

THIS IS NOT A LAKE PLAN

Resource Document for the Development of a Lake Plan for Lake Bernard

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Hopefully this will be used as a reference document during the development of a formal lake plan for Lake Bernard. This is not a draft of a lake plan. This document does not make any recommendations as it aims to be as objective as possible. Provided is a synthesis of background research pertinent to the lake planning process now underway at Lake Bernard. The document draws on experiences of other lake communities as well as ongoing research and discussions happening in the Lake Bernard area.



Porpoise Group

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Porpoise Group was retained by Glen Bernard Camp in 2011 to facilitate the initiation of the lake planning process, including performing background research and sparking community discussion.

1. Introduction

Keeping Lake Bernard healthy is achievable. The watershed of this lake is fairly small with Lake Bernard being at the top of the Magnetawan River watershed. The map in Appendix B gives you a good idea of the area we have to deal with. It is not insurmountably large, and many of the factors that other lakes have to deal with are not problems here. Lake Bernard is not downstream of any major lakes, unlike Ahmic Lake or Lake Simcoe. The future of Lake Bernard is in the hands of the community that surrounds it.

2. The Lake Bernard Watershed

a. The Area and Its Characteristics

Lake Bernard's watershed is small for a lake of its size. This means the flow-through rate of water and water-borne pollutants in the lake is fairly slow. Lake Bernard has a shoreline perimeter of 23 km, a surface area of 20.5 km² (2050 hectares) and the watershed is 79.9 km² (not including the lake surface area). The maximum depth is 48 m and the mean depth is 16 m. Much of the shore is shallow, warming easily in summer. The depths remain relatively cold. Two maps of the watershed can be seen in appendices A and B. Further discussion of lake characteristics can be found in section 3d.

There are a variety of human activities occurring in the watershed. The shoreline area is described by the MNR in 2010 as "intense; urban, shoreline residential, commercial". This translates to: Sundridge is urban frontage, residences around the lake, businesses around the lake. Strong Township comprises the bulk of the watershed. It has a population of ~1300 with no urban centre, low-intensity agriculture, and some small resource extraction operations. Sundridge is much smaller than Strong in area. It is entirely a town and is home to ~1000 people. It has several businesses including manufacturing, retail and services.

Much of the area was forested over ~100 years ago. Trees have grown since this time and now cover much of the watershed. Exact percentage tree cover of the area is not known.

(For more lake facts, view the MNR 2010 Bernard Lake Fact Sheet at http://www.muskokawaterweb.ca/1/1.5/factsheets/Bernard_Lake.pdf)

b. The Flow of Water

There are a number of streams that feed into Lake Bernard, with Joly Creek in the north-east being the largest by far. Joly Creek flows from Otter Lake (to the north-east of Lake Bernard) and the creek acts as the Strong / Joly Township border for a portion of its length. Joly Creek passes close by Strong Township's Landfill #1. The Ontario Ministry of the Environment (MOE) has been monitoring this landfill site for some time. There are dozens of other small creeks / streams entering Lake Bernard from all around. Groundwater enters the lake by various means, much of which is not well understood. If the

nearby Kearney Watershed Study (conducted from 2002-2004 by *Gartner Lee*) is a good indication, groundwater easily enters lake surface water. The geology and soil composition of Kearny and the Lake Bernard watershed are very similar.

From Sundridge, storm water from enters the lake directly. Water from commercial / industrial uses enters the lake untreated if it goes into the storm sewer system (eg: Mac Lang). Residential sewage generated in Sundridge is pumped through a long pipe to a processing plant adjacent to Bernard Creek, the outflow of Lake Bernard. Bernard Creek flows into Sterling Creek, then into the Magnetawan River, which flows past Cecebe Lake, Ahmic Lake, Wawashkesh, and into Georgian Bay at Byng Inlet. This pipe has failed in the past (burst/leaked). When the sewage plant is not able to process all the incoming material the untreated sewage is allowed to enter Bernard Creek, but not Lake Bernard as the Dam under High Rock Road stops this flow from occurring. When the pump fails in Sundridge (electrical or mechanical failure), untreated residential sewage enters the storm sewers and flows into Lake Bernard untreated.

There is no central sewage system in Strong Township. A recently upgraded system of culverts allows surface waters to flow under existing roads and into Lake Bernard. Water used inside residences around Strong Township must enter a septic system. Water in septics enters the groundwater system at various speeds. If the Kearny Watershed Study is a good indication, there may be some septics in the area at high risk of failure, potentially compromising nearby groundwater quality.

c. Township/ Village Designations in the Area

Sundridge is a village in the north-west corner of the lake with a mostly developed stretch of shoreline. It is entirely in the Lake Bernard watershed. As a municipality, it has the ability to create and enforce its own by-laws.

Joly Township does not border Lake Bernard. A small part of Joly Township is within the Lake Bernard watershed, most notably in the headwaters of Joly Creek. As a municipality, it has the ability to create and enforce its own by-laws.

Strong Township contains the majority of the Lake Bernard watershed as well as the majority of Lake Bernard's shoreline. As a municipality, it has the ability to create and enforce its own by-laws.

d. Proposed Designations in the Area for Lake Planning Purposes

The following designation of areas within the Lake Bernard Watershed was proposed at the first Lake Plan Committee Meeting held July 6, 2011:

- Area on the lake
- Area within 300 m of the shoreline (300 m is based on common practice and MNR guidelines)

-Area beyond 300 m of the shoreline but still in the watershed

The designations were generally agreed upon but there could conceivably be a change should the consensus be that it is warranted.

3. Current Discussions / Concerns

a. Formal discussions

Until this summer, the main forum for discussions about the lake was the AGM of the Lake Bernard Property Owners Association (LBPOA). The directors of the LBPOA also met twice a year (in summer) to discuss issues around the lake. Concerns of individuals often were addressed to the directors, and they would often contact just one of the directors, depending on the issue and their comfort level with the individuals. Often, for issues such as lake level and fish populations, it has not been uncommon for property owners to contact MNR staff directly.

This summer, the first directors meeting of the LBPOA on July 3, 2011, touched on many issues around the lake. The idea of a lake plan was brought forward with increased enthusiasm. This was largely owing to the commitment in 2010 by Jocelyn Palm and Jim Wright to co-chair a Lake Planning Committee and by Jocelyn Palm having me, David Gray-Donald, attend the directors meeting on her behalf as a facilitator of the lake planning process.

The lake planning committee met for the first time to have initial discussions on context and process on July 6, 2011. It was generally agreed upon that the townships in the watershed should be involved in the lake planning process. Creating a vision statement for the lake and a simple set of action items for the plan were goals that were set out. Summer 2012 was given as a date when a draft of a lake plan could be presented to the community. It was deemed acceptable that during the process of lake planning, opinions from community members be gather to help guide the creation of the vision and a list of priorities. Notes of this meeting were taken and may be made public when approved.

The AGM of the LBPOA (July 9, 2011) was again a venue for discussion. Whereas the discussion is sometimes dominated by the idea of fish stocking, this year, 2011, saw extensive discussion on lake level, phosphorous, and septic systems. This owed to the extensive shoreline damage suffered by several property owners during the spring thaw, and a presentation on lake planning where the issues of phosphorous and septic systems were brought up. Announced at the AGM was a "Lake Visioning Workshop" happening on the next Sunday.

The Lake Visioning Workshop was held July 17, 2011, and was attended by ~15 people, all of whom were property owners around the lake. The discussion was a lively mix of issues on people's minds. Everyone there cared about the future of the lake. There was enthusiasm that a lake plan was in development. The session helped get a better understanding of what people value around the lake, and

what they are concerned about. The session was not able to draw out a lot of good ideas about how to ensure the area retains its valuable characteristics in the future. Concerns about degradation of the natural environment were voiced, but solutions were rarely offered. Very few ideas were voiced about what the economy /activities around the lake should look like with highway 11 moving away.

b. Formal survey

The Workshop saw the introduction of a survey into the community. The survey is a way to gather some data on what people value around the lake. A copy of the survey can be found in Appendix C. Completed surveys have been completed by 25 people to date and an excel file has been created to enter responses for analysis. The survey is currently being distributed further and can continue to reach more community members. Statistical relevance (accuracy of the sampling) has not been done as population and demographics are somewhat uncertain at present.

c. Informal discussions

Informal discussions happen around the lake all the time. I have been privy to several. The general sentiment is that people like the lake, care about its future, see some signs of decline of the health of the lake, and want to see improvements in the community, though the means are not always the same. The threats most talked about are old septic systems, lake level, shoreline land use, fish populations, and development activities, such as lot subdivision.

The universal concern I heard was that right now there is a lot of talk, but no action will come out of it for several years and momentum will be lost by then.

d. CAEDA Reports (Central Almaguin Economic Development Association)

This section is a very small summary of some extensive work that has been done regarding the future of the area with the movement of Highway 11 away from significant parts of Central Almaguin. Reflections on the reports from some community members are also included. There are two (2) full reports of significant relevance. On June 8, 2009, a *Central Almaguin Economic Base Review* was released by EDP Consulting in association with Precision Management (available at http://www.southerntoronto.com/Economic_Base_Analysis_for_Central_Almaguin.pdf). In July 2009 the *Strategic Plan for Central Almaguin 2009: Discover the Good Life* report was released by Precision Management (available at http://www.southerntoronto.com/Strategic_Plan_Central_Almaguin_2009_-_PUBLIC_DRAFT.pdf).

The Economic Base Review describes the decline of manufacturing jobs in the area, mainly wood product manufacturing, and the increase in service industry jobs from 2001-2006. The report stresses

promotion of economic activity that brings in revenue from outside the community, in particular manufacturing and tourism activities.

The Strategic Plan for Central Almaguin 2009 expressly aims to provide a vision for planning in the three (3) year period from summer 2009 to summer 2012. There are 15 “Goals”, each accompanied by a series of “Recommendations”. Pages 2 and 3 of the Plan give a good summary of the document. The main components are to hire an “Economic Development Officer (EDO)”, to make a concerted marketing push including a variety of promotional activities, to re-name the area, to develop new tourist activities, to improve the airport, to unify zoning by-laws in the region, and to encourage export-based businesses. The name proposed in the report for the area was “The Villages of Almaguin”. The minutes of CAEDA June 10, 2011, meeting indicate a desire for highway signage to include the name “Central Almaguin Tourist Area”.

The main activity resulting from this planning centres around having effective signage on the new sections of Highway 11.

Some community members and small business owners have expressed that the town hall meetings used to gather opinions from the community were not well publicized and discussions were often exclusive. The validity of these claims is not known.

e. The Incomplete Picture

Many property owners and business owners in the Lake Bernard watershed have not been consulted as to what about the lake is important to them. Current input contributing to the development of a vision statement is mostly based on opinions that people have heard over many decades at AGMs and through informal discussions. There are several ways to proceed from this point. The following list is a non-exhaustive list of options, and the options are not mutually exclusive:

-“**As is**”: Use what opinions have been gathered to develop a vision statement and priorities in a draft lake plan. Once a draft has been produced, consult with the community to get their input on this document and adjust it accordingly. This process is low cost but some community members may feel excluded and frustrated they were not consulted.

-“**Informal talks**”: Have community members interested in the lake planning process engage more community members in an informal way for some time. After this time, the interested members would together come up with a vision and priorities in a draft lake plan. The community would again be consulted once a draft had been developed and adjustments would be made to reflect community voice. This process is low cost, involves moderate effort, and is mostly based on an ad-hoc documentation process.

-“**Formal data collection**”: A structured and well documented set of community forums and surveys are used to draw out ideas and opinions from residents and businesses all over the community. Ideas are discussed in further detail. Numerical data from surveys is analyzed in order to substantiate the prioritization of various actions listed in lake plan drafts. Community input is used to draft a lake plan. The draft goes through a formal consultation process,

potentially with another survey component to judge how it is received. Adjustments are made accordingly. This process may have some administrative costs, requires concerted effort, provides numerical data that can be referenced, and helps develop ideas through collaboration.

4. Threats to Lake Bernard & Relevant Watershed Studies

a. Kearny Watershed Study

What was studied: *“surface water quality surveys, background information synthesis, a terrain analysis, septic inspections, groundwater surveys and analysis, public meetings and reporting was initiated, so that the results of each phase could guide implementation of the next phase”*

What did they find in terms of surface water: Surface water quality was generally good, with little enrichment. Zinc and aluminum levels were high but that was characteristic of the area and natural. Some bacterial enrichment further down the watershed near inhabited areas.

What did they find in terms of groundwater: Conclude that “shallow groundwater has been degraded”. Analogous to Lake Bernard due to proximity and presence of “shallow groundwater system in thin soils over bedrock and by surface water in the form of lakes, rivers, streams and wetlands”. 6.5% of septic systems were considered high risk of failure. 9 of 68 wells had coliform bacteria in them, indicating cause for concern. 38% of wells had nitrate levels above background (significantly above natural level), potentially indicating surface influence (fertilizer) and septic influence on groundwater quality. Groundwater has a direct connection to surface water, making it important to keep groundwater clean

What are their recommendations: More monitoring of phosphorous levels, more site-specific studies, study the characteristics of deeper aquifers as the shallow ones already may pose health risks if water is untreated. A huge list of initiatives including but not limited to: re-inspecting septic systems every 10 years, reducing pesticide use, monitoring water quality near landfill sites, engaging the forestry and mining industries to adopt best practices.

The take-away message for Lake Bernard: our groundwater quickly enters our surface waters and so we need to take care to keep groundwater clean. There may be some high-risk septic systems, and fertilizers may also degrade groundwater quality.

b. Phosphorous

Phosphorous levels are the standard indication of lake health (In the absence of obvious industrial contamination or inflows of salts). High phosphorous levels often lead to algal blooms, many of which are toxic. Lake Bernard water has a low concentration of phosphorous and there is no

discernable trend up or down since testing began in 2002 (This is because the average total phosphorous level has been below 10 ug / L for the period 2002-2010, making it oligotrophic: unenriched. Data sets available at http://www.ene.gov.on.ca/stdprodconsume/groups/lr/@ene/@local/@lakepartner/documents/native_docs/stdprod_082417.pdf on page 12). Leaking septic beds and phosphorous containing fertilizers (from lawns and agricultural uses) can contribute to the build-up of phosphorous in the lake. There is a natural amount of phosphorous in the soil and in the lake bed that has always been there. Major additions beyond this year-upon-year threaten the entire lake system. There may be a delay between sedimentation of phosphorous on the lake bed and increases in its presence in the water, as has been seen in many lakes as they quickly reach a “tipping point”.

c. Septic Systems

Septic systems are traditionally seen as the primary threat to lake health, largely due to the fact that they contribute phosphorous into surface waters through seepage. The Ministry of the Environment maintains that there are no septic beds that are 100% effective at keeping phosphorous from leaching into groundwater and/or surface water. Septics also leach nitrates, which can lead to algae problems and poor water quality, hormones, antibiotics, and household chemicals. The rate of leaching depends on quality of the septic system, its age, and the characteristics of the soil (refer to Kearny Watershed Study section for a discussion of soil characteristics).

The North Bay-Mattawa Conservation Authority has jurisdiction over septic systems in the area. This means they permit new ones and verify that existing ones are in good order when a property is bought/sold. The Lake Bernard region is not on high enough priority in the province to have mandatory testing of septic systems, whereas the Lake Simcoe area is high priority and subject to such testing.

d. Fish Ecology, Dissolved Oxygen, and Shoreline Development Restrictions

Lake Bernard is designated by the MNR as a Lake Trout Lake. This is due to observed dissolved oxygen levels and the designation brings with it some unique restrictions on development.

Oxygen is dissolved in water at concentrations depending on many factors. Extensive studies in Ontario have shown that lake trout require a DO (dissolved oxygen) concentration of 7 mg / L to actively feed, reproduce, and avoid predation. In a word: survive. Lake trout live near the bottom of Lake Bernard in summer as they need cool waters. During the course of summer, water at the surface and water in the depths naturally do not mix much at all, meaning little oxygen makes its way from the surface down to the depths. In the depths, the decomposition of algae consumes considerable quantities of oxygen. By the end of summer, dissolved oxygen reaches its lowest levels. For over a decade in Lake Bernard, periodic observation of DO levels have consistently been below the 7 mg / L threshold by September 15th. DO levels have been fairly constantly between 6.5 and 7 mg / L on this

date. The logic goes that an increase in algae in the lake would increase algal decomposition which would increase DO depletion and threaten lake trout survival. The main contributor to increased algal growth is phosphorous and typically that mainly comes from septic systems.

Therefore, the MNR has recommended that the lake be closed to the creation of new lots as they will almost invariably contribute phosphorous. There are approximately 115 undeveloped lots around the lake. All those are allowed to be developed to normal specifications (septic setback of > 30 m unless special permission granted). No new lots are to be created unless they meet one of 4 criteria. The 4 criteria were not known by the Central Almaguin Planning Board (CAPB) prior to a July 20th meeting where Dorothy Shaver of the Parry Sound MNR office made a presentation on the subject. The 4 criteria basically state that a new lot can be made as long as no new flows of phosphorous into the lake will be created. The most relevant flexibility criteria for the area were if (a) the septic is > 300 m from the lake or (b) the septic flows to the watershed of a separate lake that is not threatened in the same way. Contact dorothy.shaver@mnr.gov.on.ca for more information on this subject. The CAPB approved the proposed splitting of a property based on criteria (a) at that same meeting immediately after the presentation.

The bottom line: There is a stable self-sustaining lake trout population without restocking. There is a much larger whitefish population. Approximately ten (10) times more whitefish than lake trout were caught in the winter of 2011. There was a larger overall fish harvest by mass in winter 2011 as compared to 1993 or 2001. There is a population of smelt (non-native) that may threaten to destabilize juvenile development of whitefish and/or lake trout. The MNR fisheries specialist Stephen Scholten expressed (informally on July 20, 2011) that smelt can be fished heavily in the lake and this may actually help whitefish / lake trout population size.

e. Shoreline Development

Developing undeveloped shoreline invariably leads to some amount of erosion of the ground and some sediment entering the lake. Sediment can bring phosphorous and other materials, and has a negative impact on fish spawning. The MNR recommends maintaining 75% of property shoreline with natural vegetation.

Shoreline development often brings with it the introduction of new septic systems. That topic was discussed above in 3d.

f. Commercial Wastewater

The effect of this threat has received very little study at Lake Bernard. This section is mostly based on speculation. Wash water from such businesses as Mac Lang, Bray Motors, and Lake Bernard Park (camping) seems to go directly into the lake untreated. Mac Lang wash water enters the Sundridge storm sewers, which flow directly into the lake. People camping at Lake Bernard Camp (south end of the lake) dump their grey water on the ground, which is sandy and not far from the lake. When it rains, this water likely enters the lake without much in the way of natural filtration. While studies on the effects of

this are absent (and expensive), several community members who have snorkelled for years on Lake Bernard have reported seeing some “dead zones” forming more recently.

g. Waterfowl

An abundance of birds on and around the water, such as ducks, geese, and gulls, pollute in much the same way as septic systems. They add nitrates, phosphorous, and pathogens through their normal bodily functions. When sandbars form, migratory birds supposedly inhabit the area more than when sandbars are absent. Migratory birds also stay longer when they are fed continually. Many lakes have programs or regulations aimed at stopping people from feeding these birds due to the detrimental effects on the lake system.

h. Gasoline Spills

Motorboats are used on the water of Lake Bernard. Many motors deposit some oil into the water as a result by the way they are designed. Oil is very toxic, with one drop poisoning 25 L of water for aquatic life¹. Older engines (especially old 2-strokes) deposit more oil than newer models. There have been incentive programs in the past to encourage people to upgrade their old motors, such as this one in 2010 <http://www.boaternews.ca/content/helping-you-float-better-boat> .

i. Safety

Safety on the lake is a concern to many people who use it. The LBPOA has been ensuring that buoys properly demarcate shoals. Swimming safety is up to the discretion of individuals using the lake. Public swimming areas are tested for E. Coli to make sure it is safe to swim.

j. Invasive species

Smelt are an invasive species that have had fairly negligible effects thus far but often reduce lake trout and whitefish populations through competition at early life stages.

Zebra Mussels and Quagga Mussels² are not widespread around the lake at present. They can easily arrive. Many lakes have signs dedicated to this subject.

5. Other Lake Plans and Actions of Affiliated Groups

a. Visions

The vision statements of other lake plans may be a good reference for writing such a text for Lake Bernard. Sections of the LBPOA Charter may also be useful. The vision statement may need to be unique to the lake to reflect the specifics of the situation, or another lake’s vision might fit perfectly.

¹ <http://www.on.ec.gc.ca/community/classroom/93/env-citizenship-e.pdf>

² Quagga Mussels are similar to Zebra Mussels in terms of their invasive nature and their effects on ecosystems.

Dozens of examples can be found via Google search but here are just a few examples of different styles of vision statements from other lake plans:

-Eagle Lake: “Preserve and improve the natural environment in and around Eagle Lake in a sustainable fashion that will promote a healthy, family-oriented community.” Below the vision is a statement about how the vision came into being: “The Vision was developed following a review of the questionnaire, and participation in the Workshop on May 28, 2005, as well as discussion at the last two Annual General Meetings of the Association (August 2004 & 2005).” (Available at <http://eaglelakeconservationassociation.com/Eagle%20Lake%20Com%20Plan%2007%20July%2019%20final.pdf> Prepared by Bracebridge-based *Plandscape*).

-Peninsula Lake: “We, the members of the Peninsula Lake community, share the following vision for the future of the lake. We wish to ensure that current and future generations will enjoy: (7 items listed)”. The vision is preceded by this note about how it came into being: “The vision was developed and confirmed through meetings with all stakeholders and represents the desires of the whole lake community”. (Available at <http://www.penlake.ca/lakeplan/lakeplan.pdf> Prepared by Bracebridge-based *French Planning Services*).

-Kahshe Lake: “The vision statement for the Kashe Lake Plan builds on the mission statement of the KLRA (Kahshe Lake Ratepayers Association): The purpose of the strategic plan is to: (4 items listed). (Available at http://www.kahshelake.ca/resources/Documents/STRATEGIC_PLAN_03_09_24_rev.pdf Prepared by Bracebridge-based *Plandscape*).

b. MRWA (Magnetawan River Watershed Association)

The LBPOA is part of the MRWA. Two (2) items of relevance to Lake Bernard coming from the MRWA are the Sundridge wastewater treatment facility and the “Phosphate Free” initiative.

The MRWA has been keeping a close eye on the Sundridge wastewater treatment facility for reasons made clear in 1b. The facility is being upgraded.

At an August 29, 2010, meeting of the MRWA there was discussion of a “Phosphate Free Project” to reduce the use of phosphates throughout the Magnetawan River watershed. The initiative was championed by Shelley Johnson of 3 Mile Lake. Her contact info is s_d_l@primus.ca or 416-516-9524. Lake Bernard could be involved in some way should it be deemed beneficial. Steve Jones and Kathy Pike have attended MRWA meetings as representatives of Lake Bernard (LBPOA).

c. Ideas for actions (consolidated from all sections)

Here is a list of ideas for actions that could be taken around the lake. The first three items are original and the rest are from the FOCA *Lake Planning Handbook*, produced in part by *French Planning Services Inc.*³:

³ It is acknowledged that FOCA owns the copyright to the *Lake Planning Handbook*.

-Voluntary septic testing: purchase the septic-testing dye pills and initiate a program where people voluntarily test their system. After they have done the test, they may be given a sign to display by the road saying something like “I (heart) Lake Bernard - I tested my septic. Have you?”. It may be sensible to have someone else (a neighbour) present ensure residents are actually using the dye pills. Maybe not.

-Less phosphate-containing fertilizers being used: fertilizers also contribute phosphorous to the lake. The nitrogen is not beneficial either. “No Phosphorous Added” signs for lawns in the area could be a good way to raise awareness and pressure people to adopt similar habits. Nothing is enforceable in the municipalities as the by-laws currently stand.

-Bernard Creek clearing: to get the lake level down to that prescribed by the MNR rule curve, Bernard Creek needs to be able to flow quickly. Beaver dams and debris slow the flow. It is difficult and very dangerous to remove these obstructions during high water in spring. Removing these obstructions in fall should help somewhat. Hiring someone to do this may be a liability. The same liability would not exist if community members took it upon themselves to do this voluntarily each fall.

-Emergency contact listing: immediate contact needs such as OPP, Report-a-Poacher MNR, MOE, Lake Steward, etc.

-Welcome to New Community Members: a booklet, brochure or a folder that contains information about the community including: maps, lake plan, septic maintenance tips, and maintaining natural shorelines. The ‘welcome wagon’ could be distributed to everyone on the lake, and made available through resorts and campgrounds or to new property owners through their real estate agents.

-Healthy Lake List: a list of activities people can do on their own properties to improve the health of the lake.

-Fridge Magnet: Mountain Lake (Haliburton) Association prepared the “Be a Mountain Lake Super Hero” fridge magnet and distributed to everyone in their community. The magnet contains messages about safety, water use, shorelines, wildlife and energy use

-Boating Card: several lakes have prepared a hand sized, laminated boating card to be distributed and stored in all motorized water craft. One side includes a map of the lake including areas where speed limits are reduced (i.e. 10 km/hr 30 metres from the shore) and courtesy zones (i.e., narrow water channels or bays), navigational hazards and fire pumps. On the backside there are the speed regulations that are enforced by the OPP and a courtesy code including low wake near wetlands and wildlife habitat (i.e. loons)

-Boating Safety Signs: Peninsula Lake Association produced a very attractive metal ‘welcome to our lake’ signs that was posted at every water access point on to the lake. In 2003 the signs cost about \$100.00 each.

-Invasive species Prevention Signs: install signs at boat launches that include recommendations on preventing invasive species from spreading into your watershed and lakes. FOCA has a 'Stop the Spread of Invasive Species' sign that is available to its members.

-Prepare a State of the Lake Report: the state of the lake report is like a report card that monitors annually the changes in health of certain elements of the lake (e.g., water quality, air quality, forested area and fish health).

6. Financial Opportunities

a. Opportunities for external funding

The Federation of Canadian Municipalities provides funding for municipalities undertaking certain specific initiatives and actions. The relevant website is <http://www.fcm.ca/English/View.asp?mp=1510&x=1481> and the applicable sections may be "Planning" or "Water. The Lake Bernard community may be hard pressed to get in an application by the September 8th deadline.

RBC Blue Water supports many initiatives that seek to protect water resources. TD Friends of the Environment Fund has also been known to fund similar projects. Both prefer to fund charitable / educational organizations and municipalities. RBC Blue Water has two levels of grants, both of which can be learned about by starting here <http://bluewater.rbc.com/applyGrant.php> . TD Friends of the Environment Fund information can be found here <http://www.fef.td.com/funding.jsp#criteria> .

b. Opportunities for internal funding

LBPOA has some assets. The LBPOA collects revenue via a relatively low annual fee collected from its members. If LBPOA bears the cost of actions related to the lake plan, this may lead to a diminished pool of assets or higher annual fees for members.

The municipalities collect revenue through taxes. The municipalities could conceivably contribute to lake plan efforts and actions, though the discussion has not yet been had.

7. Lake Planning as a Process

a. The Lake Planning Committee

At the initial meeting of the Lake Planning Committee, there were three (3) options laid out for how the committee could be composed:

- **Tri-council committee** (Strong, Sundridge, Joly) plus LBPOA representation. This would be the most representative, most effective and potentially the most difficult to organize and reach consensus with.

-**LBPOA sub-committee**. This would represent property owners around the lake but not the rest of the community. The plan may have trouble being recognized by the municipalities as a legitimate document.

-**Ad-hoc**. This would be the easiest to organize but the least powerful, and potentially the least representative of the options.

Modifications could be made to any of these arrangements but it was generally acknowledged that one of these options would be the way forward. Preference was given to the first option presented here.

b. Enacting the Plan

Lake Plans are seldom legal documents. Sometimes, a side-effect of a lake plan will be a separate request to a municipality to alter a by-law. That is not always necessary and not necessarily a direct result of a lake plan.

Lake plans often help guide municipalities in future planning considerations and by-law amendments. The lake plan in many cases is a document that is referenced, but it is not legally binding.

Many parts of a lake plan have nothing to do with law. They have to do with education, awareness, promotion, and communication. These are activities that municipalities can help support without much cost and without having to meddle in legal affairs.

Around Lake Bernard there are many people who are excited about the prospect of a lake plan and who have already done some volunteer work to contribute to the process. There seems to be a large potential to continue to tap into this resource base to implement parts of the plan that require labour of various kinds.

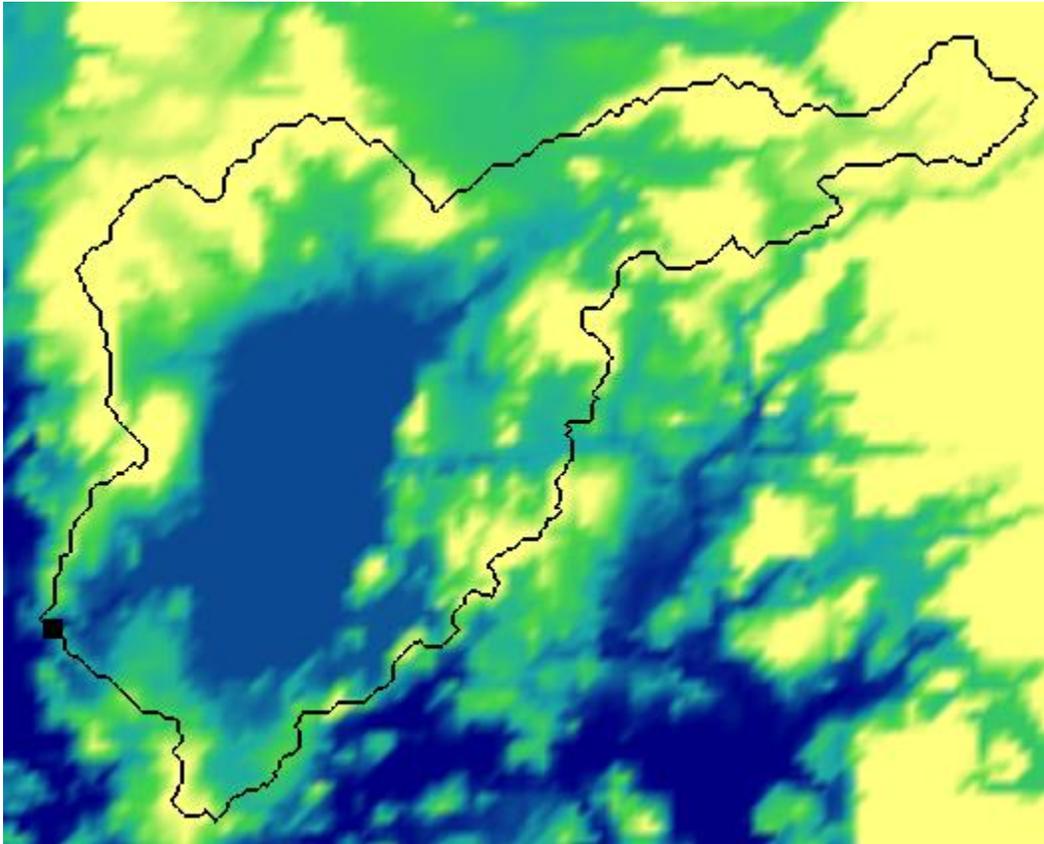
c. Monitoring the plan

In order to report on how the plan is working and what it has achieved, some aspects of it could be measured over time. Examples could include: how many people have tested their septic system, how much re-naturalization of shoreline has occurred, how much educational material has been distributed.

d. Updating the plan

Very few plans are perfect, circumstances often change, and sections sometimes become obsolete. Many plans are reviewed periodically and there are predetermined ways to update them.

Appendix A – Map of where water tends to accumulate



The area inside the black shape is the Lake Bernard watershed. The black square in the bottom left is the dam. The darker the colour, the more water tends to collect in that location. Yellow represents areas where water does not remain for long. The slightly lighter green indicates areas where water resides slightly longer before it moves away. The dark blue indicates areas where water pools. Pool Lake, Joly Creek, and Lake Bernard are the most apparent dark blue areas in the watershed on first glance.

These images were accessed through Ministry of Natural Resources files.

Appendix B – The Lake Bernard watershed imposed on a Google Map



The black shape indicates the boundaries of the Lake Bernard Watershed. Only water from this area enters the lake. The shape did not superimpose perfectly on the Google Map and so Lynch Lake in the northeast is inside the watershed in this representation but that is not true. The MNR and Google maps vary slightly in their representations of the area. Most of the outline is true and a good appreciation for the watershed can be gathered from this image.

Survey

Lake Bernard

Community input for the development of a “lake plan”

Background: A “lake plan” is an action-oriented document that aims to preserve lake attributes that community members value, and to promote the development of attributes they would like to see. Your input will help direct the creation of a lake plan for Lake Bernard that works for the whole community.

Demographics: Please place a check mark beside the designation that best suits you.

I am a: Year round resident in the area _____ Seasonal Resident _____

My property is: On Lake Bernard’s shoreline _____ Not on the shoreline _____

If on the shoreline, I am located (check any that might apply):

At the north end _____ At the south end _____ East side _____ West side _____

Values & Concerns: What features of the lake do you value? Please mark all that apply and rank your top 3 from 1-3 with #1 being your top priority.

Value / Concern	Check all that apply to you	Rank top 3 here from 1-3 (#1 is highest)
Fish stocks in the lake		
Maintaining the natural look of the shoreline		
Water level of Lake Bernard		
Water quality of Lake Bernard		
Non-motorized recreational opportunities around the lake (sailing, canoeing, biking, swimming)		
Motorized recreational opportunities around the lake (Seadoo, waterskiing, ATV, water tubing)		
Quality of the businesses in the area		
Safety on the water (shoal marking, speed requirements, etc.)		
Other, please specify:		

Any additional comments or concerns? _____
