



# East Lake Stewardship Plan

January, 2015



PRINCE EDWARD/LENNOX & ADDINGTON  
COMMUNITY FUTURES  
DEVELOPMENT CORPORATION

Twenty years ago, the first Official Plan for the County of Prince Edward was approved and it stated, “The environmental quality of inland lakes is to be addressed through a Lake Management Plan process.” (pg. 18, Item 1.1.4). That important document also gave direction about who should undertake this process and who should be involved in it, what the plan should contain and how the plan should be used:

*“The County of Prince Edward will coordinate the Shoreland Management Planning process with the local Conservation Authority. (pg. 22, Item 1.4.3), “These (Shoreland Management Plans) should be developed in consultation with municipalities adjacent to the same lake system, the local Conservation Authority, government agencies, and the affected public.” (pg. 6, Item 3.14). “The Shoreland Management Plan will provide an inventory of fishery and wildlife habitat, vegetation, and shoreline uses, erosion and flooding areas, surface water quality and factors contributing to environmental degradation in the watershed. The Shoreland Management Plan shall provide policies and designations for each of these lakes to ensure environmental protection, public access, and appropriate land use types and density. The policies and designations resulting from the recommendations of each Shoreland Management Plan will be incorporated into this Plan by way of amendment.” (pg. 22, Item 1.4.4)*

The process to develop a Plan started in September, 2011 when Council passed Motion CW 405 2011 approving the collaboration between Prince Edward County, Quinte Conservation and the community group, Friends of East Lake to apply to Ontario Trillium Foundation for funding to develop the first Shoreland Management Plan.

## Acknowledgements

This plan has been developed under the guidance of a steering committee consisting of: Quinte Conservation Authority (Terry Murphy, Tim Trustham, Maya Navrot); Prince Edward County (Jo-Anne Egan); Friends of East Lake (Linda Cole, Barbara Wyatt, Carolyn Barton); French Planning Services Inc. (Randy French, Gord Rodgers).

Financial support was provided by Ontario Trillium Foundation, Cottage Advisors Group, and Prince Edward/Lennox and Addington Community Futures Development Corporation. Quinte Conservation provided in-kind support, including in preparation of the State of the Lake Report.

The community in the East Lake Watershed has been vitally important in developing this plan, through attending workshops, filling out surveys, and offering comments on the developing elements of the stewardship plan.

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This plan is dedicated to the memory of Elizabeth Murray, who as past Deputy Director of Planning for the County of Prince Edward inspired all to a higher level of respect and appreciation for the natural environment.

## Executive Summary

The completion of this stewardship plan for East Lake marks the culmination of more than two years of work by Quinte Conservation, Prince Edward County, and the Friends of East Lake. More importantly, the plan reflects the concerns and aspirations of the community around East Lake, expressed at numerous workshops, meetings, and through survey responses.

The plan provides the community with a suite of stewardship actions that will help maintain and improve their natural, social, and economic environment. It also provides Prince Edward County with land use planning recommendations oriented to the long-term protection of one of the gems of the county, East Lake.

The East Lake Stewardship Plan is unique in Prince Edward County and we hope that it provides an approach to be considered for other inland lakes and shoreline reaches in the area. Prince Edward County offers a valued destination for tourism, and a highly desirable combination of natural beauty, heritage, and rural charm. The inland lakes of the county are an integral element of this combination, and maintaining their environmental, social, and economic health is of interest to the county overall.

East Lake is the second largest lake in Prince Edward County and its current character has evolved through its past use, cultural heritage, natural and physical environment. The shoreline of the lake consists of low density landscape with active farms along the northern shore and more dense residential, cottage, and resort commercial development along the southern shore.

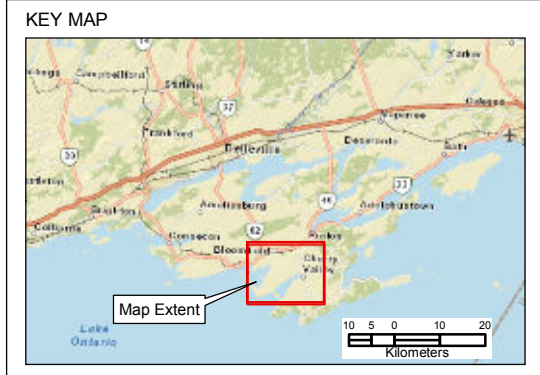
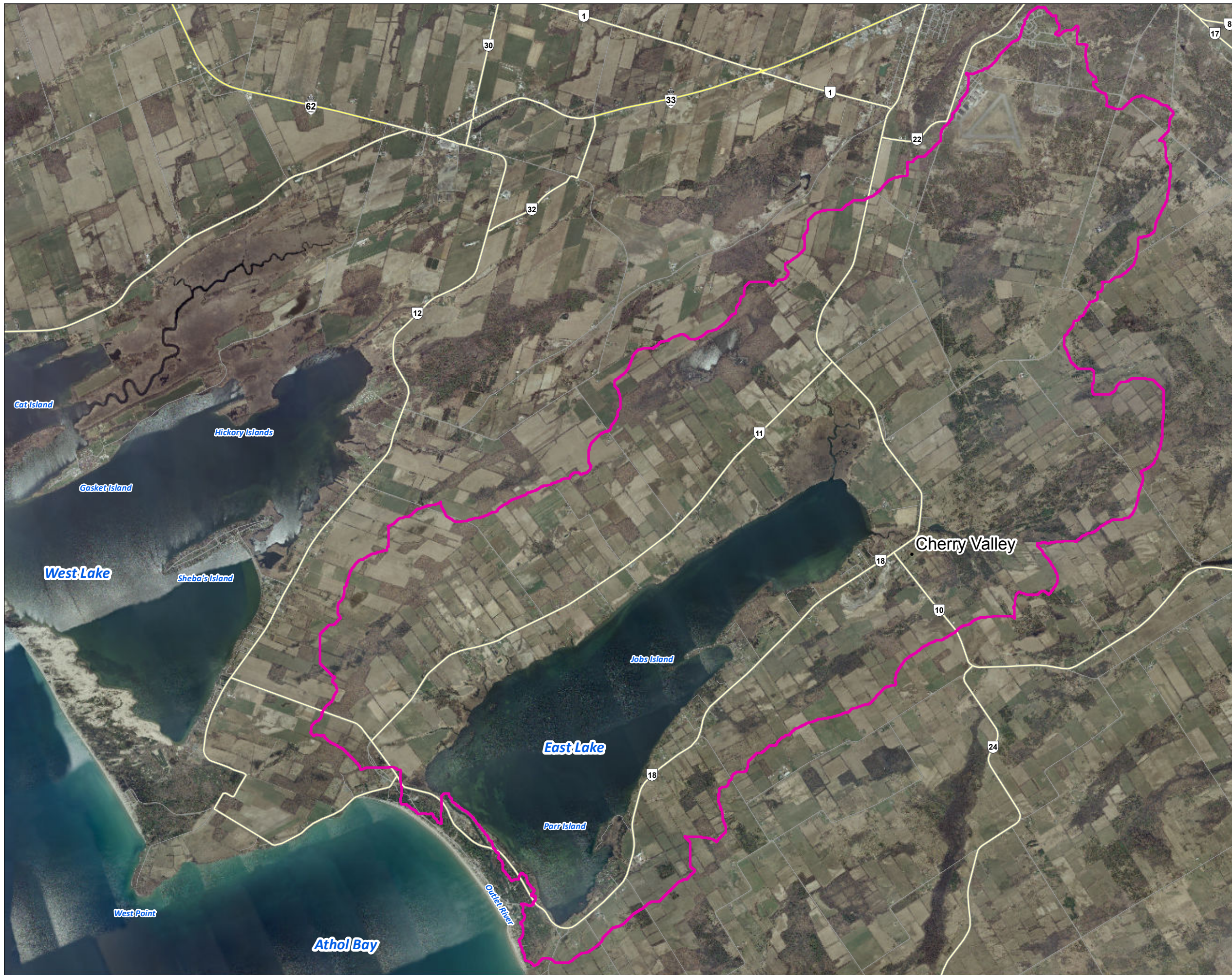
Overall East Lake has a “healthy” natural environment. East Lake is categorized as a “mesotrophic” lake, which means that, in a healthy state, it would contain a moderate level of nutrients and plant growth. Its water quality and that of the streams flowing into the lake fall within the provincial water quality objectives, and has significantly improved since the mid-1980s. The abundant wetland areas and natural habitats are in a good natural state, and harbour healthy populations of diverse animal species.

Through a series of open houses, meetings, and surveys, the community was provided with opportunities to review background information and to identify their values, issues and potential actions to be considered. A “State of the Lake” report was prepared by Quinte Conservation, to document current information on land use, water quality, water levels, natural habitats and features, wetlands, species at risk, invasive species, forest cover and fish and wildlife. Together with the results of the community meetings and the State of the Lake report, a series of goals, objectives and actions are provided in this plan with the aim of protecting the character of the lake.

The preparation of this plan is just the first step. The important work of implementation has yet to be undertaken, and we encourage everyone to engage in its recommended activities.

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**LEGEND / NOTES**

**Road Class**

- Local / Private
- King's Highway
- County Road

**Natural Features**

- East Lake Watershed

1,000 500 0 1,000 2,000  
Meters

N

1	Final draft	19/02/15
No.	REVISION	DD/MM/YY

**Quinte CONSERVATION**

**PROJECT:**  
East Lake Stewardship Plan

**TITLE:**  
East Lake Watershed

<b>SCALE:</b>	1:50,000	<small>Mora River, Napanee Region and Prince Edward Region Watersheds RR # 2, 2061 Old Highway # 2, Belleville, Ontario, K8N 4Z2 Produced by Quinte Conservation 19/02/2015 under license with the Ontario Ministry of Natural Resources. Copyright Quinte Conservation and the Queen's Printer for Ontario, 2015. Data is projected in NAD 83 UTM Zone 18N Base Map - Ontario Ministry of Natural Resources Imagery - 2008 Copyright © of AerialPhoto (1961) Inc. - All Rights Reserved Imagery - SCOP 2013 Ontario Ministry of Natural Resources Key Map - ArcGIS Online Services Disclaimer: This map is for illustrative purposes only. Quinte Conservation makes no warranties and assumes no liability whatsoever regarding the truth, accuracy, currency, or completeness of this map and its associated data.</small>
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# 1.0 Introduction

## 1.1 About the Plan

The purpose of the plan is to identify, protect, preserve and enhance the unique environmental and social features of East Lake and its watershed for present and future generations. The official plan for Prince Edward County endorses the development of a “Shoreland Management Plan” for East Lake – a document similar in form and content to a “Lake Stewardship Plan.”

The East Lake Stewardship Plan was developed through a community-based process that considered the interests of all stakeholders on East Lake and in the watershed including permanent and seasonal residents, commercial operators, farmers, and recreationalists (e.g. anglers, boaters). The purpose of the process was to engage members of the community and help them identify their values and issues; then to develop stewardship actions and land use recommendations to address identified issues and protect the health and character of the East Lake watershed.

The scope of the plan encompasses the East Lake watershed (see attached map) and focuses on the lake and its shoreline areas.

The East Lake Stewardship Plan contains a series of recommended actions that address the plan’s goals and objectives and strive to meet a stated vision for the future of East Lake. These actions include stewardship activities that are designed to protect, preserve and enhance the environmental and social features of the lake and recommendations to Prince Edward County on land use policy.

The plan reflects and builds upon the background material collected for the State of the Lake report, and community interests identified through public consultations.

The State of the Lake report, prepared by Quinte Conservation, is a background document that synthesizes all information currently available on East Lake, including information on land use, development, environmentally sensitive areas, wetlands, water quality, water quantity, species at risk, invasive species, and fish and wildlife. A record of all reports, public consultations, and the details of the planning process (e.g., workshop summaries, meeting summaries, Steering Committee minutes) can be found on the website, [www.eastlakeplan.ca](http://www.eastlakeplan.ca).

A Development Assessment Report, prepared by French Planning Services, provided information and observations on the types of land use, number of residential and commercial properties, and number of commercial accommodation units located on properties along the shoreline of East Lake. It also identified the limits to development in accordance with Zoning By-law 1816-2006.

### Excerpt from Prince Edward County Official Plan, 2011

1.4.1 Shoreland Management Plans may be undertaken for the inland lakes in the County to provide for more specific land use policies and designations related to future Shoreland development; protection of environmentally sensitive areas and consideration of other tourism, recreational, agricultural; and other land uses within each lake shoreland.

### Some Highlights from East Lake State of the Lake Report

- Agriculture remains a dominant land use on the north shore;
- Water quality is generally good, but continued monitoring is vital;
- Significant wetlands support vibrant healthy wildlife populations, and several species at risk;
- Spring water levels are substantially affected by the presence/absence of the sand plug in the Outlet River;
- The lake supports a recreational and commercial fishery.

The State of the Lake Report and much more can be found at

[www.eastlakeplan.ca](http://www.eastlakeplan.ca).

## 1.2 Characteristics of East Lake

East Lake (historically called Spence Lake) is located in Prince Edward County, which is a large peninsula in eastern Lake Ontario. The lake is in Athol Ward, located to the southwest of the town of Picton.

East Lake and the surrounding Prince Edward County have a very rich history. East Lake was initially created following the retreat of the last glaciers, about 12,000 years ago. Wave and wind action along the early Lake Ontario shoreline caused sand to accumulate and create baymouth sandbars that separated both East and West Lakes from Lake Ontario.

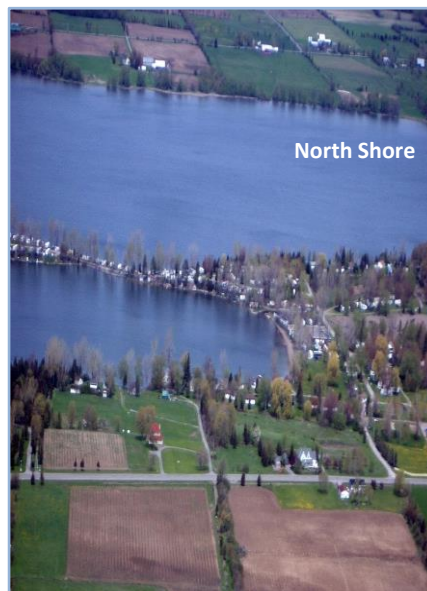
Following the glaciers, the first inhabitants to arrive in the area were the Paleo-Indians, a nomadic people who practiced hunting and gathering. They were followed by the Mound Builders; around 1500 BC and then the Iroquois, who settled around 1500 years ago. The Iroquois were the first to build villages and they farmed the area for corn, tobacco, beans and squash. Soon after 1550, due to inter-tribal wars, the Iroquois in the area moved northwest to form the Huron Confederacy. The Massassauga members of the Cree linguistic group settled this area soon after; they were hunter-gatherers unlike the agricultural Iroquois.

The first European settlers were United Empire Loyalists, arriving in the late 1700s. The land was cleared beyond that done by First Nations, and developed for agricultural use. Agriculture dominated through the 19th and 20th centuries, including beef and dairy cattle, field crops, vegetables, and fruit. Canning was a thriving industry around East Lake from the 1940s up until the 1960s. Agriculture remains an important part of the area's land use and economy. The north shore of East Lake is dominated by mixed agricultural uses, as are the backshore areas to the south and east of the lake.

East Lake can be described as a large lagoon that is connected to Lake Ontario by the Outlet River. The lake is approximately 12 square kilometres in size, and has a drainage area (watershed) of approximately 68 square kilometres. Generally, the south shore of the lake is limestone bedrock (the 'tail end' of an escarpment which runs from Picton to Salmon Point), and has been developed with permanent residences, cottages, campgrounds and resorts; the north shore is relatively flat prime agricultural land with numerous active farms; the eastern edge is bordered by cattail dominated wetlands; and the western shore comprises a barrier beach, sand dunes, and the Sandbanks Provincial Park. Near the eastern tip of the lake lies the only hamlet in the watershed, Cherry Valley.

Overall, East Lake appears to have a "healthy" natural environment. East Lake is categorized as a "mesotrophic" lake, which means that, in a healthy state, it would contain a moderate level of nutrients and plant growth. Its water quality and that of the streams flowing into the lake falls within the provincial water quality objectives, and has significantly improved since the mid-1980s. The existing wetlands are in a good natural state, and harbour healthy populations of diverse animal species. Historically, there has been a loss of shoreline wetlands, notably in the southwest part of the lake, and much of the shoreline of the lake has been cleared and remains without natural buffers along the water's edge.

Recreation and tourism have been important on East Lake since the early 20<sup>th</sup> century. Today, in addition to the provincial park at the west end of the lake, commercial tourism is a prominent land use along the south shore of the lake, interspersed among permanent and cottage residences. These operations include a combination of campgrounds, trailer parks, cottages, and cabins.



### 1.3 Preparing the Plan

The process to develop the East Lake Stewardship Plan took place over two years, starting in August 2012 and completed in September 2014. A small Steering Committee of the primary partners, Quinte Conservation, Prince Edward County, and Friends of East Lake, held regular meetings, coordinated the process, and made decisions about its contents and recommended actions.

Quinte Conservation were responsible for leading the Steering Committee, collecting and collating data, preparing the “State of the Lake” report, and providing technical expertise and advice. Prince Edward County staff were responsible for providing planning advice and assistance, coordinating liaison with Prince Edward County staff and council, and assisting with community outreach. The Friends of East Lake coordinated community outreach activities and logistical needs for open houses and meetings, distributed newsletters and notices. French Planning Services Inc. coordinated and facilitated the process, assisted with the preparation of State of the Lake report, facilitated public meetings and workshops, organized and administered the survey, and prepared the East Lake Stewardship Plan.

A variety of approaches were used to engage members of the community. Quinte Conservation maintained a website with postings of all relevant information and documents ([www.eastlakeplan.ca](http://www.eastlakeplan.ca)) including meeting minutes, workshop summaries, and related reports like the State of the Lake Report.

Four public workshops were held at key decision points in the process on the following themes:

- Identifying Values, Issues and Actions (September, 2012);
- Reviewing the State of the Lake (June 2013);
- Confirming Issues, Observations and Actions (September 2013); and
- Reviewing and confirming the Draft Plan (June 2014).

The workshops were widely advertised, and updates were provided throughout the process. As well, meetings were held with a commercial fisherman, commercial operators, and farmers to provide an opportunity for them to participate. An online survey was developed to provide an opportunity for those that could not attend a public workshop to voice their ideas and opinions. In February 2014 members of the Steering Committee attended and provided a status update to the Prince Edward County Committee of the Whole.

During the first year, Quinte Conservation collected existing information on the state of the lake, then conducted field work in the summer of 2013 to confirm and augment their findings. The results of this work are found in the State of the Lake report which was presented to the public during the summer of 2013. The draft plan was prepared during the winter of 2013 and 2014, presented to the Prince Edward County Committee of the Whole, and to the East Lake community during the summer of 2014 for confirmation.

The East Lake Stewardship Plan presents the findings of the process, and provides a set of recommended objectives and actions based on the plan’s vision and goals.





## 2.0 Values, Vision and Goals

### 2.1 Community Values

Natural, social, physical and economic values are important to the enjoyment and connection with the East Lake watershed. These values are linked to the reasons why people live, work and play in the watershed. From the workshops, meetings, and survey, the following values were identified as important to the East Lake community:

**Good Water Quality** - Many people desired cleaner water for future generations and confirmed that good water quality is one of the most important priorities for the lake. Specific concerns that were noted included: outdated septic systems; runoff from roads, lawns, and farms; commercial and residential development and redevelopment; high water temperatures and increased “weed” growth; and accumulations of white foam on the water during certain occasions.

**Water Levels (Quantity)** - Water levels fluctuate on East Lake and people are looking for approaches to deal with the effects of extreme high and low water levels on shorelines, wells and infrastructure. Farmers depend on a continued good quality and quantity of water for their cattle and irrigation of crops through shoreline wells and in some cases, directly from the lake.

**Natural Environment** - The community recognizes and values the healthy natural features (aquatic life, wetlands, shorelines) and the abundance and variation of fish and wildlife. There is a desire to protect the natural environment.

**Appropriate Land Use and Development** - The area is valued for its rural landscape, vistas and open space. There is significant interest in maintaining and preserving the surrounding farmland and in establishing limits for new development. There is a concern that commercial development has already surpassed its limits and that additional development and redevelopment will affect water quality and the character of the lake.

**Social and Recreational Activities** - The area is valued for the many recreational activities it provides (boating, fishing, swimming, etc) and the tranquil enjoyment of a rural setting. People have said that they enjoy the “cows echoing across the lake” and “sharing the lake with visitors”. Many members of the community want more "awareness and involvement in responsible stewardship”.



## 2.2 Future Direction

The following vision and goal statements provide guidance for the future character of East Lake. The vision provides a general description of the desired characteristics for East Lake over the long term and the five goals provide specific direction for each of the key aspects that are important in maintaining the health and character of East Lake.

Objectives for each of these goals are identified in the body of the report, as are the actions that would be required to attain the goal statement and the vision. Section 3.0 provides the rationale and describes the actions to be completed. Appendix 1 provides a complete summary of the actions.

# Vision for East Lake

*A vibrant and tranquil lake in a rural and recreational setting with clean water, and a healthy natural environment, with an active community of passionate lake stewards.*

### Water Quality

*Water quality in East Lake and its inflowing streams will be protected and enhanced.*

### Water Levels

*Water levels will be monitored and managed to sustain natural ecosystems yet avoid significant impact on shoreline development.*

### Natural Environment

*Healthy and diverse ecosystems and populations of native fish and wildlife will be protected.*

### Land Use Control

*Future development around East Lake will maintain the character and natural environment of the lake.*

### Social and Recreational

*A sense of community, active lake stewardship and respectful behaviour will be encouraged.*



## 3.0 Future Actions

This section of the plan builds upon the unified vision and each of the goal statements from Section 2.0 by briefly describing the current conditions and challenges identified through the planning process, and the objectives and specific actions that are proposed to achieve each goal. The State of the Lake Report provides more background on each topic and you are encouraged to review it for more information. Each action includes a notation of its level of priority (Low \*, Medium \*\*, or High \*\*\*).

### 3.1 Water Quality

***Goal - Water quality in East Lake and its inflowing streams will be protected and enhanced.***

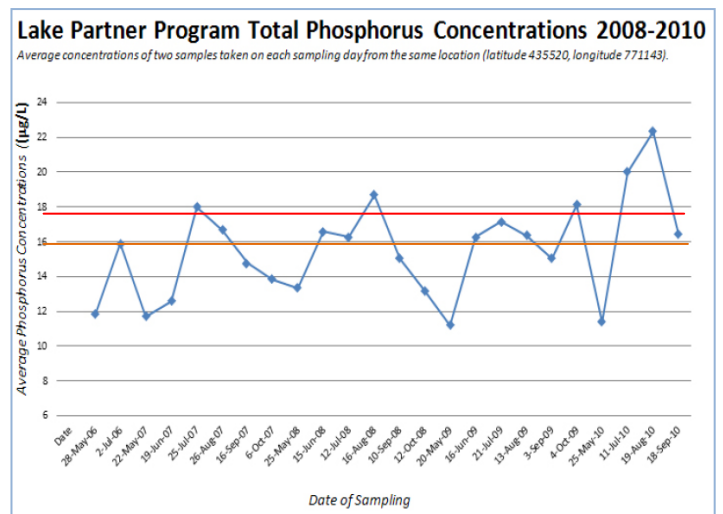
The water quality of East Lake is in relatively good condition. The lake is considered to be in a mesotrophic state, which is a lake with higher productivity with more nutrients, vegetation, and fish populations than the oligotrophic lakes typical of northern Ontario. These higher nutrient levels are to be expected in this part of the province, but can also be associated with increased runoff from the surrounding landscape, lawns, roads, agriculture and poorly-maintained septic systems.

Over the past three decades the water quality of East Lake has improved significantly, although it has occasionally exceeded provincial water quality objectives for recreational lakes. Based on 32 samples collected from 2006 to 2011, the average total phosphorus was 15.71 micrograms per litre ( $\mu\text{g/l}$ ), which is markedly down from the 34 micrograms per litre sample from 1985. The decrease in total phosphorus may be attributed to decreased numbers of livestock within the watershed and stewardship practices implemented by farmers (shoreline re-naturalization, minimizing surface runoff and restricting cattle from going into the water).

#### Monitor Water Quality

Quinte Conservation has been collecting and analyzing water samples for the past 25 years. These activities provide information on phosphorous and turbidity, and as such, provide a basic set of water quality data for the lake. In addition, a more in-depth analysis, using a broader array of parameters, was done in 1992 and 2007 by Quinte Conservation, and repeated in 2013 as input to the lake stewardship plan. All this information provides a good understanding of water quality health, but continued monitoring is extremely important to understand long term trends.

Recent test results indicate that the lake's water quality is generally within Ontario's Water Quality Objectives. However, some recent results have been close to, or above the provincial guidelines of 20 micrograms per litre ( $\mu\text{g/l}$ ). This may represent an isolated instance, but the phosphorous level should be monitored to ensure that it does not represent a trend. The average of 15.7 micrograms per litre ( $\mu\text{g/l}$ ), measured between 2006 and 2011, should be used as a target for the future.



	<i>Actions</i>	<i>Priority</i>
<b>Objective 1</b> <b>Monitor water quality.</b>	<ul style="list-style-type: none"> <li>Continue monitoring phosphorous and turbidity through the Lake Partners Program on an annual basis, and seek no net increase in levels over time (less than 15.7 µg/l of phosphorous).</li> </ul>	***
	<ul style="list-style-type: none"> <li>Perform broad-based water quality analyses of East Lake and its incoming streams every 3-5 years and seek no net increase in levels over time.</li> </ul>	***
	<ul style="list-style-type: none"> <li>Seek expert advice and take appropriate actions should there be any consistently high water quality results.</li> </ul>	***

### Educate East Lake Community

Maintaining and improving the water quality of East Lake will rely on the actions of the property owners and lake users. Best practices for managing one’s property, including streams, shorelines and septic systems, should be provided to the community to better understand what individuals can do to improve water quality.

	<i>Actions</i>	<i>Priority</i>
<b>Objective 2</b> <b>Educate the East Lake community about the lake’s water quality and how to maintain and improve it.</b>	<ul style="list-style-type: none"> <li>Report water quality results back to the community in the watershed (newsletters, website, FOEL AGM).</li> </ul>	***
	<ul style="list-style-type: none"> <li>Maintain the blue-green algae watch program, through signage and information bulletins.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Develop and deliver an awareness program on: the impacts of fertilizers, pesticides, gasoline, and other matters on water quality; the source of the “white foam”; and how to avoid skin rashes.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Continue to deliver the “Well Aware” and “Septic Aware” programs.</li> </ul>	***

#### Blue Green Algae (Cyanobacteria)

Algae are primitive microscopic plants that live in fresh water. During warm weather, populations rapidly increase to form a large mass called a bloom, often occurring in late summer and early fall.

Blue-green algae often thrive in areas where the water is shallow, slow moving and warm, but can be present in deeper and cooler water. High levels of nutrients, such as phosphorus and nitrogen, can contribute to blooms. Some forms of blue-green algae can produce toxins that can be harmful to human health. Symptoms can include itchy, irritated eyes and skin. If swallowed symptoms can include headaches, fever, diarrhea, abdominal pain, nausea and vomiting.

If you see a bloom and suspect it's blue-green algae, avoid using the water and call the Ministry of the Environment Spills Action Centre at 1-800-268-6060.

#### Foaming Waters

The foam that collects in heaps along the shores of East Lake is a harmless by-product of the lake. It is a natural process involving the decomposition of aquatic plants, algae, and leaves.

During the decomposition process cellular products are released into the water producing a surface agent known as surfactant. A surfactant lessens the surface tension of the water making it more susceptible to foaming.

When agitated by wind and waves, foam begins to build up on the shore. When small organic matter gets mixed in with the foam, it gives the foam stability. The chemical make-up of this foam is 1% surfactant, with the remainder being air and moisture.

## Reduce Nutrient Inputs

The most significant water quality concerns are associated with the input of nutrients to the lake, particularly phosphorous. Nutrients in the lake act in a similar way to those applied to a garden – they encourage plant growth. Prime sources include faulty septic systems, use of fertilizers on lawns, and runoff from lawns and farm fields. Results from 2013 sampling indicated that there were a few individual instances where phosphorous levels exceeded the Provincial Water Quality Objectives. While not a serious concern, this condition suggests that phosphorous levels should be carefully monitored, and actions should be taken to reduce human inputs wherever possible.

	<i>Actions</i>	<i>Priority</i>
<i>Objective 3</i> <b>Reduce the input of nutrients to the lake.</b>	<ul style="list-style-type: none"> <li>Ensure that all new commercial and residential development and redevelopment uses sewage treatment systems that reduce or eliminate phosphorous to the greatest extent possible.</li> </ul>	***
	<ul style="list-style-type: none"> <li>Work with the County of Prince Edward to establish a mandatory septic inspection program, with an associated educational program; and seek funding to provide financial assistance to landowners for repair or upgrades to their systems.</li> </ul>	***
	<ul style="list-style-type: none"> <li>Support and recognize the farm community in continuing the implementation of “best management practices”.</li> </ul>	**

## Monitor and Address Excessive Weed Growth

The issue of excessive weed and algae growth has been identified as a significant one for users of East Lake. In recent years, weed growth appears to have been excessive, including the presence of “floating islands of reeds.” This condition is associated with higher levels of nutrients (phosphorus, nitrogen), and is worsened with low water levels. Landowners should be provided with information about appropriate and effective methods to control weeds via websites, newsletters, and articles in local newspapers.

	<i>Actions</i>	<i>Priority</i>
<i>Objective 4</i> <b>Monitor and address excessive weed growth.</b>	<ul style="list-style-type: none"> <li>Monitor aquatic vegetation on a regular basis (every 5 years) to better understand patterns of growth and report results to the community.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Provide information to shoreline property owners on appropriate methods to deal with excessive weed growth.</li> </ul>	*

## Agriculture Practices

Water quality has improved since the 1980s, thanks in large part to programs led by Quinte Conservation in the 1990s. Regional farmers have implemented many practices to optimize on-farm efficiency, naturalize shorelines and reduce agricultural runoff through:

- improved manure storage and land application techniques;
- improved storage and handling of on-farm fruit and vegetable processing water;
- improved on-farm fuel and pesticide storage;
- improved on-farm silage storage;
- sealing and capping of abandoned wells to avoid groundwater contamination;
- fencing livestock to stop them from accessing streams and lake water directly;
- the creation of natural buffers at the shorelines to reduce contamination from shoreline runoff;
- wetland restoration work;
- improved erosion control along shorelines;
- equipment modifications for more optimal application of fertilizers;
- equipment modifications to improve water efficiency during irrigation; and
- nutrient management planning and alternative livestock watering systems.

## 3.2 Water Levels

*Goal - Water levels will be monitored and managed to sustain natural ecosystems yet avoid significant impact on shoreline development.*

The water level of East Lake fluctuates due to climate conditions and the blocking of the river that connects East Lake to Lake Ontario. Under normal conditions, the Outlet River is open to Lake Ontario during the summer months and the water level in East Lake corresponds very closely to that of Lake Ontario. However, during the late summer and early fall, the flow of water in the river decreases and the water level of Lake Ontario also drops exposing a larger expanse of sand beach. The littoral drift (currents along the shoreline), wind and wave action along the Lake Ontario shoreline gradually redistributes the sand on the shore to block the mouth of the Outlet River. Once the river is blocked, the East Lake water level can rise by as much as 0.6 metres during the late fall and winter. With the spring melt and additional runoff into East Lake, the sand plug at the river mouth normally breaches and a channel is scoured through the sand beach returning the East Lake water level to the same as that of Lake Ontario. In some instances, the channel has been opened with a back hoe.

During the summer months, it is noted that virtually no flushing of the lake occurs; water which is lost by evaporation is balanced with surface runoff or precipitation falling directly on the lake.



## Monitor Water Levels

The natural fluctuation of water levels provides a positive effect on the natural environment, improving shoreline and wetland habitats around the lake. However significant fluctuations in water levels are of concern to many of the shoreline property owners. The timing of the release of the sand plug in the Outlet River, and the level of Lake Ontario have a significant effect on East Lake. Excessive weed growth is the result of a number of factors (level of nutrients, water temperature, water clarity), but may also be associated with very low water levels. Little information has been collected about past water levels and there is a need to establish a water level monitoring program to assess the impacts of water levels on shoreline structure and vegetation and to consider the breaching of the Outlet River when the lake experiences extreme high water levels.

	<i>Actions</i>	<i>Priority</i>
<b>Objective 5</b> <b>Monitor and address fluctuating water levels and impacts.</b>	<ul style="list-style-type: none"> <li>Establish a water level monitoring program to measure water levels throughout the year and assess associated high and low water level impacts on shoreline structure and vegetation.</li> </ul>	***
	<ul style="list-style-type: none"> <li>Work with the Sandbanks Provincial Park to establish a protocol for inspecting the channel annually and determining what, if any, action is necessary.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Establish a regular sampling program of the Outlet River to assess conditions and issues, including water quality and aquatic vegetation growth, related to water levels and the damming or breaching of the outlet.</li> </ul>	***

## Educate Lake Community

Some property owners have experienced flooding and shoreline erosion of their shorelines during the years of high water (e.g., in 1986 when Lake Ontario levels were very high) and some have seen their shoreline wells go dry in the years of low water. There is a need for an information package to help people understand what to expect and how to deal with the fluctuations in an environmentally friendly manner.

	<i>Actions</i>	<i>Priority</i>
<b>Objective 6</b> <b>Educate the community about water levels and how to address the effects of extreme fluctuations.</b>	<ul style="list-style-type: none"> <li>Report findings of the monitoring program to the community on a regular basis and explain how to deal with the negative effects of high and low water levels.</li> </ul>	*



### 3.3 The Natural Environment

***Goal - Healthy and diverse ecosystems and populations of native fish and wildlife will be protected.***

The abundant wetland areas and natural habitats are currently in a good natural state, and harbour healthy populations of plant, fish and wildlife species.

#### Protect Wetlands and Natural Areas

Approximately 20% of the East Lake watershed is covered with forest. This low level is a result of land being cleared for agriculture, and development on the shoreline areas. However, important natural features and habitats are found on the lake, including marshes at the east and west ends of the lake, significant habitat types in Sandbanks Park (a forest patch of Sugar and Black Maple trees mixed with White Cedar and the dune ridges); and the mature maple-beech forest of the Cove Beach Sugar Bush. These areas support a number of important species at risk – turtles, frogs, birds, and plants, and one fish species listed as “threatened”, the spotted gar. Three areas around the lake are notable for their natural habitats:

**East Lake Wetlands** - Extensive beds of submerged aquatic plants exist in the northern, eastern and western ends of the lake. These marshes are important habitat and nesting areas for fish and wildlife and have been evaluated as being provincially significant. These areas are already protected from development and site alteration in accordance with the Provincial Policy Statement and the Prince Edward County official plan and zoning bylaw. The wetland evaluation report for the ‘East Lake Marsh’ notes a colonial nest of Black Terns, significant sites for waterfowl nesting & staging, and significant locations for spawning and rearing of largemouth bass & northern pike. Field studies in 2013 confirmed that these marshes supported a diversity of native species, notably plant species that rely on clean and undisturbed waters.

**Beaver Meadow Conservation Area** - This conservation area, managed by Quinte Conservation, is open to the public and features a large wetland that harbours wood ducks, osprey and herons among other wetland dependent species.

**Sandbanks Provincial Park** – A portion of the park forms the sand spit that created East Lake. The area around the Outlet River contains mixed forests, thickets, meadows, and aquatic ecosystems. The pannes, which are flat depressions between the stable dune ridges, are noted as being the park’s most ecologically unique vegetation features. These sites support concentrations of rare plant species, and, because they are fishless ponds, they provide the only natural breeding habitat for many species of dragonflies, including some provincially rare species.

	<b>Actions</b>	<b>Priority</b>
<i>Objective 7</i> <b>Ensure continued protection of East Lake’s wetlands and natural areas.</b>	<ul style="list-style-type: none"> <li>Request Ministry of Natural Resources and Forests to review and update the status reports on the East Lake’s provincially significant wetlands. <i>(Completed in 2012-2013)</i></li> </ul>	***
	<ul style="list-style-type: none"> <li>Monitor any changes to the official plan and zoning by-law to ensure the important natural areas on the lake and in the watershed continue to be appropriately designated and protected.</li> </ul>	***



## Encourage Natural Shorelines

In past years, high water levels in Lake Ontario have led to serious shoreline erosion in East Lake. Landowners were helped by Quinte Conservation to improve shoreline stabilization through the planting of trees and shrubs, and erecting livestock fencing.

Although many natural shorelines exist, some shorelines have been hardened or grassed over, especially along the southern shoreline of the lake. Not only do natural shorelines provide fish and wildlife habitat and help protect against flooding and erosion, they provide an important barrier to stormwater runoff entering the lake that may contain contaminants and nutrients such as phosphorous. Natural vegetation along the shoreline will also help to discourage nuisance species such as Canada geese.

Educational material and programs are needed that assist property owners with understanding appropriate activities to restore altered shorelines and to encourage the retention of retain natural shorelines.

	<b>Actions</b>	<b>Priority</b>
<b>Objective 8</b> <b>Re-naturalize altered shorelines and encourage the retention of natural shorelines.</b>	<ul style="list-style-type: none"> <li>Seek funding and establish a program to assist property owners in the re-naturalization of their shorelines.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Develop an education program to inform landowners about the value and importance of natural shorelines including a best management practices guide.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Establish a shoreline assessment program, as offered by Centre for Sustainable Watersheds, to provide property owners with an assessment of the condition of their shoreline, and recommendations for improvement.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Seek champions in the community and use their properties as demonstration projects of “best management practices”.</li> </ul>	**

Turn this



...into that!



## Control Invasive Species

Plants and animals that have been introduced from other parts of the world may be considered “invasive species” if they threaten the natural environment, economy, or society.

Invasive species are not naturally occurring in local ecosystems and therefore they can have drastic effects on ecosystem balance and local biodiversity (the variety of plant and animal species) when introduced. Invasive species may disrupt food webs, alter and degrade habitat, introduce parasites and disease, and lead to species at risk by pushing out native species that share the same habitat. Invasive species are the second biggest threat to biodiversity after habitat loss.

There has been no comprehensive study of invasive species in and around East Lake. However, a number of species have been observed in Sandbanks Provincial Park, as well as by Quinte Conservation sampling crews in 2013.

Continued inventories of invasive species should be conducted and education programs provided to help people understand how to control the spread of invasive species. Information could be provided at public workshops, boat launches, association meetings, and in websites and newsletters.

### Some known invasive species:

#### Plants:

- Garlic mustard
- Dog strangling vine
- Himalayan balsam
- European buckthorn

#### Aquatic Plants:

- Purple loosestrife
- Common Reed (Phragmites)
- European frogbit
- Curly pondweed
- Eurasian watermilfoil

#### Fish and Animals:

- Round Goby
- Mute swan
- Zebra mussels

	<b>Actions</b>	<b>Priority</b>
<b>Objective 9</b> <b>Identify and, where possible, control invasive species.</b>	<ul style="list-style-type: none"> <li>• Seek funding and work with an organization (e.g., Sandbanks Provincial Park) to conduct an inventory of invasive species currently on the lake.</li> </ul>	**
	<ul style="list-style-type: none"> <li>• Work with an organization (e.g. Ontario Invading Species Awareness Program - MNR, Ontario Federation of Anglers and Hunters) to establish a program to address known invasive species.</li> </ul>	***
	<ul style="list-style-type: none"> <li>• Develop and deliver an education program about invasive species.</li> </ul>	**

### Invasive Species to Watch for:



## Reduce Nuisance Species

The East Lake community holds concerns about other species that may be native but are a nuisance. One example is the Canada goose. Information on best management practices, such as creating shoreline buffers and reducing shoreline lawns, should be provided to shoreline property owners. Although there are no known nesting sites on the lake, there are also concerns about cormorants, and their potential effect on the fishery of East Lake.

<i>Objective 10</i> <b>Remove or reduce populations of nuisance species.</b>	<b>Actions</b>	<b>Priority</b>
	<ul style="list-style-type: none"> <li>• Work with the MNR to research and put in place appropriate programs to control nuisance species.</li> </ul>	***
	<ul style="list-style-type: none"> <li>• Educate shoreline residents about best management practices to deal with Canada Geese (e.g., replace grass areas with native ground cover and shrubs).</li> </ul>	***

## Maintain Healthy Fish Habitat and Populations

East Lake is noted for its healthy fishery for both warm and cool water species. Fishing is an important recreational activity for lake users, for residents, cottagers, and the visitors to the many commercial campgrounds and resorts.

Data on the fishery is dated, and the species mix has changed over the years. There has been a commercial fishery on the lake since 1898, with shifts in species caught taking place over the years. The commercial fisherman who is licensed to fish East Lake has observed a healthy bass and sunfish population but has also identified a decline in some species (for example, perch) in recent years.

Participants attending the workshops expressed a concern over fish die-offs that they had observed. While no research was done at the time of these die-offs, this is a phenomenon that can occur as a natural event caused by reduced oxygen levels sometimes during ice-over and sometimes during hot summer periods.

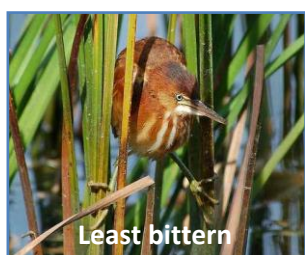
Another concern was that of rock bass being found to contain grubs more frequently than in the past, which may be attributed to extended periods of warmer weather/water.

<i>Objective 11</i> <b>Maintain healthy and abundant fish habitats and native fish populations.</b>	<b>Actions</b>	<b>Priority</b>
	<ul style="list-style-type: none"> <li>• Request the Ministry of Natural Resources to conduct a fishery assessment of East Lake as well as a creel census.</li> </ul>	**
	<ul style="list-style-type: none"> <li>• Include information on the fishery and fishing “etiquette” in a “Code of Conduct” booklet.</li> </ul>	***
	<ul style="list-style-type: none"> <li>• Develop an education program about the fishery of the lake, both recreational and commercial, explaining historical context and how and why the both should continue to exist on the lake.</li> </ul>	**
	<ul style="list-style-type: none"> <li>• When a die-off occurs, or fish are found to contain parasites, investigate, and inform the community of its cause.</li> </ul>	**

## Identify and Protect Species at Risk

The populations of more than 190 species in Ontario are in decline. These are species that are at risk of disappearing from the province. Their populations are in decline due to a number of reasons including habitat loss, pollution, land use, and resource management activities, as well as the spread of invasive species. There has not been a comprehensive survey of the species at risk in East Lake and its watershed.

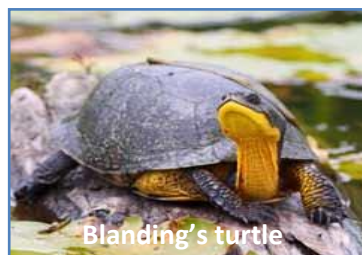
	<b>Actions</b>	<b>Priority</b>
<b>Objective 12</b> <b>Identify and protect species at risk.</b>	<ul style="list-style-type: none"> <li>Seek funding to conduct surveys of species at risk.</li> </ul>	***
	<ul style="list-style-type: none"> <li>Continue to work with a partner such as the Toronto Zoo (Adopt a Pond) to develop an education program to inform the lake community of what species are present, and proper protocols to protect these species.</li> </ul>	**



Least bittern



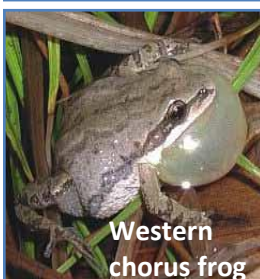
Snapping turtle



Blanding's turtle



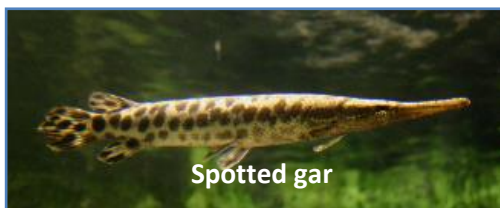
Monarch butterfly



Western chorus frog



Hog-nosed snake



Spotted gar



Milk snake

### Some known Species at Risk

**Reptiles and Amphibians:** Blanding's Turtle, Eastern Musk Turtle, Northern Map Turtle, Snapping Turtle, Eastern Hognosed Snake, Milksnake, Western Chorus Frog

**Birds and Mammals:** Least Bittern, Barn Swallow, Black Tern, Red-Headed Wood Pecker, Bobolink, Little Brown Bat

**Fish:** Lake Sturgeon, Pugnose Shiner, Bridle Shiner, Spotted Gar

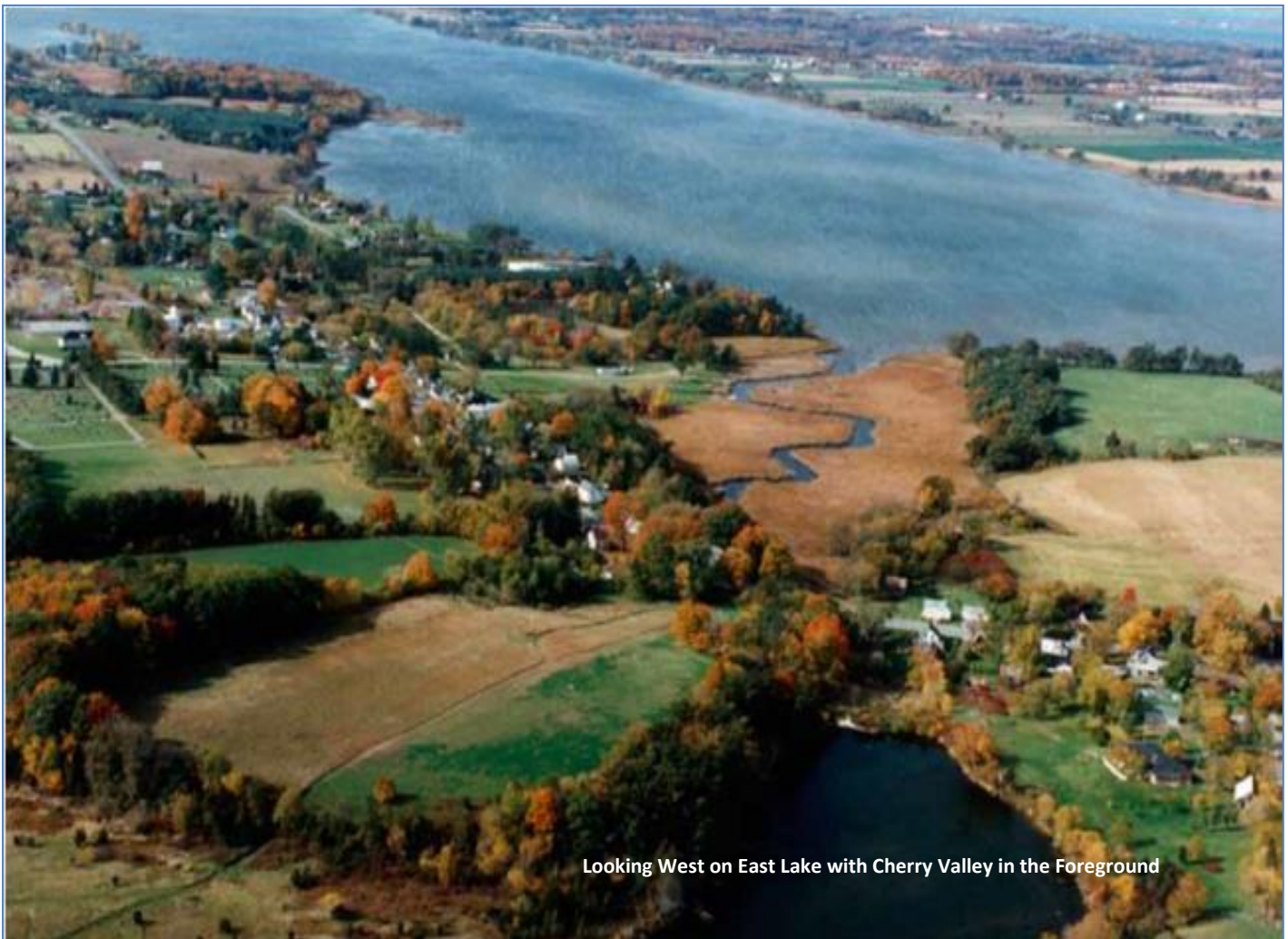
**Insects:** Monarch Butterfly

**Plants:** Swamp Rose Mallow, Narrow Leaved Water-plantain, Marram Grass, Long-leaved Reed Canary Grass, Bugseed, Ram's Head Lady Slipper, Plains Puccoon, Low Nutrush, Big Bluestem, Little Bluestem, and Graystemmed Goldenrod

## Maintain Healthy Wildlife Habitat and Populations

East Lake and its watershed contain healthy and extensive wetlands, and a limited amount of natural forests. These habitats support native fish and wildlife populations. Beyond the wetlands and natural shorelines, there is limited knowledge about the species and population levels of the wildlife in the watershed. The need to maintain healthy populations was identified as an important concern during the public workshops.

	<b>Actions</b>	<b>Priority</b>
<b>Objective 13</b> <b>Maintain healthy habitat and populations of wildlife in and around East Lake.</b>	<ul style="list-style-type: none"> <li>Continue to update and maintain a complete inventory of species, based on existing lists and augmented with additional community input.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Continue to identify important habitat and encourage retention and enhancement.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Monitor the conditions of important natural areas including Beaver Meadow Conservation Area, marshes at the southwest and southeast shores, and Cove Beach Sugar Bush. Take action to maintain or improve the natural environment of these areas as required.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Conduct a “bio-blitz” by inviting community members and experts to study and document all species on a property (or series of properties) over a 24-hour period.</li> </ul>	**



Looking West on East Lake with Cherry Valley in the Foreground

### 3.4 Land Use and Development

#### ***Goal - Future development around East Lake will maintain the character and natural environment of the lake***

The character of the East Lake watershed is derived from its natural features and established agricultural, residential and tourist/recreation land uses.

The northern and southern shorelines of East Lake have two very different and distinctive characters, and types of land use. The northern shoreline (Outlet River to the Hamlet of Cherry Valley) is dominated by agricultural development, and the southern shoreline, while supporting a number of agricultural operations, is dominated by permanent and seasonal residential development, and commercial resort and trailer park operations.

Healthy shoreline wetlands are prominent along the north shore and at the east and west end of the lake, and have been designated "Environmental Protection" in the County's Official Plan, to ensure the wetlands are retained in a natural state and protected from incompatible development.

There are 186 lots with shoreline frontage on East Lake (see Figure 1 below). Along the north shoreline there are a total of 38 lots, including 31 large agricultural lots, 2 permanent residential lots, 4 limited services lots (seasonal residences) and 1 mobile home park with 11 mobile homes. The agricultural operations around East Lake are active in beef and dairy cattle, fresh peas, market garden vegetables, cereal grains, sweet corn, and maple syrup. The northern shore of the lake is predominantly designated "Prime Agricultural" in the current County Official Plan, which prohibits the intrusion of non-agricultural related land uses.

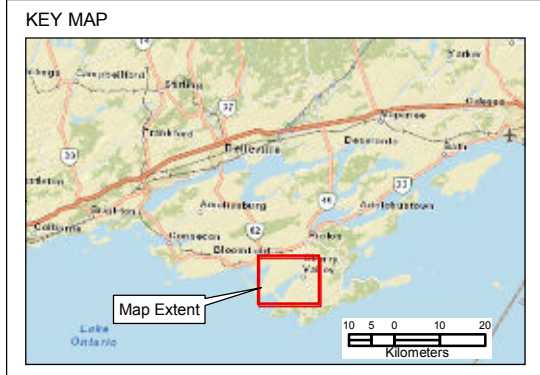
**Figure 1 - Number of Shoreline Lots by Location and Zoning Category - East Lake (2012)**

<b>Zone</b>	<b>Northside of East Lake</b>	<b>Southside of East Lake</b>	<b>Total</b>
Agricultural (rural)	31	10	41
Permanent Residential	2	79	81
Seasonal Residential	4	38	42
Mobile Home	1	0	1
Commercial	0	20	20
Industrial	0	1	1
<b>Total</b>	<b>38</b>	<b>148</b>	<b>186</b>

*Source - Prince Edward County*

*[http://www.pecounty.on.ca/county\\_overview/location\\_maps.php](http://www.pecounty.on.ca/county_overview/location_maps.php)*

The southern shore of the lake (including the western shore to Outlet River) is predominantly designated "Shoreland" in the Official Plan which permits residential and tourist commercial uses. The southern shore of the lake is more densely developed with a mix of cottages, permanent homes, and commercial tourist operations. The Hamlet of Cherry Valley, located at the southeast end of the lake is the only settlement area, and a licensed sand and gravel operation is located adjacent to Cherry Valley.



**LEGEND / NOTES**

- Commercial Property
- ▭ Beaver Meadow Conservation Area
- ▭ Sandbanks Provincial Park
- 🌊 East Lake Watershed

**Road Class**

- Local / Private
- ▬ Expressway / Highway
- ▬ Arterial

N

825 412.5 0 825 1,650  
Meters

1	Final draft	19/02/15
No.	REVISION	DD/MM/YY

**Quinte CONSERVATION**

**PROJECT:**  
East Lake Stewardship Plan

**TITLE:**  
East Lake Commercial Operations

<b>SCALE:</b>	1:40,000	<small>Mora River, Niagara Region and Prince Edward Region Watersheds RR # 2, 2061 Old Highway # 2, Belleville, Ontario, K8N 4Z2 www.quintecconservation.ca, 613-968-2434 Produced by Quinte Conservation 19/02/2015 under license with the Ontario Ministry of Natural Resources. Copyright Quinte Conservation and the Queen's Printer for Ontario, 2015. Data is projected in NAD 83 UTM Zone 18N Base Map - Ontario Ministry of Natural Resources Imagery - 2008 Copyright © of Aero-Photo (1961) Inc. - All Rights Reserved Imagery - SCOP 2013 Ontario Ministry of Natural Resources Key Map - ArcGIS Online Services Disclaimer: This map is for illustrative purposes only. Quinte Conservation makes no warranties and assumes no liability whatsoever regarding the truth, accuracy, currency, or completeness of this map and its associated data.</small>
<b>SHEET:</b>	1 of 1	
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<b>CHECK:</b>	M.N.	

Along the southern shore there is a total of 148 lots, including 20 commercial tourist zoned lots, 10 rural/agriculture lots, 79 permanent residential lots, 38 limited services (seasonal residences) lots, and one industrial property (see Figure 1).

There are 21 commercially operated properties, including 10 Tourist Commercial lots, 9 Trailer Parks and two Highway Commercial properties. The two Highway Commercial properties are located in the Salmon Point area and do not appear to be operating. Nineteen of these commercially operated properties are zoned for commercial purposes, and one appears to be a legal non-forming trailer park that is zoned for Rural purposes. The 21 commercially operated properties are estimated to have a minimum of 955 accommodation units (664 trailer park sites, 291 tourist cottages/cabins). The southern shoreline has 3.5 times more shoreline lots than the northern shoreline, and there are about 7.5 times more accommodation units in commercial resorts (924) than there are permanent and seasonal residential lots (124) on the lake. In addition to these commercial operations, it is anticipated that there is a significant number of residential zoned properties that are rented for short term periods, including Bed and Breakfast operations, and private residences (no data has been collected on this type of operation).

The southern shoreline of East Lake contains a significant amount of commercial development. A substantial portion of the southern shoreline is developed and there are only a few remaining lots that have the potential to be subdivided or may have limited development capacity. Due to the fact that there is limited opportunity to create new commercial lots, the pressure for re-development of existing commercial properties is more likely. As well, one practice that appears to be increasing in popularity is the short-term rental of residences and cottages in non-commercial zones.

### Maintain Rural Landscape and Active Agricultural Heritage

The north shore of East Lake is predominantly an agricultural area, with Class 1 and 2 agricultural lands being actively farmed. Active farms also dominate the surrounding land uses beyond the East Lake waterfront. The lake community values the mixed land use of the area, the scenic vistas of the agricultural land to the north and both the historical and current importance of agriculture. Farm operators have expressed a concern that the prime agricultural land may be compromised in the future if development of estate wineries and commercial resorts occur. Both the agricultural and non agricultural community want to maintain this rural character and protect the agricultural operations from incompatible development.

	Actions	Priority
Objective 14 <b>Maintain East Lake’s rural landscape and active agricultural heritage.</b>	<ul style="list-style-type: none"> <li>Work with the farming community and the County to maintain the protective Official Plan designations and Zoning By-law provisions that support and protect agricultural activity across the watershed, and particularly on the north shore of East Lake.</li> </ul>	***
	<ul style="list-style-type: none"> <li>Work with the Prince Edward Heritage Advisory Committee (PEHAC) to conduct research on the agricultural history of the area, and share the information with the community in the watershed. Prepare a “History of the East Lake Area” book.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Develop an education program about the cultural and rural heritage of the watershed.</li> </ul>	**

### Future Land Development

Future land development and redevelopment must not impact water quality or the natural environment and must be compatible with the character for East Lake. Character is the essence that defines an area and provides a sense of identity. Character is established over time and is rooted in physical setting, historic development, cultural and natural heritage. Future development must be managed to ensure that the essence and fundamental features of the community are maintained.

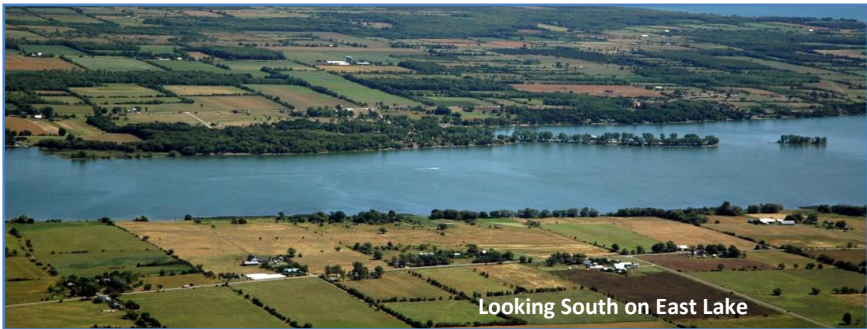


East Lake, has a significant amount of 'as of right' commercial development in the form of resort and tent and trailer parks that is already approved by the comprehensive zoning by-law. There is a concern that commercial development has already surpassed its limits and that additional development and redevelopment will affect water quality and the character of the lake.

The Prince Edward County Planning Department is currently preparing an updated official plan. Policy should be incorporated into the plan to ensure the natural environment and character of East Lake is protected. The current official plan already contains good land use policy that ensures the protection of water quality and the natural environment. It is anticipated that the new official plan will build upon this existing policy direction and include additional criteria or limits to the form, scale, density and intensity of commercial and residential development and redevelopment, and associated infrastructure and utilities.

- Character of East Lake**
- Predominantly a rural/pastoral /lakeshore low density landscape
  - Active farms along the northern shore
  - Residential, cottage, and resort commercial development along the southern shore
  - Good water quality
  - Protected wetland areas and natural habitats
  - Protected forest cover
  - Low profile development
  - Natural shorelines
  - Tranquil and safe environment
  - Respectful boating and recreational activities
  - Dark night skies
  - Limited additional shoreline development capacity
  - A place for future generations to enjoy

	<b>Actions</b>	<b>Priority</b>
<p><i>Objective 15</i></p> <p><b>Ensure that development around East Lake is consistent with the character of the lake and protects the natural environment.</b></p>	<ul style="list-style-type: none"> <li>• Ensure that the updated official plan includes policies that protect water quality and that recognize and protect the current character of East Lake by restricting further commercial development to that currently established by the By-laws in effect in 2014.</li> </ul>	***
	<ul style="list-style-type: none"> <li>• Establish environmental criteria and best management practices to be applied to new development and redevelopment that protect water quality, the natural environment, rural landscapes, and the character of the lake.</li> </ul>	***
	<ul style="list-style-type: none"> <li>• Ensure that all new commercial and residential development and redevelopment use sewage treatment systems that reduce or eliminate phosphorous to the greatest extent possible. (see Water Quality actions).</li> </ul>	***
	<ul style="list-style-type: none"> <li>• Ensure commercial development along the East Lake shoreline is appropriate, in size, scale and density so that it protects and enhances the established character and natural environment of the area.</li> </ul>	***
	<ul style="list-style-type: none"> <li>• Protect environmentally sensitive areas in the watershed (wetlands, fish habitat) through appropriate land use designations and zoning.</li> </ul>	**
	<ul style="list-style-type: none"> <li>• Ensure that infrastructure (roads, utilities, stormwater management) is upgraded to meet the needs of current and new development, and is in keeping with the character of the lake.</li> </ul>	**



### 3.5 Social and Recreational

***Goal - A sense of community, active lake stewardship and respectful behaviour will be encouraged***

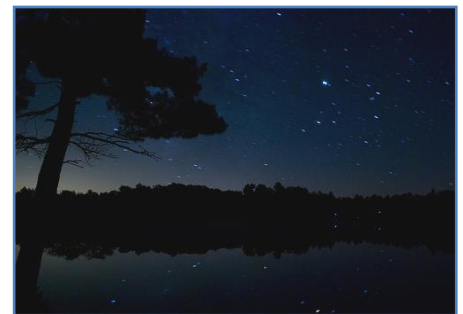
#### Responsible Recreational Boating

Boating on East Lake is an integral recreational activity on the lake – whether it is motorized or not, or whether it is to fish, tow skiers or tubers, or take pleasure cruises. In recent years, motorboats have been increasing in size and horsepower, and sometimes this has resulted in higher noise levels. There are some users who may not recognize the effect of their activity, including the impact of large wakes on shorelines and on non-motorized boats such as canoes and kayaks. Others may not be aware of legal requirements for boating, such as the legal speed limit of 10 km/h within 100 ft. of shore.

	<b>Actions</b>	<b>Priority</b>
<b>Objective 16</b> <b>Encourage responsible and respectful boating behaviour.</b>	<ul style="list-style-type: none"> <li>Develop and distribute a “Code of Conduct” with an associated awareness campaign that includes information on boating courtesy and legal regulations as well as emphasizing the importance of safe boating and safe swimming.</li> </ul>	***
	<ul style="list-style-type: none"> <li>Install “No Wake/Speed Limit” signs in appropriate areas (e.g., river and environmentally sensitive areas).</li> </ul>	**
	<ul style="list-style-type: none"> <li>Work with commercial operators to install floats/markers 100 ft. from shore around trailer parks and campgrounds.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Meet annually with the OPP to encourage education and enforcement and to receive and apply their advice on improving boater behaviour.</li> </ul>	**

#### Promote a Dark Night Sky.

The brightening of the night sky is a growing problem as evidenced by the increased popularity of street, garden and landscape lighting which adds to the unnatural level of light around the lake. Retaining and enhancing dark skies are an essential element of the character of the lake and has been raised at the public meetings and in the survey results. Information could be distribute to make more people aware of the variety of night sky friendly products and approaches that are available to eliminate the horizontal projection of light onto surrounding properties and open spaces.



	<b>Actions</b>	<b>Priority</b>
<b>Objective 17</b> <b>Promote a dark night sky.</b>	<ul style="list-style-type: none"> <li>Promote awareness of the importance of practices that help maintain a dark night sky.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Encourage all shoreline property owners to use “dark sky friendly” lighting.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Request owners of local cell phone towers to install light deflectors.</li> </ul>	**
	<ul style="list-style-type: none"> <li>Use building permits and site plans to enforce dark sky friendly lighting practices.</li> </ul>	**

## Engage Residents, Visitors and Newcomers on Lake Etiquette

The value of East Lake as a tranquil and safe environment was of universal interest to those who participated in the East Lake workshops and survey. Those who are visiting East Lake (e.g., tourists, cottage renters) may not be familiar with the lake or lake “etiquette”.

	<b>Actions</b>	<b>Priority</b>
<b>Objective 18</b> <b>Educate residents, visitors and newcomers on appropriate “lake etiquette.”</b>	<ul style="list-style-type: none"> <li>Develop and distribute a “Code of Conduct” for lake users that would help residents, visitors and newcomers to behave in a “lake-friendly” manner.</li> </ul>	***

## Engage the Community and our Youth

An informed and engaged community is a key to maintaining a healthy lake and lifestyle. Many lake users may not be well informed about the lake’s conditions, issues, or activities needed to improve the lake environment. Youth who use the lake may be especially unengaged. Many of the recommended actions and special programs such as the “Adopt a Pond” program of the Toronto Zoo could engage the youth around the lake.

	<b>Actions</b>	<b>Priority</b>
<b>Objective 19</b> <b>Engage the community around East Lake, especially youth, in activities that improve the lake and its environment.</b>	<ul style="list-style-type: none"> <li>Use the East Lake Stewardship Plan and its list of actions as a basis for informing and engaging the community in the watershed.</li> </ul>	***
	<ul style="list-style-type: none"> <li>Plan a community celebration event at the time the plan is released, and use the occasion to solicit volunteers to participate in implementing the “actions.”</li> </ul>	***
	<ul style="list-style-type: none"> <li>Review progress on the Stewardship Plan on an annual basis.</li> </ul>	***
	<ul style="list-style-type: none"> <li>Develop an education program to keep the community aware of the status of lake health.</li> </ul>	***
	<ul style="list-style-type: none"> <li>Develop a youth oriented program to engage them in stewardship opportunities.</li> </ul>	***



## 4.0 Implementing the Plan

The preparation of the East Lake Stewardship Plan has been a good opportunity to engage the community in dialogue about their lake. The process has allowed people to have a voice in local matters, and the contents of the plan have been built upon their concerns and suggestions. The implementation phase that follows the plan will bring new opportunities to engage and revitalize the community.

This Plan identifies individual actions and levels of priority. Its implementation will require a dedication of combined efforts from the lake community, Prince Edward County, Quinte Conservation, and others over the foreseeable future. Effective implementation will require a small working group similar in structure to the steering committee that guided development of the plan. Quinte Conservation, Prince Edward County, and representatives from the community (e.g., Friends of East Lake) need to continue to share responsibility for plan implementation through a more formal partnership. This “East Lake Implementation Working Group” would:

- Confirm priorities for action;
- Seek individuals and organizations to carry out actions;
- Help to find funding for actions;
- Monitor and comment on development applications and requests for zoning changes, the creation of new lots (either by consent or subdivision), and site plan agreement applications, to ensure the intent of the Stewardship Plan is maintained;
- Ensure a continued sharing with the lake community of the results of actions taken;
- Oversee or direct an annual review of the plan’s activities and conduct plan updates as needed.

The working group should be established as soon as possible following completion of the plan.



## Appendix 1: The East Lake Action Plan Summary

### Vision for East Lake

*A vibrant and tranquil lake in a rural and recreational setting with clean water and a healthy natural environment, with an active community of passionate lake stewards.*

Goal	Objectives	Actions	Priority
<b>Water Quality</b>  <i>Water quality in East Lake and its inflowing streams will be protected and enhanced.</i>	<b>Monitor water quality.</b>	<ul style="list-style-type: none"> <li>Continue monitoring phosphorous and turbidity through the Lake Partners Program on an annual basis, and seek no net increase in levels over time (less than 15.7 µg/l of phosphorous).</li> </ul>	***
		<ul style="list-style-type: none"> <li>Perform broad-based water quality analyses of East Lake and its incoming streams every 3-5 years and seek no net increase in levels over time.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Seek expert advice and take appropriate actions should there be any consistently high water quality results.</li> </ul>	***
	<b>Educate the East Lake community about the lake's water quality and how to maintain and improve it.</b>	<ul style="list-style-type: none"> <li>Report water quality results back to the community in the watershed (newsletters, website, FOEL AGM).</li> </ul>	***
		<ul style="list-style-type: none"> <li>Maintain the blue-green algae watch program, through signage and information bulletins.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Develop and deliver an awareness program on: the impacts of fertilizers, pesticides, gasoline, and other matters on water quality; the source of the "white foam"; and, how to avoid skin rashes.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Continue to deliver the "Well Aware" and "Septic Aware" programs.</li> </ul>	***
	<b>Reduce the input of nutrients to the lake.</b>	<ul style="list-style-type: none"> <li>Ensure that all new commercial and residential development and redevelopment uses sewage treatment systems that reduce or eliminate phosphorous to the greatest extent possible.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Work with the County of Prince Edward to establish a mandatory septic inspection program, with an associated educational program; and seek funding to provide financial assistance to landowners for repair or upgrades to their systems.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Support and recognize the farm community in continuing the implementation of "best management practices".</li> </ul>	**
<b>Monitor and address excessive weed growth.</b>	<ul style="list-style-type: none"> <li>Monitor aquatic vegetation on a regular basis (every 5 years) to better understand patterns of growth and report results to the community.</li> </ul>	**	
	<ul style="list-style-type: none"> <li>Provide information to shoreline property owners on appropriate methods to deal with excessive weed growth.</li> </ul>	*	
<b>Water Levels</b>  <i>Water levels will be monitored and managed to sustain natural ecosystems yet avoid significant impact on shoreline development.</i>	<b>Monitor and address fluctuating water levels and impacts.</b>	<ul style="list-style-type: none"> <li>Establish a water level monitoring program to measure water levels throughout the year and assess associated high and low water level impacts on shoreline structure and vegetation.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Work with the Sandbanks Provincial Park to establish a protocol for inspecting the channel annually and determining what, if any, action is necessary.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Establish a regular sampling program of the Outlet River to assess conditions and issues, including water quality and aquatic vegetation growth, related to water levels and the damming or breaching of the outlet.</li> </ul>	***
	<b>Educate the East Lake community about water levels and how to address the effects of extreme fluctuations.</b>	<ul style="list-style-type: none"> <li>Report findings of monitoring program to the community on a regular basis and explain how to deal with the negative effects of high and low water levels.</li> </ul>	*

Goal	Objectives	Actions	Priority
<b>Natural Environment</b>  <i>Healthy and diverse ecosystems and populations of native fish and wildlife will be protected.</i>	<b>Ensure continued protection of East Lake's wetlands and natural areas.</b>	<ul style="list-style-type: none"> <li>Request Ministry of Natural Resources and Forests to review and update the status reports on the East Lake's provincially significant wetlands. <i>(Completed in 2012-2013)</i></li> </ul>	***
		<ul style="list-style-type: none"> <li>Monitor any changes to the official plan and zoning by-law to ensure the important natural areas on the lake and in the watershed continue to be appropriately designated and protected.</li> </ul>	***
	<b>Re-naturalize altered shorelines and encourage the retention of natural shorelines.</b>	<ul style="list-style-type: none"> <li>Seek funding and establish a program to assist landowners in the re-naturalization of their shorelines.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Develop an education program to inform landowners about the value and importance of natural shorelines including a best management practices guide.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Establish a shoreline assessment program as offered by Centre for Sustainable Watersheds, to provide property owners with an assessment of the condition of their shoreline, and recommendations for improvement.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Seek champions in the community and use their properties as demonstration projects of "best management practices".</li> </ul>	**
	<b>Identify and, where possible, control invasive species.</b>	<ul style="list-style-type: none"> <li>Seek funding and work with an organization (e.g., Sandbanks Provincial Park) to conduct an inventory of invasive species currently on the lake.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Work with an organization (e.g., Ontario Invading Species Awareness Program - MNRF, Ontario Federation of Anglers and Hunters) to develop and deliver a program to address known invasive species, with an emphasis on: Emerald ash borer; Phragmites; water soldier; purple loosestrife, and spiny water flea.</li> </ul>	***
	<b>Remove or reduce populations of nuisance species.</b>	<ul style="list-style-type: none"> <li>Work with the MNR to research and put in place appropriate programs to control nuisance species.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Educate shoreline residents about best management practices to deal with Canada Geese (e.g., replace grass areas with native ground cover and shrubs).</li> </ul>	***
	<b>Maintain healthy and abundant fish habitats and native fish populations.</b>	<ul style="list-style-type: none"> <li>Request the Ministry of Natural Resources and Forests to conduct a fishery assessment of East Lake as well as a creel census.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Include information on the fishery and fishing "etiquette" in a "Code of Conduct" booklet.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Develop an education program about the fishery of the lake, both recreational and commercial, explaining historical context and how and why both should continue to exist on the lake.</li> </ul>	**
		<ul style="list-style-type: none"> <li>When a die-off occurs, or fish are found to contain parasites, investigate, and inform the community of its cause.</li> </ul>	**
	<b>Identify and protect species at risk.</b>	<ul style="list-style-type: none"> <li>Seek funding to conduct surveys of species at risk.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Work with a partner such as the Toronto Zoo (Adopt a Pond) to develop an education program to inform the community of what species are present, and proper protocols to protect these species.</li> </ul>	**
	<b>Maintain healthy habitat and populations of wildlife in and around East Lake.</b>	<ul style="list-style-type: none"> <li>Continue to update and maintain a complete inventory of species, based on existing lists and augmented with additional community input.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Continue to identify important habitat and encourage retention and enhancement.</li> </ul>	**
<ul style="list-style-type: none"> <li>Monitor the conditions of important natural areas including Beaver Meadow Conservation Area, marshes at the southwest and southeast shores, and the Cove Beach Sugar Bush. Take action to maintain or improve the natural environment of these areas as required.</li> </ul>		**	
<ul style="list-style-type: none"> <li>Conduct a "bio-blitz" by inviting community members and experts to study and document all species on a property (or series of properties) over a 24-hour period.</li> </ul>		***	

Goal	Objectives	Actions	Priority
<b>Land Use and Development</b>  <i>Future development around East Lake will maintain the character and natural environment of the lake</i>	<b>Maintain East Lake's rural landscape and active agricultural heritage.</b>	<ul style="list-style-type: none"> <li>Work with the farming community and the County to maintain the protective Official Plan designations and Zoning By-law provisions that support and protect agricultural activity across the watershed, and particularly on the north shore of East Lake.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Work with the Prince Edward Heritage Advisory Committee (PEHAC) to conduct research on the agricultural history of the area and share the information with the watershed community. Prepare a "History of the East Lake Area" book.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Develop an education program about the cultural and rural heritage of the watershed.</li> </ul>	**
	<b>Ensure that development around East Lake is consistent with the character of the lake and protects the natural environment.</b>	<ul style="list-style-type: none"> <li>Ensure that the updated official plan includes policies that protect water quality and that recognize and protect the current character of East Lake by restricting further commercial development to that currently established by the By-laws in effect in 2014.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Establish environmental criteria and best management practices to be applied to new development and redevelopment that protect water quality, the natural environment, rural landscapes, and the character of the lake.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Ensure that all new commercial and residential development and redevelopment uses sewage treatment systems that that reduce or eliminate phosphorous to the greatest extent possible. (see Water Quality actions).</li> </ul>	***
		<ul style="list-style-type: none"> <li>Ensure commercial development along the East Lake shoreline is appropriate, in size, scale and density so that it protects and enhances the established character and natural environment of the area.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Continue to protect environmentally sensitive areas in the watershed (wetlands, fish habitat) through appropriate land use designations and zoning.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Ensure that infrastructure (roads, utilities, stormwater management) is upgraded to meet the needs of current and new development, and is in keeping with the character of the lake.</li> </ul>	
	<b>Social and Recreational</b>  <i>A sense of community, active lake stewardship and respectful behaviour will be encouraged</i>	<b>Encourage responsible and respectful boating behaviour.</b>	<ul style="list-style-type: none"> <li>Develop and distribute a "Code of Conduct" with an associated awareness campaign that includes information on boating courtesy and legal regulations as well as emphasizing the importance of safe boating and safe swimming.</li> </ul>
<ul style="list-style-type: none"> <li>Install "No Wake/Speed Limit" signs in appropriate areas (e.g., river and environmentally sensitive areas).</li> </ul>			**
<ul style="list-style-type: none"> <li>Work with commercial operators to install floats/markers 100 ft. from shore around trailer parks and campgrounds.</li> </ul>			**
<ul style="list-style-type: none"> <li>Meet annually with the OPP to encourage education and enforcement and to receive and apply their advice on improving boater behaviour.</li> </ul>			**
<b>Promote a dark night sky.</b>		<ul style="list-style-type: none"> <li>Promote awareness of the importance of the dark night sky and practices.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Encourage all shoreline property owners to use "dark sky friendly" lighting.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Request owners of local cell phone towers to install light deflectors.</li> </ul>	**
		<ul style="list-style-type: none"> <li>Use building permits and site plans to enforce dark sky friendly lighting practices.</li> </ul>	**
<b>Educate residents, visitors and newcomers on "lake etiquette."</b>		<ul style="list-style-type: none"> <li>Develop and distribute a "Code of Conduct" for lake users that would help residents, visitors, renters and newcomers to behave in a "lake-friendly" manner.</li> </ul>	***
<b>Engage the community around East Lake, especially youth, in activities that improve the lake and its environment.</b>		<ul style="list-style-type: none"> <li>Use the East Lake Stewardship Plan and its list of actions as a basis for informing and engaging the community in the watershed.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Plan a community celebration event at the time the plan is released, and use the occasion to solicit volunteers to participate in implementing the "actions."</li> </ul>	***
		<ul style="list-style-type: none"> <li>Review progress on the Stewardship Plan on an annual basis.</li> </ul>	***
		<ul style="list-style-type: none"> <li>Develop an education program to keep the community aware of the status of lake health.</li> </ul>	***
	<ul style="list-style-type: none"> <li>Develop a youth oriented program to engage them in stewardship opportunities.</li> </ul>	***	

**The preparation of this plan is just the first step. The important work of implementation has yet to be undertaken, and we encourage everyone to engage in its recommended activities.**

### **For More Information**

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