b>Septic Management (links to funding)</b></li> <li>✓ Community Partner Tool Kit</li> <li>✓ <b>Community Partner support</b></li> <li>✓ <b>Pilot Projects (new technologies)</b></li> </ul>
<b>Municipal funding:</b> \$42,300 <b>Grant funding:</b> \$29,500 <b>In-Kind:</b> \$1,500 <b>Total Value:</b> \$73,300 <b>ROI:</b> 73%	<b>Municipal funding:</b> \$46,000 <b>Grant funding:</b> \$36,000 <b>In-Kind:</b> \$2,000 <b>Total Value:</b> \$84,000 <b>ROI:</b> 83%	<b>Municipal funding:</b> \$67,400 <b>Grant funding:</b> \$53,000 <b>In-Kind:</b> \$5,000 <b>Total Value:</b> \$125,400 <b>ROI:</b> 86%

Most of our shoreline is privately owned and managed. As the ribbon of land surrounding our lakes, this area is particularly sensitive to management techniques and often has a direct impact on lake water quality. The Task Force recommends Level 2 for this program because it combines the provision of information to private landowners with the collaboration between Real Estate Professionals and the Landscape professionals within our community. Building these partnerships and collaborating with community partners will help to improve the state of our shorelines. Reducing the level of programming offered to the shoreline community will significantly impact on the quality of projects and our ability to maintain or improve water quality within our lakes.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*

## Shoreline Planning and Policy Background

**Program Lead:** Kawartha Conservation

**Program Partners:** City of Kawartha Lakes, other lakeside municipalities.

**Timeline:** This is a 2-year project proposal, with 2-specific year-end deliverables, each one building upon the previous years' effort.

**Recommended Funding Level:** Level 2 for 2019-2020

Enhanced shoreline protection through planning and policy is a priority recommendation in most of the lake plans. Science has identified shoreline land use as a key threat to the sustainability of local lakes and there is considerable support from local stakeholders to undertake such initiatives.

The city of Kawartha Lakes will need to undertake background research as part of the considering the feasibility of pursuing more rigorous shoreline policies and Kawartha Conservation has the expertise to undertake the background research.

Several municipalities across Ontario have, are considering, or have considered implementing various means of provided stricter or more detailed land use policy around their lakes, including: Official Plan policies, Site Alteration Bylaws, Tree Cutting/Conservation Bylaws, among others. The deliverable for Year 1 would be to summarize these approaches, with an emphasis on lessons learned including what tactics worked well and what did not.



Enhanced shoreline protection will ensure wise development that protects the unique features and community values in the City of Kawartha Lakes.

Enhanced shoreline policy is not popular, and has the potential to cause controversy particularly among shoreline residents and the development community who may see this as an intrusion on their rights or loss of business opportunities. The deliverable for Year 2 would be to identify the rationale and ultimate need for enhanced policy, by investigating the past, present, and future state of shoreline land use with an emphasis on how shoreline land use and development influences the well-being of the local economy and ecology of the lakes.

The roll out of any additional shoreline land use-related policy can have profound implications if not based on proven successes and local realities.

While not recommended by the Task Force, year 3 would consider the deliverables from Year 1 (what has worked on other shorelines) and Year 2 (what is at stake for our local shorelines) and meet with local communities and appropriate industry to define various implementation opportunities and recommendations for how to roll out any new shoreline planning approaches.



### **Level 1 (1 Year)**

- ✓ Research shoreline land use related policies in comparable municipalities.
- ✓ Meet with municipal staff to discuss challenges, successes, and experiences with implementing.
- ✓ Produce a summary report for consideration by CKL.

<b>Municipal funding:</b>	<b>\$14,800</b>
Grant funding:	\$0
In-Kind:	\$0
<b>Total Value:</b>	<b>\$14,800</b>
<b>ROI:</b>	<b>0%</b>

### **Level 2 (2 Year)**

- ✓ Research shoreline land use related policies in comparable municipalities.
- ✓ Meet with municipal staff to discuss challenges, successes, and experiences with implementing.
- ✓ Produce a summary report for consideration by CKL.
- ✓ **Research socioeconomic and environmental changes in shoreline land use across CKL.**
- ✓ **Identify linkages between shoreline land use trends and lake health particularly water quality.**
- ✓ **Produce a report that summarizes changes in shoreline character and health with an emphasis on implementing enhanced shoreline policy.**

<b>Municipal funding:</b>	<b>\$59,700</b>
Grant funding:	\$0
In-Kind:	\$0
<b>Total Value:</b>	<b>\$59,700*</b>
<b>ROI:</b>	<b>0%</b>

**\*Budget for 2 years**

### **Level 3 (3 Year)**

- ✓ Research shoreline land use related policies in comparable municipalities.
- ✓ Meet with municipal staff to discuss challenges, successes, and experiences with implementing.
- ✓ Produce a summary report for consideration by CKL.
- ✓ Research socioeconomic and environmental changes in shoreline land use across CKL.
- ✓ Identify linkages between shoreline land use trends and lake health particularly water quality.
- ✓ Produce a report that summarizes changes in shoreline character and health with an emphasis on implementing enhanced shoreline policy.
- ✓ **Identify how many parcels could be affected by policy changes.**
- ✓ **Engage and seek advice through several public sessions.**
- ✓ **Identify various opportunities to change existing shoreline land use policy in CKL.**
- ✓ **Provide recommendations as to what specific policies should be implemented around shorelines and their applicable scope.**

<b>Municipal funding:</b>	<b>\$84,600</b>
Grant funding:	\$0
In-Kind:	\$0
<b>Total Value:</b>	<b>\$84,600*</b>
<b>ROI:</b>	<b>0%</b>

**\*Budget for 3 years**

The Task Force recommends the Level 2 program because it allows for the inclusion of technical information on land use trends specific to shorelines within City of Kawartha Lakes which will help to provide credibility to any future shorelines policy consideration. Reducing the level of programming will result in recommendations that are not entirely based on the land use trends, pressures, or statistics within the City of Kawartha Lakes but rather on a broader search across different municipalities.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*



## Near Shore Monitoring

**Program Lead:** Kawartha Conservation, Academia

**Program Partners:** Academia, KLSA

**Timeline:** This is a multi-year and multi lake project proposal to determine ‘hot spots’ (areas of water quality degradation) in the near shore areas of the lakes and fill data gaps identified in the completed lake management plans (create a baseline of information) . **THIS TIMELINE WILL BE BASED ON THE NUMBER OF LAKES EXAMINED**

**Recommended Funding Level:** Level 2 from 2019 - 2022

An identifiable data gap that exists in each of the completed Lake Management Plans is the lack of near shore water quality (chemical and biological). The nearshore area is under the direct influence of activities performed on the shoreline (urban development, agriculture, specific shoreline alteration) in addition to acting as a transition zone that is highly influenced from waters offshore and land and tributary drainage. The data collected in near shore areas can act as an early warning indicator for the lakes and thus identify “problem areas” or “hot spots” of degraded water quality and threats to human and animal health in addition to a decrease in biodiversity and habitat.

The near shore monitoring program would include a comprehensive water chemistry and physical baseline survey to be completed on Sturgeon, Pigeon, Balsam & Cameron lakes for a minimum duration of three years.

The information gathered from each survey would also serve as a jumping off point to initiate specific stewardship priorities and actions. This program has proven popular in the existing implementation activities as a number of landowners draw their drinking water directly from the lakes. For information on previous successes within this project, see Appendix D.

Addressing data gaps from management plans in highly used and impacted areas with support from residents – or ‘Citizen Scientists’. These individuals provide increased capacity at a much lower cost with greater understanding of the various impacts on water quality and habitat, and provide better communication for advocating for preferred stewardship practices within their lake communities. Information collected will identify high priority locations for stewardship, as well as helping guide planning for future development.



Near Shore Monitoring engages citizen scientists, acting as an early warning system for issues affecting the lakes.

### Level 1

- ✓ 3 year monitoring period
- ✓ 1 lake (25 sites- 25 citizen scientists)
- ✓ monthly sampling (June to October) 4 sampling events )
- ✓ Water chemistry parameters include: nutrients (phosphorus & nitrogen, total suspended solids, *E.coli*, Chlorophyll a, chloride)
- ✓ Produce annual summary reports
- ✓ Produce final report including recommendations for stewardship prioritization projects.

**Municipal funding:** \$16,100  
**Grant funding:** \$16,100  
**In-Kind:** \$3,750  
**Total Value:** \$35,950\*  
**ROI:** 123%

### Level 2

- ✓ 3 year monitoring period
- ✓ **5 lakes per 3 year cycle (12 sites on each lake- 60 citizen scientists)**
- ✓ monthly sampling (June to October) 4 sampling events )
- ✓ Water chemistry parameters include: nutrients (phosphorus & nitrogen, total suspended solids, *E.coli*, Chlorophyll a, chloride)
- ✓ Produce annual summary reports
- ✓ Produce final report including recommendations for stewardship prioritization projects.
- ✓ **Produce peer reviewed journal article**  
**\*dependent on securing PhD candidate**

**Municipal funding:** \$28,600  
**Grant funding:** \$28,600  
**In-Kind:** \$24,000  
**Total Value:** \$81,200\*  
**ROI:** 184%

### Level 3

- ✓ 3 year monitoring period
- ✓ 5 lakes per 3 year cycle (12 sites on each lake- 60 citizen scientists)
- ✓ **biweekly sampling (June to October) 8 sampling events)**
- ✓ Water chemistry parameters include: nutrients (phosphorus & nitrogen, total suspended solids, *E.coli*, Chlorophyll a, chloride)
- ✓ Produce annual summary reports
- ✓ Produce final report including recommendations for stewardship prioritization projects.
- ✓ Produce peer reviewed journal article
- ✓ \*dependent on securing PhD candidate
- ✓ **Pharmaceuticals (endocrine disruptors)**

**Municipal funding:** \$56,000  
**Grant funding:** \$56,000  
**In-Kind:** \$33,000  
**Total Value:** \$145,000\*  
**ROI:** 159%

**\* Annual budget in the final year of the project is less due to reduced workload. See summary budget on Page 39 for details**

The Task Force recommends the Level 2 program as it will provide for testing on all five of our major lakes at the same time. This will mean that the testing will be completed in 4 years rather than continuing one lake at a time over 15 years.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*

# Urban Program

The Urban Program contains the following detailed projects:

1. Urban Stewardship
  - a. BlueScaping

Level 1
Level 2
Level 3

		2019	2020	2021	2022	2023
<b>BlueScaping</b>						
	Municipal Contribution	33,100	43,700	43,700	43,700	43,700
	Grant Funding Leveraged	10,500	15,500	15,500	15,500	15,500
	In Kind Support Leveraged	3,200	7,700	7,700	7,700	7,700
	<b>Total Project Value</b>	<b>46,800</b>	<b>66,900</b>	<b>66,900</b>	<b>66,900</b>	<b>66,900</b>

<b>Combined Urban Budget</b>		2019	2020	2021	2022	2023
	<b>Municipal Contribution</b>	<b>33,100</b>	<b>43,700</b>	<b>43,700</b>	<b>43,700</b>	<b>43,700</b>
	<b>Grant Funding Leveraged</b>	<b>10,500</b>	<b>15,500</b>	<b>15,500</b>	<b>15,500</b>	<b>15,500</b>
	<b>In Kind Support Leveraged</b>	<b>3,200</b>	<b>7,700</b>	<b>7,700</b>	<b>7,700</b>	<b>7,700</b>
	<b>Total Project Value</b>	<b>46,800</b>	<b>66,900</b>	<b>66,900</b>	<b>66,900</b>	<b>66,900</b>



# BlueScaping

**Program Lead:** Kawartha Conservation

**Program Partners:** City of Kawartha Lakes, Landscape Ontario, CKLEAC, GreenUp, Horticultural Societies, Providers of LID Goods and Services, Bee City, contractors and developers

**Timeline:** This program should continue for the full 5 years outlined within this proposal. Communities have been chosen for LID Demonstration Sites based on population and proximity to lakes and their tributaries.

**Recommended Funding Level:** Level 1 in 2019, Level 2 from 2020 - 2023

The City of Kawartha Lakes has a number of urban centres that are poised for growth in the coming years. Highway extensions, property values, and our standard of living are all very attractive to people looking to move out of the GTA. Developing a program designed to support this growing community protect our water resources is critical.

Much of the urban landscape is hardened surfaces. Paved surfaces and rooftops create faster moving storm runoff, which can lead to flooding during rain events and snow melt. These flooding events can be very costly to the landowner as well as the community at large. In addition, urban runoff typically contains sediments and pollutants which are deposited to lakes and streams.



The demonstration site at Victoria Park in Lindsay (2017) is an example of the types of community projects that this program will implement.

BlueScaping is a program designed to help protect our urban communities from the impacts of flooding and stormwater runoff.

BlueScaping is also a program designed to attract additional investment in developing low impact development demonstration sites within our urban centres. These demonstration sites improve the management of stormwater at the site level. This improvement will be reflected in the quality of our rivers and streams which attract tourist to the area. Previous success with this program is outlined in Appendix D. As a pilot, this program has evolved over time and has garnered significant support from the community and our partners.

BlueScaping is an urban stewardship program designed to initiate voluntary action by private landowners, leading to the reduction of runoff generated by individual properties. Demonstration sites in key communities showcase to residents how they can create beautiful and functional urban landscapes that serve their needs while providing multiple services to the community at large including reductions in lake sedimentation and localized flooding. Working with developers and contractors also provides opportunities to build BlueScaping features into new subdivision properties, investing in the community wellbeing long-term and providing opportunities for maximizing profits.

This program combines on site consultations with landscaping plans, public demonstration sites, and supporting other community partners in their endeavours. The various levels of programming with their metrics for success are outlined below.

<p><b>Level 1</b></p> <ul style="list-style-type: none"> <li>✓ Municipal LID demonstration site</li> <li>✓ 3 community workshops</li> <li>✓ Urban Tree Planting Event</li> <li>✓ 5 landowner consults</li> </ul> <p> <b>Municipal funding:</b> \$20,100  <b>Grant funding:</b> \$5,500  <b>In-Kind:</b> \$700  <b>Total Value:</b> \$30,300  <b>ROI:</b> 31% </p>	<p><b>Level 2</b></p> <ul style="list-style-type: none"> <li>✓ Municipal LID demonstration site</li> <li>✓ <b>5 community workshops</b></li> <li>✓ Urban Tree Planting Event</li> <li>✓ <b>10 landowner consultations and creation of lot level landscape plans</b></li> <li>✓ <b>Partnership with Landscapers to develop feature landscape plans</b></li> </ul> <p> <b>Municipal funding:</b> \$33,100  <b>Grant funding:</b> \$10,500  <b>In-Kind:</b> \$3,200  <b>Total Value:</b> \$46,800  <b>ROI:</b> 42% </p>	<p><b>Level 3</b></p> <ul style="list-style-type: none"> <li>✓ Municipal LID demonstration site</li> <li>✓ 5 community workshops</li> <li>✓ Urban Tree Planting Event</li> <li>✓ Implementation Incentive (see Incentive Fund)</li> <li>✓ Partnership with Landscapers to develop feature landscape plans</li> <li>✓ <b>15 landowner consultations and creation of lot level landscape plans</b></li> <li>✓ <b>Partnership with Developers to implement new build features.</b></li> </ul> <p> <b>Municipal funding:</b> \$43,700  <b>Grant funding:</b> \$15,500  <b>In-Kind:</b> \$7,700  <b>Total Value:</b> \$66,900  <b>ROI:</b> 53% </p>
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The Task Force recommends continuing to deliver this program at a Level 2 until 2020, at which time an increase in programming to Level 3 is recommended. This level of programming has been piloted in York Region and Peel Region with great success. Building the program will encourage practical partnership development with the landscape and development industries to reduce urban runoff by facilitating voluntary lot level stormwater management by private landowners in new and existing homes. Reducing delivery services will result in a significant loss in voluntary stormwater management investment by homeowners in new developments, where the greatest gains can be made.

*Preferred program levels are highlighted in blue boxes. When multiple levels are highlighted it indicates varying levels of implementation over the 5-year period.*

*Text in bold represents unique activities between the levels.*



# Appendix C

## Lake Management Plans

Lake Management Planning	Year Initiated	Year of Completion
Lake Scugog Environmental Management Plan (LSEMP)	2007	2010
Sturgeon Lake Management Plan	2010	2014
Balsam & Cameron Lake Management Plan	2011	2015
Canal Lake and Mitchell Lake Management Plan	2013	2016
Four Mile Lake Management Plan	2013	2017
Shadow and Silver Lake Management Plan	2014	2018
Head Lake Management Plan	2014	2018
Pigeon Lake Management Plan	2012	2018

## Lake Management Planning: City of Kawartha Lakes Investment

Program	Year											Total Investment
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
CKL Lake Management Planning	\$ 30,000	\$ 30,000	\$ 90,000	\$ 183,450	\$ 260,000	\$ 330,000	\$ 290,000	\$ 275,000	\$ 204,000	\$ 121,400	\$ 73,700	\$ 1,887,550
Lake Implementation Activity				\$ 29,900	\$ 39,300	\$ 40,000	\$ 40,000	\$ 40,000	\$ 117,000	\$ 157,900	\$ 165,600	\$ 629,700
Blue Canoe	\$ 20,000	\$ 13,000	\$ 10,000		\$ 28,325	\$ 28,300	\$ 25,000	\$ 25,000	\$ 25,000			\$ 174,625
							Overall Program Investment					\$ 2,691,875

# Appendix D

## Early Implementation Successes



# **LAKE MANAGEMENT PLAN IMPLEMENTATION ACCOMPLISHMENTS**

## **2016-2018**

**PROTECTING OUR LAKES AND WATER  
RESOURCES IN KAWARTHA LAKES**



**A summary of major  
accomplishments as of May 15, 2018**





# **2016-2018 KAWARTHA LAKES LAKE MANAGEMENT PLAN IMPLEMENTATION**

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We are a community-focused organization committed to achieving the best solutions for our member municipalities through science and information gathering. We facilitate continuous improvement, focused on achieving results. We are committed to being leaders in integrated watershed management, ecosystem health, and community sustainability. The accomplishments presented have been supported by our member municipalities, community, volunteers, numerous cottage associations and provincial, federal and private funders.

## **LAKE MANAGEMENT PLAN IMPLEMENTATION SUCCESS**

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Kawartha Conservation's team of science, aquatic, stewardship and planning experts deliver tangible results through consistent, public-driven and engaged lake management planning and implementation. Our results are focused on outstanding water quality and quantity management, supported by healthy landscapes through planning, stewardship, science and education.

# IMPLEMENTATION HIGHLIGHTS

**\$1,386,000**

Total Lake  
Management Plan  
Implementation  
Investment

**\$618,000**

Kawartha Farmland  
Stewardship Project  
Leverage

**6,000**

# of people engaged  
through  
Implementation

**\$456,250**

Municipal  
Contribution for  
Implementation

**9,500**

Feet of livestock  
exclusion fencing  
erected along rural  
waterways

**35,000**

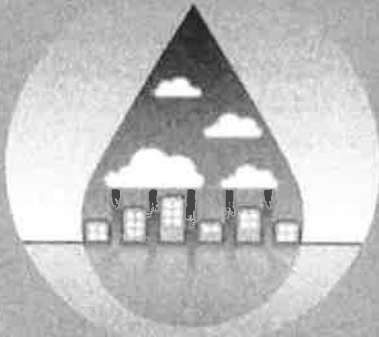
Tree seedlings &  
plants sold through  
implementation  
engagement

## Our Vision

A sustainable watershed  
with clean and abundant  
water and natural  
resources assured for  
future generations.

# URBAN

## BlueScaping, 2016-18



BlueScaping is an education and outreach initiative that targets landowners in 'built up areas' of our watershed. We engage with landowners using workshops, site visits and interpretive demonstration sites on municipal property.

Simple actions such as planting native plants, and installing rain barrels and more involved actions like building rain gardens and reducing impermeable surfaces, landowners improve the function and appeal of their property while helping to protect against urban floods and lake degradation caused by urban runoff.

- Constructed two demonstration sites
- Engaged more than 100 volunteers helping to build demonstration projects
- Delivered 7 workshops to over 150 participants with four more workshops planned in 2018
- A comprehensive study on the source of upstream E.coli and contributions through a range of shoreline conditions (degraded to highly vegetated study in order to determine stewardship prioritization projects to reduce beach postings.
- Monitoring 4 water quality sites and 2 sand sites with the future Bobcaygeon Beach BlueScaping project

## Rosedale Park Revitalization, 2016

- Naturalized 24 metres of shoreline
- Installed 180 square metre pollinator garden
- Planted 1200 native plants
- Engaged more than 40 volunteers including more than 10 organizations and businesses



## Victoria Park (Lindsay) Rain Garden, 2017

- Planted 160 native plants, grasses and trees in a municipal park
- Installed rain garden to treat runoff from about 1,500 square meters of hardened surface

## Omeme Beach Restoration and Demonstration Site, 2018

Naturalizing 65-feet of shoreline  
Removing 540 square feet of Phragmites  
Planting 277 native plants  
Hosting 3 complimentary BlueScaping workshops  
Engaging more than 20 volunteers



# SHORELINE

## Nearshore Water Quality Monitoring, 2017-18



Nearshore water quality shows us the effects of activities in the watershed on lakes which receive the water. Activities on land, and in the streams which empty into the lakes, also affect the conditions of beaches, etc. We monitor the nearshore environment to ensure the health and integrity of this important ecosystem, and compare against other water data.

- Obtain a data baseline for near shore sampling locations (24 sites)
- Citizen scientists collect water samples on a monthly basis (30 Citizen Scientists)
- Compare with open water data
- Educate and encourage stewardship and enhance community involvement

## Garnet Graham Beach Park (Fenelon Falls) 2017



- Community-driven beach improvement
- Removed three concrete piers
- Removed 36 cubic metres of concrete from waterfront
- Completed shoreline rehabilitation
- Created fish spawning

## Blue Canoe



For five consecutive summers, the Blue Canoe team paddled along the lakes sharing information about healthy lakes, shoreline management techniques and answering landowner questions. Through this ongoing engagement the Blue Canoe program has helped to initiate positive action by private landowners.

- Engaged with 4,800 shoreline residences (door to door and dock to dock)
- Held 76 community events

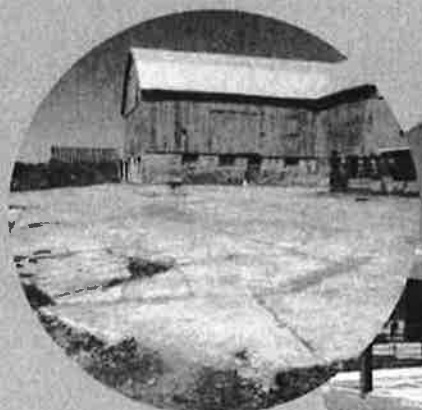
## Shoreline Naturalization, 2016-18

- Enhanced or naturalized 104 metres of municipal shoreline
- Engaged 117 community volunteers





# RURAL



Before



After

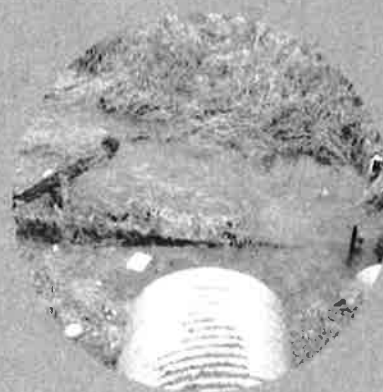
## Kawartha Lakes Farmland Stewardship Fund, 2016-18

- Completed 34 on-farm water quality improvement projects
- Planted 32,300 trees
- Installed 9,500 feet of livestock exclusion fencing along rural waterways
- Installed eavestroughs on 10 barns
- Decommissioned or improved 6 wells
- Completed 9 manure storage improvements
- Conducted 79 site visits on 38 farms.
- Hosted 6 workshops and participated in 8 additional industry events
- Installed 29 "Water Quality Partner" farm gate signs along rural roads
- Published 5 video tours of local farm projects completed through the fund
- Return on Investment of 357%

## Investigative Upstream Monitoring, 2017-18

Upstream monitoring will help determine 'hot spots' (areas of water quality degradation) along streams flowing into lakes. Analyzing monitoring data to help inform strategic restoration activities.

- Improving water quality and the health of urban and agricultural residents
- Decreasing nutrient loading into lakes and improved lake health
- Decreasing risk of blue green algal blooms, improved aesthetics and recreational opportunities combined with less degradation of fish spawning sites due to sedimentation
- 21 sites, 3 streams, 6 water quality parameters analyzed & flow measurements taken



## Kawartha Lakes Stewardship Summit, 2017

The Community Advisory Panel and Kawartha Conservation held Stewardship Summit to gather community input on lake management plan implementation. The Summit engaged area full-time and seasonal residents and solicited input on lake management plan implementation projects and priorities.

- 10 community groups including: Fleming College, Kawartha Lakes Councillors and staff, Kawartha Land Trust, Field Naturalists, cottage associations and others participated





**KAWARTHA  
CONSERVATION**

Discover • Protect • Restore

**Kawartha Conservation**

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