Kashwakamak Lake

"The Lake with Rocky Shoals"

State of the Lake Report Summary

July 2013

Step One – Kashwakamak Lake Sustainability Plan

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Why Develop a Lake Sustainability Plan?

A lake sustainability plan is important for the lake community. Other lakes have done this due to significant issues on their lake. The Kashwakamak Lake Association (KLA) is doing this to be proactive before a potential large issue develops. Having a plan will help to ensure future generations can continue to enjoy what we have in this special place.

Working through this process as a community is a way to educate and provide stewardship for what we value. Also, part of the planning process is to create a "state of the lake" assessment, which will be a way to measure change in the future.

There are several benefits to lake sustainability planning. This process promotes discussion and action with all community members to:

- **Identify and protect specific lake values**
- **Identify issues and impacts**
- **Set a future vision for the lake**

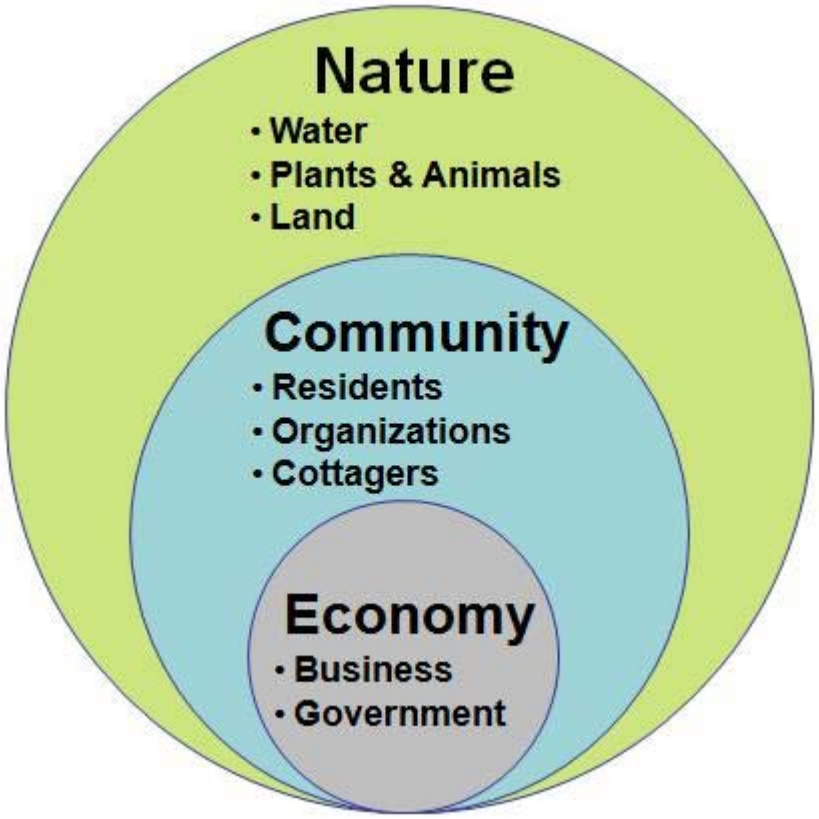
Lake Sustainability

Sustainability is defined in a way that ***future generations*** *have access to the same* ***opportunities*** *and* ***quality of life*** *that we do*. It's also described as a balancing act - one where nature, the community, and economy all work together. To explain this, let's look at the typical history of how lake communities were built.

Many years ago, when Canada was being settled, the natural environment provided resources where businesses began operations such as forestry or mining. As those businesses matured, a small community would develop close to the businesses, and the businesses supported the community through jobs. This was the start of a local economy. In Ontario, people began to discover recreation on lakes near these new communities. At first, lodges were the pioneers of lake recreation, offering accommodations, fishing, and relaxation. Later, people began purchasing land on the shoreline of the lake and built cabins to stay in. As this became more common, cottaging became the common term used to describe a seasonal residence on a lake.

Today, some people have permanent homes on and around lakes. The combination of seasonal and permanent residences make up what is commonly referred to as a "Lake Community".

The easiest way to describe the scope of sustainability is using the Nested Sustainability Model. This diagram illustrates that an economy can't exist without people (in society) or our planet (environment). For example, a business can't create a product without people and/or natural resources. This model also recognizes that society can't exist without the environment we live in on Earth. Sustainability is about balancing economic activity with the impacts on society (employees and the community) and the environment. For more details, see Sustainability Models by Bob Willard (an ISSP Instructor).



⇒ *An economy can only exist within a community*

⇒ *A community can only exist in a natural environment*

⇒ *There is an important dependency to keep in balance*

Lake Sustainability Planning Process

The planning process includes a broad group of people from the community, including permanent residents, businesses, cottagers, local government, community organizations, conservation authority, and visitors.

The planning process can take three to five years to complete. There are four phases in the process. The first step is the research phase, which begins with community surveys and research for background information about the lake. The phase finishes with completing a "state of the lake" report to publish the research findings for the community.

The second phase is to perform analysis based on the state of the lake report. The purpose of this phase is to engage the community again by discussing observations from the report to establish a direction for the lake sustainability plan. Once that is complete, the committee will draw up a draft lake sustainability plan and publish it for review and feedback. When the draft report has been updated with further input from the community, it will be published in final form.

Once the plan is complete, it represents a shared vision for the lake community. It will be implemented with a broad group of volunteers and active community engagement. This can be an exciting time for the community to rally to invest in our common future. The lake sustainability plan will be updated every five years to keep it current with the changing needs of the community.

Where we are

In 2010, a presentation about lake planning was given to members of the Kashwakamak Lake Association. It explained the process where a lake community comes together to share what they value as well as their concerns. This is done in an effort to develop a plan for the sustainability of the lake.

Following this meeting, the KLA decided to embark on the development of a Lake Sustainability Plan and established a Lake Planning Committee to start the process. The committee members represent those interested and impacted by the lake. It is made up of people who have or use cottages on the lake, commercial operators, town council and the Mississippi Valley Conservation Authority. This initiative was voted on and formally approved at the Annual General Meeting in 2011 with the expectation that there would be extensive research, community input and continuous consultation. The committee then began its research phase which included a survey sent to the Kashwakamak Lake community as well as a separate business survey. Survey results were then shared at the 2012 AGM and public discussion and input was sought.

The survey was completed by 170 individuals (**See Appendix 1: Survey Results**).

The **Values** most identified (weighted score) by the community respondents:

- Clean, clear water (503)
- Peace and Tranquility (460)
- Recreational Enjoyment (455)
- Appreciation of Wildlife, Birds, etc. (446)
- Retention of Crown Land (428)
- Night skies (419)
- Natural Shorelines (412)
- Cottage Safety/Property Security (401)
- Landscapes (391)
- "Cottage Country" Characteristics (334)

The **Use of Lake** identified by the 170 respondents

- Swimming (95%)
- Reading (87%)
- Boating (85%)
- Nature appreciation (77%)
- Canoeing (75%)
- Walking/hiking (74%)
- Fishing (74%)
- Kayaking (52%)
- Water skiing (47%)
- Ice skating (25%)

The **Issues/Concerns** (weighted score) Identified by the respondents:

- Personal Water Craft (498)
- Boat Traffic (459)
- Fish Depletion (383)
- Weeds/Algae (379)
- Daytime Noise (372)
- Water Levels (357)
- Residential/Commercial Development (349)
- Water Pollution (332)
- Night time Noise (311)
- Tree and Vegetation Removal (308)

There were also 30 businesses surveyed by telephone interview. The respondents reported that the success of their businesses was dependent upon maintaining or growing the number of customers, and therefore, the health and vitality of the lake community was important for their business survival.

Following the surveys and information gathering stage, a State of the Lake Report would then be prepared for discussion at the 2013 AGM. This would then be followed by the community developing recommendations to protect the things residents valued and wished to preserve for future generations.

Photo Millie King

Kashwakamak Lake

Watershed at a Glance

Kashwakamak Lake Watershed:

- Kashwakamak Lake drains an area of 417 square kilometers.
- The lake is essentially a widening of the Mississippi River, this is why it is also known as Long Lake.
- There is a dam located at the outlet of the lake on the Mississippi River.
- The watershed includes the Bon Echo Provincial Park, upstream on Mazinaw Lake.
- There are several small wetlands around the perimeter of the lake.
- Land is mostly forest covered, as it is poor agricultural land.

Kashwakamak Lake:

- Kashwakamak Lake is at an elevation of 261 m above sea level.
- The perimeter is approximately 66 km long.
- The mean depth is 8 metres, and the deepest point is 22 metres.
- The shoreline is dominated by numerous inlets and shallow bays.
- The lake has a surface area of 1191 hectares.
- There are approximately 530 properties around the lake, and approximately 450 residential structures and 4 resorts/marinas.

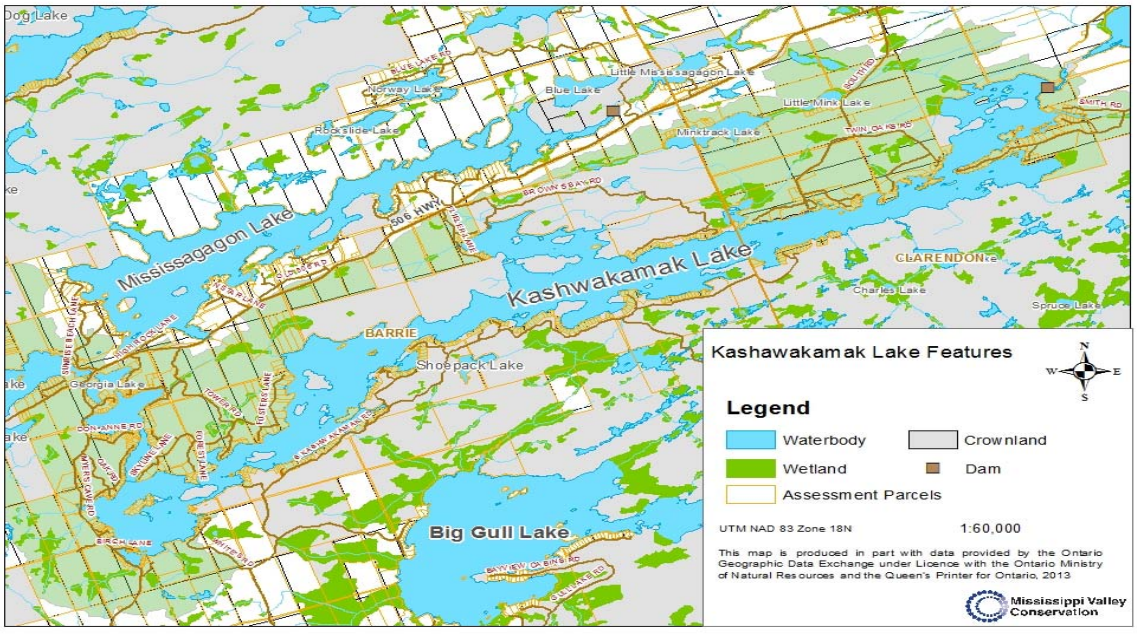
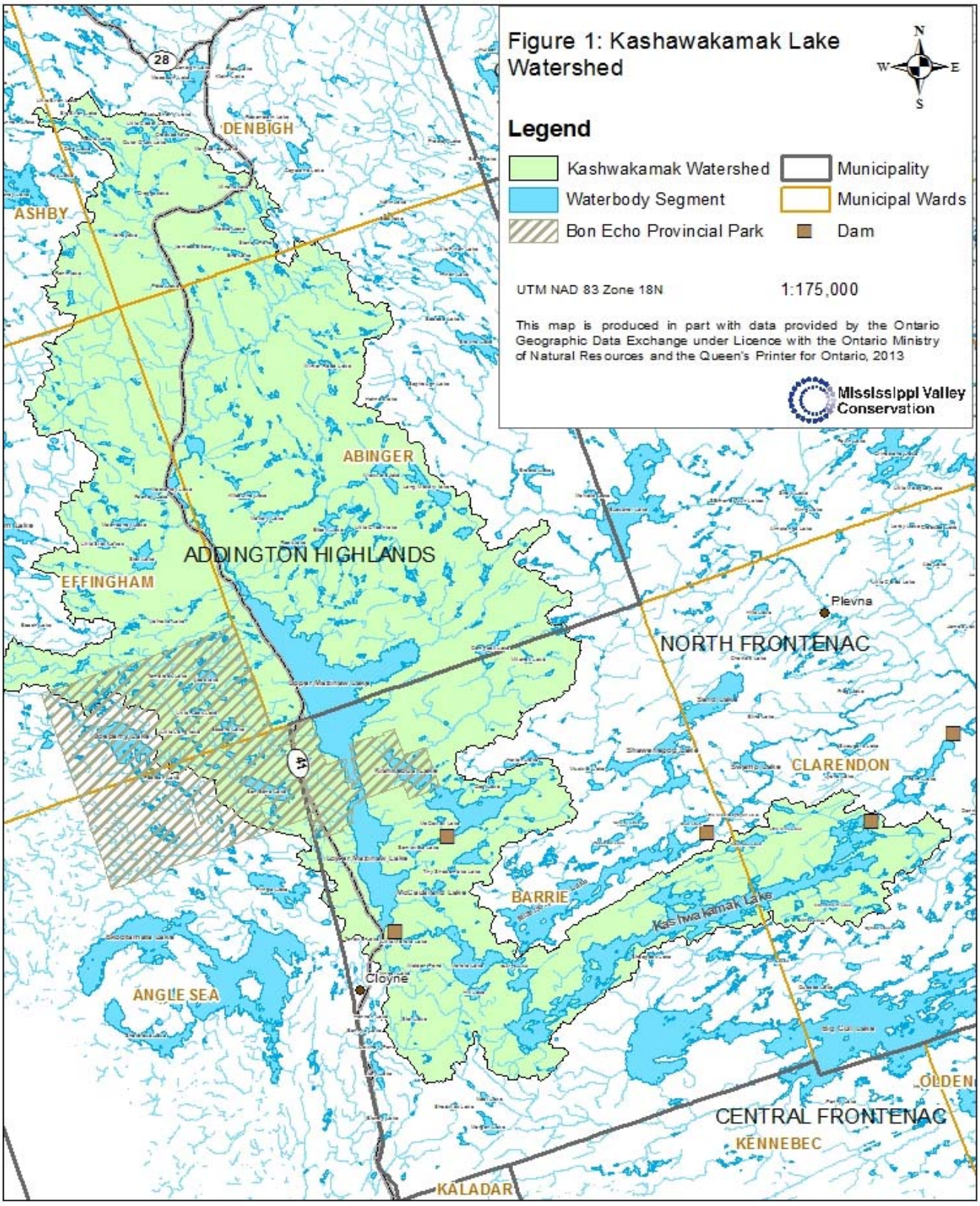


FIGURE 1: KASHWAKAMAK LAKE WATERSHED



Overview of Priorities Identified by the Lake Community

Surface Water Quality

- Water sampling shows that the lake has low to moderate nutrient levels (total phosphorus), fluctuating between Mesotrophic and Oligotrophic status.
- Dissolved oxygen and temperature profiles for the lake show that by mid-July the bottom waters of the lake become oxygen deficient; this reduces habitat and survivability for aquatic life.
- pH levels are consistently above 7.0 and within the Provincial Water Quality Objective range of 6.5 to 8.5.
- In 2008, sampling of the lake for invasive species found that Zebra Mussel larvae were not detected, however Spiny Water Flea were detected.
- The concentration of nutrients in the water, water temperature and the amount of light can all influence the type and the amount of algae and aquatic plant growth in the lake.

Aquatic Vegetation

- There is no specific research or documentation of weed growth in Kashwakamak Lake; however it has been observed that there has been noticeable increase in weed growth in the past 10 years.
- Filamentous algae is a common and troublesome aquatic weed that forms dense, hair-like mats near shore bottom sediments or submerged objects in lakes with good transparency where light reaches the bottom.
- Excessive nutrient loading (phosphorus and nitrogen) can result from man-made sources such as lawn fertilizers, faulty septic systems, soil erosion and phosphorus-rich detergents.

Water Levels

- The lakes' water levels are influenced by the Kashwakamak Lake dam that is located at the outlet.
- The dam is operated by Mississippi Valley Conservation.
- In the spring, the dam is operated to gradually bring lake levels up to summer requirements.
- Summer water levels are targeted before the start of the walleye spawn to protect a prime spawning shoal located at the head of the lake at Whitefish Rapids.

- Lake levels are targeted between 261.00 m and 261.20 m above sea level throughout the summer months, with a minimal flow being passed to keep water in the downstream channel.

- Fall drawdown begins after Thanksgiving weekend to reach the minimum lake level to 259.60 m above sea level.

- Over 53 years of records the annual maximum water levels have showed a relatively constant level, averaging 261.22 meters above sea level.

Development Pressures

- Kashwakamak Lake is fortunate to have large tracts of Crown Land along much of its shoreline. It is estimated that 35% of the lands fronting onto the lake are Crown.

- The Township of North Frontenac manages 19 established campsites on the Crown Land around Kashwakamak Lake.

- There are approximately 530 properties on the lake and there are approximately 450 cottages or homes, as well as 4 lodges/ marinas.

- To date there are no large scale residential developments, such as a subdivision or condominium type development on the lake.

- As development and population increase within the watershed, the water quality and overall health of the lake may be affected.

Fisheries

- Kashwakamak Lake boasts a diverse fish community including walleye, northern pike, largemouth bass and panfish populations.

- The weedy inlets and bays of Kashwakamak Lake are ideal habitat for cool water and warm water fish species that dominate Kashwakamak Lake.

- The fish community in the lake is managed and evaluated by the Ministry of Natural Resources.

- The most recent fisheries assessment was in 2000 and the lake fishery was classified as a “stressed or unstable” walleye fishery.

- There are several stressors on walleye populations in the region that may account for low relative abundance including: high harvest rates, shoreline development and alterations, decreased water quality, invasive species introductions, excessive water level fluctuations and changes in fish community structure.

Wildlife

- Kashwakamak Lake falls in the northern portion of the mixed wood plains ecozone.
- The lake lies just north of one of the world's "Areas of Natural Science Interest" containing many of Southern and Northern Ontario's wildlife and fauna.
- Limited deforestation in addition to large tracts of Crown Land help support a diverse ecological area surrounding Kashwakamak Lake.
- The unspoiled habitat supports various endangered and threatened species such as Golden Eagle, Bald Eagle, Henslow Sparrow, Blanding's Turtle and Least Bittern. There are also a number of rare species supported in North Frontenac Township such as Prairie Warbler, Drooping Blue Grass, Limestone Oak Fern and Rams Head Lady's Slipper.

Photo Jeremy Pottle

- Warming climates and the restoration of some extinct species has meant a changing ecosystem. Many species that were not present in the past have taken residency creating a more diverse wildlife profile.

Impacts of Boating

- Shoreline erosion is a common and natural process that many waterfront properties encounter. The various causes of shoreline erosion all have the same outcome: a loss of valuable waterfront property that can result in unsafe shorelines and deterioration of the natural shoreline environment.
- Boat wakes can cause shoreline erosion, disturb aquatic ecosystems, swamp the nests of loons and other waterfowl, damage docks and boats, upset canoes and small boats and create danger to swimmers.
- The best way to reduce the effects of boat wash and wake on shorelines is simply to slow down. In Ontario, by law, boats must slow down to 10 km per hour within 30 m of shore.
- The extent to which boat wake contributes to shoreline erosion around Kashwakamak Lake is currently not documented.
- There is no information available to determine if current boating activity is a significant source of air and water pollution for the lake.

Social History

The Kashwakamak Lake *"State of the Lake"* Report also includes a "Social History" section which is piecing together the story of our lake and how it was settled. It is a "living" section in that we will be adding to it as new information is provided and post it to the KLA website, www.kashwakamak.ca.

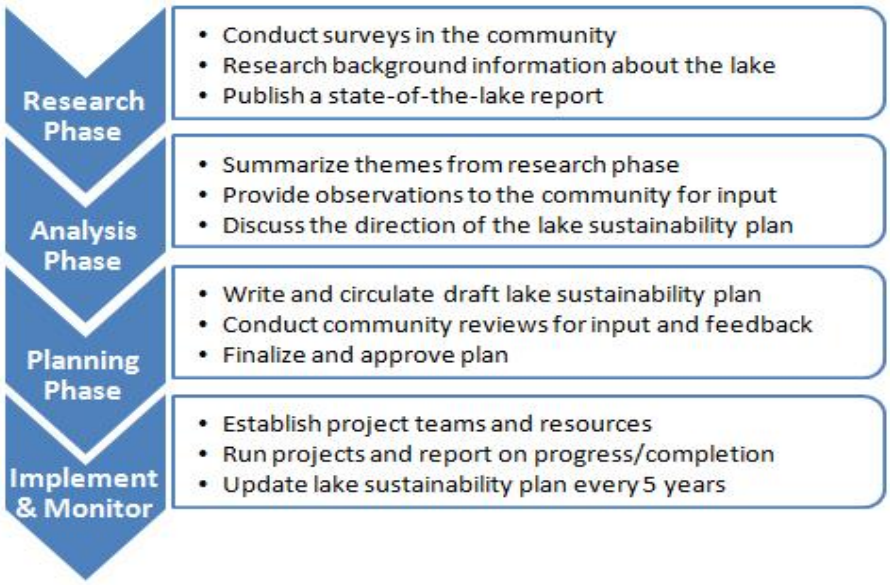
We are asking people who live, play and work on the Lake to share their stories. Add your photos, old documents and timelines. Share the history of your Kashwakamak Lake story. To date we have a comprehensive history of Weiss Point and we would like to add more. We will have a map of the lake indicating where we have social history contributions so you can learn about the history of this beautiful lake. Go to, http://www.kashwakamak.ca/index.php/map

Please help us out. Take some time this summer season to talk to your family and friends and then share it with us. For more details contact, Sue MacGregor, suemacgregor@comcast.net or call 613-336-2693, 612-916-8774.

The Next Steps in the Kashwakamak Lake Planning Process

The preparation of the Kashwakamak Lake "State of the Lake" Report represents the first milestone in the lake planning process as well as countless volunteer hours, invaluable input and support from our partners. This report will be released at the July 2013 AGM and posted on the KLA website. Limited copies will also be available at the North Frontenac Town Council office and the local library in Cloyne.

The next step in the process includes extensive community consultation on the State of the Lake Report and the development of recommendations and an action plan which will lead, over time, to the Kashwakamak Lake Sustainability Plan.



The Process

The Kashwakamak Lake "State of the Lake" Report is intended to capture what we know about the lake. We have compiled a collection of materials, background information, monitoring reports, research and social history specific to Kashwakamak Lake. This information will be used as the foundation for our lake community, decision-makers and stakeholders to develop sustainable land use recommendations and actions to protect Kashwakamak Lake. Specific community developed recommendations and actions will be included in the long term action plan which will then be implemented by our community and partners.

This community driven process will rely on continued participation and input at public meetings. The State of the Lake Report will be posted on our website and formally presented at the July 13, 2013 Annual General Meeting being held at the Northbrook Community Hall. Check the KLA website for more information, www.kashwakamak.ca.

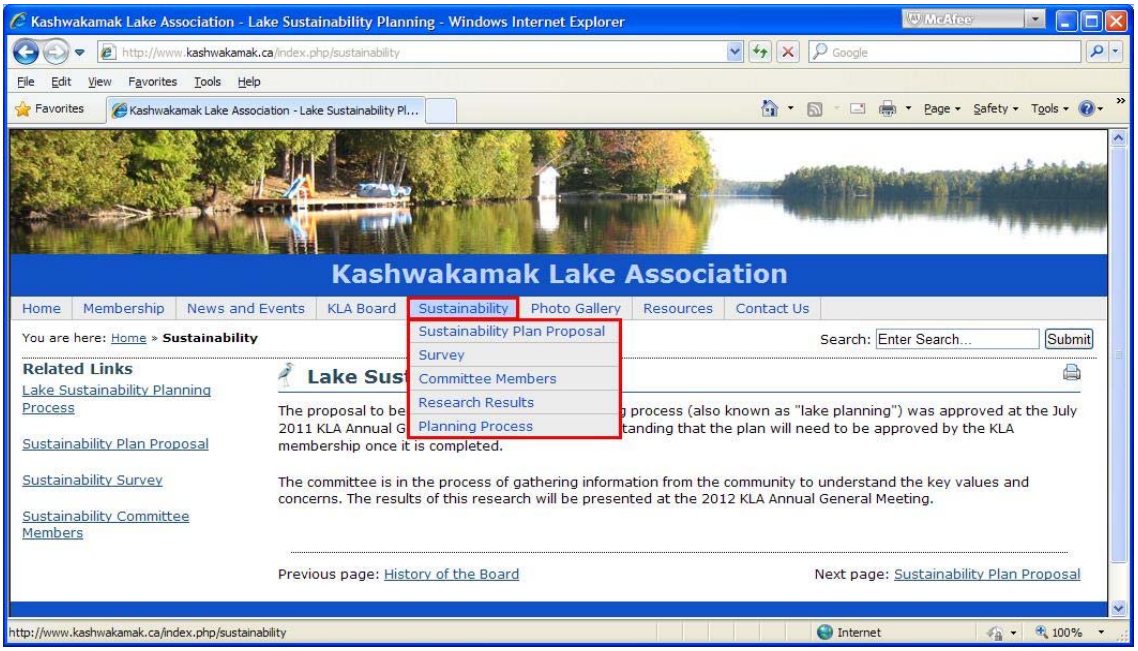
Accomplishments to Date

1. Established Lake Sustainability Committee (2010)
2. Completed Community Survey (Dec 2011)
3. Completed Business Survey (March 2012)
4. Presentation of Survey Results (July 2012)
5. Publish a draft State of the Lake Report (July 2013)

Resources

For more information, see the Sustainability section of the KLA website (www.kashwakamak.ca)

- Survey Results
- Presentations
- State of the Lake Report
- Interactive map of Kashwakamak Lake



The Kashwakamak Lake Planning Committee

The committee is a group of community volunteers working to bring the community together to engage in a discussion about our common future. We are a group of people who live, work, and enjoy Kashwakamak Lake. We appreciate its beauty, wildlife, and the community we live in. We have defined our purpose as follows:

*To bring together **common interests of the community** to develop a sustainability plan that carries forward a **legacy of enjoying the lake** while supporting the natural environment **for future generations** to enjoy.*

The committee members are:

- Judy McIntyre – Vice President & Liaison, Kashwakamak Lake Association (KLA)
- Sue MacGregor – Communications
- Scott Bennett - Sustainability Professional
- Kevin Phillips - Owner, Fernleigh Lodge
- Fred Perry - Deputy Mayor, North Frontenac
- Darryl Simpson - Forestry/Wildlife Management
- Joanne Fisher - Cottager
- Peter Burbidge – Cottager
- Alyson Symon – Mississippi Valley Conservation Representative

We need you to be part of this process!

Please be a part of this important process. We need your input, your insights and your feedback to make this lake planning a success. Your opinion and actions are vital because you are a part of our Kashwakamak Lake community.

To get involved, please contact our committee chair, Judy McIntyre for more information, ritchiemcintyre@rogers.com, cottage: 613-336-2882 or home: 613-233-3564.

Here's how you can help and be part of the process:

- Attend the AGM
- Join the KLA
- Gather your own social history about the lake and share it with us
- Share your expertise or skills with us as part of our planning process
- Provide your feedback and any information that we might be missing by:
    - Visiting our Lake Sustainability Planning Booth at **Family Day, Saturday August 10th, Fernleigh Lodge**
    - Reading the full report, filling out the form at the back of this Summary and sending it back to us by email or mail.
    - Contacting Judy McIntyre, Chair, Lake Planning Committee, by email @ ritchiemcintyre@rogers.com or call, home 613-233-3564/ cottage 613-336-2882

Kashwakamak Lake State of the Lake Report

We want to hear from you!

Please read the full **Kashwakamak Lake State of the Lake Report** and get back to us. We need to know:

⇒ Any information that we are missing (that you can provide or know where we can get it)

⇒ Your thoughts, social history, photos and old documents you can scan and ad etc.

How do you prefer to provide your input?

Please select all that apply by checking the appropriate box(es) below.

Group Setting

□ Road association meeting
□ Focus group discussion meeting
□ Winter webinar or conference call

1-on-1

□ Phone discussion
□ Fire side chat
□ In writing

How do you prefer the KLA contact you?

□ by email: _____
□ by telephone: _____
□ by mail: _____

Please provide your comments here and email back to ritchiemcintyre@rogers.com, or drop it in the mail to the **KLA, RR #1, Arden ON K0H 1B0**

Comments: I am a member of the KLA □ yes □ no