LAKE BERNARD CONSERVATION GUIDE

Developed by Representatives of the

Lake Bernard Property Owners' Association

in Consultation with

Lake Property Owners

and other Community Residents

Our Conservation Guide is simply an organized effort by a group of individuals to identify and deal with current and potential issues that could impact the quality of the lake for its residents, cottagers, visitors and related businesses.

It should be stressed that the Conservation Guide is a vision & educational document and not something that results in enforceable regulation.

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Synopsis

Lake Bernard is our region's most vital resource. Each of us has heard it. Each of us has probably said it. Each of us believes it. The Conservation Guide is a document that supports this belief and includes input from a variety of reliable sources to deliver a resource to all stakeholders in the Lake Bernard Watershed.

A Conservation Guide is simply an organized effort by a group of individuals to identify and deal with current and potential issues that could impact the quality of the lake for its residents, cottagers, visitors and related businesses. It should be stressed that the Conservation Guide is a vision & educational document and not something that results in enforceable regulation to which some people may object.

In our Vision survey, which was completed during the summer of 2011, the results were clear:

- Lake Bernard Water Quality was the number 1 issue for 86% of respondents.
- Water Level Maintenance was number 2 with 68%
- Natural Look of the shoreline and the Fishery tied for third with 62% of respondents.

"Your lake. Your lifestyle. Your legacy", is a coined phrase used by FOCA, the Federation of Ontario Cottagers Association, and what could be more appropriate? This Conservation Guide delivers the items that each individual needs to consider as a property owner on the lake, as a visitor to the lake and for those of us who stand in awe of the natural beauty of the Almaguin area.

Vision Statement: Our Vision is to be recognized as a model lake region in Ontario as demonstrated by the quality of life and positive experiences of residents, cottagers and visitors.

Our Vision will be achieved through the successful stewardship of our lake and watershed, through individual commitment to become environmentally aware and through related thoughtful and effective planning of regional economic development.

Mission Statement: Our Mission is to engage the communities of Strong, Joly and Sundridge in striving to achieve our Vision by developing recommendations and then communicating and implementing those recommendations to make our Lake Bernard area a model lake region.

We believe the science is clear. Each of us needs to do our part to maintain the quality of the lifestyle enjoyed on our lake. The following near-term action items, listed in order of importance, are those that will have the most impact:

1. *Septic Systems* – voluntary site inspection program to be initiated in 2012, with voluntary individual remedial actions where required. All shoreline property owners with septic systems are encouraged to have their systems pumped out every 3-5 years both to protect their investments and to insure optimal operating performance.
2. *Shoreline Buffer Zone* - Through education, increase individual knowledge on the significant value of leaving 75% of the properties shoreline in a natural state. In addition, the Committee supports leaving 2-5 metres of setback from the water, known as the riparian and upland zones, in a natural state. This shoreline property provides a buffer zone where much of the sediment and other pollutants are filtered out before reaching the water. Also called the "ribbon of life", the buffer zone is most important for the lake fishery and for nourishing the lake with oxygen.
3. *Land Use Planning* – support the Ministry of Natural Resources "At Capacity" guidelines with Municipal Official Plans, Zoning By-Laws and with North Bay-Mattawa Conservation Authority.
4. *Fertilizers and Pesticides* – educational plan to encourage property owners to eliminate use within 30 metres of the shoreline.
5. *Wastewater Management* – educational plan to reduce sediment entering the lake where possible.
6. *Water Quality Testing* – Lake Bernard Property Owners' Association (LBPOA) to maintain current water quality testing program to reflect historical changes, and initiate a 3-year program with the Ministry of Natural Resources (MNR)/Ministry of the Environment (MOE) for further quality tests such as phosphorous and calcium loading.

   Update September 2012 – The Township of Strong has agreed to assume the cost and delivery of the water quality testing program on Lake Bernard. Results will be posted annually on the Townships website.
7. *Commercial and Industrial Activities* – build environmental awareness.
8. *Landfill Management* – continue long term measurement through MOE of potential contaminants.

Environmental stewardship and sustainable development can be related and supported components of our journey to achieve our Vision. It is not a race and the pace of positive and effective change can be slow. The LBPOA and the Steering Committee look forward to interacting with the responsible Provincial Ministries and the community at large, to engage in activities that will allow us to achieve our Vision while supporting sustainable development.

We can leave a lasting legacy for generations to come.

1. Introduction

"Like any individual, a lake ages in a natural process called *eutrophication*: the increase in nutrients due to run-off from the surrounding area and the growth and decomposition of aquatic plants over time. Eventually, so much decomposing plant and animal matter builds up that the lake bottom fills in, converting it to a bog and eventually, dry land. On the geologic time scale, this is a good and normal thing and from a lake's point of view, this is its circle of life.

But when humans fast-forward the process by tearing out the shoreline buffer zone and dumping too many nutrients such as phosphorus into the lake, the water begins to change too rapidly for the life that depends upon it. The water becomes murkier as plant and algae growth explodes, the added vegetation decomposing and consuming the oxygen normally shared with other aquatic creatures. Sensitive species like trout can suffocate in the oxygen depleted environment, interrupting the food chain and causing fish with a higher tolerance of lower oxygen conditions (like carp) to flourish.

The lake ages before its time. Because eutrophication is often the result of a lot of small actions - poor septic systems, using high-phosphate soaps, removing shoreline plants - it can also be arrested by the efforts of landowners. By understanding how a natural shoreline functions and then acting collectively to preserve, not destroy, that critical balance, individuals *can* make a difference."[1]

A Conservation Guide is simply an organized effort by a group of individuals to identify and deal with current and potential issues that could impact the quality of the lake for its residents, cottagers, visitors and related businesses. It should be stressed that the Conservation Guide is a vision & educational document and not something that results in enforceable regulation to which some people may object. We shouldn't ever assume that our lake will always be clean, always be safe for wildlife or for the fishery in spite of what we do or not do.

Many lake regions in Ontario, such as Eagle Lake, Kahshe Lake and Lake Cecebe have developed their own Lake Plans. Since we believe that we have one of the best lakes in Ontario, if not the best, and want to keep it that way, the LBPOA Board of Directors decided to take the lead in developing a plan for Lake Bernard by establishing a Conservation Guide Committee (The Committee). The Committee is chaired by Jim Wright and Jocelyn Palm, and includes Doug Cuthbert and Bob Renaud.

Our Conservation Guide, developed for the Municipalities, residents, cottagers and visitors of the Lake Bernard watershed, is derived from discussions at the 2010 and 2011 Annual General Meetings (AGM's) of the LBPOA, material available from the Federation of Ontario Cottagers Association (FOCA), the Lake Plan for Eagle Lake (2007) and the Kearney Watershed Study (2005) in the East Parry Sound District. It evolves and draws from the prior July 2011 "Resource Document for the Development of a

[1]The Shore Primer - http://www.dfo-mpo.gc.ca/regions/central/pub/shore-rivages-on/pdf/shore-rivages-on_e.pdf

Lake Plan for Lake Bernard", prepared by David Gray-Donald of Glen Bernard Camp and the Porpoise Group[2].

The purpose and objective of this Conservation Guide is to establish recommendations for sustainable environmental, economic and social activities in the Lake Bernard area that will:

- Preserve and protect the environmental integrity of the water and surrounding shorelines of Lake Bernard.
- Sustain the natural quality and attractiveness of the lake for residents, cottagers and visitors.
- Promote policies for land use, development and economic activity on lands surrounding Lake Bernard, in the communities of Strong, Joly and Sundridge,that are in harmony with the natural environment of the area while advancing the social and economic goals of the communities.

The dialogue in this document is intended to educate lake property owners and other interested parties as to what each of us can do to preserve our beautiful Lake Bernard for future generations.

a. Vision and Mission

The Communities of Strong, Joly and Sundridge, through their respective Mayors and Councils and the LBPOA, have committed to partner in building a successful future for the Lake Bernard community. The Vision Statement sets the framework to guide what the residents feel the lake should be recognized for in the future.

Vision Statement: Our Vision is to be recognized in Ontario as a model lake region as demonstrated by the quality of life and positive experiences of residents, cottagers and visitors.

Our Vision will be achieved through the successful stewardship of our lake and watershed, individual ownership of environmental issues and by related thoughtful and effective planning of regional development.

Mission Statement: Our Mission is to engage the communities of Strong, Joly and Sundridge in striving to achieve our Vision to make our Lake Bernard area a model lake region by developing recommendations, then communicating and implementing those recommendations.

[2] The Porpoise Group – Environmental Consultants, David Gray-Donald, Principal

2. General Discussion

a. Phosphorous Levels

Phosphorous levels are the standard indication of lake health (in the absence of obvious industrial contamination or inflows of salts). There is a natural amount of phosphorous in the soil and in the lake bed that has always been there. Major additions of phosphorous, beyond the natural recurring amount, threatens the entire lake system. High phosphorous levels often lead to algae blooms, many of which are toxic.

Lake Bernard water has a low concentration of phosphorous and there is no discernible trend up or down since testing began in 2002 through the Lake Partner Program between MOE and LBPOA. This is because the average total phosphorous level has been below 10 uG/L for the period 2002-2010, making it oligotrophic: un-enriched.

Data sets are available at;
http://www.ene.gov.on.ca/stdprodconsume/groups/lr/@ene/@local/@lakepartner/documents/nativedocs/stdprod_082417.pdf.

Leaking septic beds and fertilizers containing phosphorous (from lawns and agricultural uses) can contribute to the build-up of phosphorous in the lake. 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 other lakes, as they quickly reach a "tipping point".

b. Groundwater Quality

The following agenda was studied in the Kearney Watershed Study (2005): *"surface water quality surveys, background information synthesis, a terrain analysis, septic inspections, groundwater surveys and analysis, public meetings and reporting was initiated ..."*

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 occurs further down the watershed near inhabited areas.

Groundwater: The authors concluded that "shallow groundwater has been degraded". It should be noted that this is 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". It was determined that:

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.

Recommendations from the Kearney Study (2005): More monitoring of phosphorous levels, more site-specific studies including the characteristics of deeper aquifers as the shallow ones already may pose health risks if water is untreated. A long list of actions should be initiated including, but not limited to; re-inspecting septics every 10 years, reducing pesticide use, monitoring water quality near landfill sites, engaging the forestry and mining industries to adopt best management practices.

The take-away message from the Kearney study for Lake Bernard: our groundwater quickly enters our surface waters and so we need to take care to keep groundwater clean. Like Kearney, there may be some high-risk septic systems, grey water discharge locations and the use of fertilizers/pesticides which may also degrade groundwater quality.

3. Threats to Lake Bernard

a. Septic Systems

Septic systems are traditionally viewed as the primary threat to lake health, largely due to the fact that they contribute phosphorous into surface waters through seepage. The Ministry of Environment maintains that there are no septic beds that are 100% effective at keeping phosphorous from leaching into groundwater and/or surface water. Septic systems 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 Kearney Watershed Study section for a discussion of soil characteristics).

The North Bay-Mattawa Conservation Authority has jurisdiction over septic systems in the area. The Lake Bernard region (Magnetawan Watershed) 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 (2011).

b. Land Use Planning

Lake Bernard is designated by the MNR as a “Lake Trout Lake”. This is due to the lake being a cold water lake with observed dissolved oxygen levels. The designation brings with it some unique restrictions on development.

Oxygen is dissolved in water at concentrations which depend 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, or in a word, survive. Lake trout live near the bottom of Lake Bernard in summer as they need cool waters. During the course of the summer, water at the surface and water in the depths naturally do not mix very much, 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 observations of DO levels have consistently been below the 7 mg / L threshold by September 15th with levels being fairly constant between 6.5 and 7 mg / L. 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, the major source of phosphorous is from septic systems.

The MNR has recommended that the lake be closed to the creation of new lots as they will almost invariably contribute phosphorous, a term they refer to as "at capacity". There are approximately 115 undeveloped lots around the lake (2007). These lots are allowed to be developed to normal specifications (septic setback of > 30 m unless special permission is granted).

No new lots, however, are to be created unless they meet one of four criteria. The criteria basically states that a new lot may be authorized by the Municipality as long as no new flows of phosphorous into the lake will be created. The two most relevant criteria for the area are if;

(a) the septic system is located > 300 m from the lake or,

(b) the septic flows to a 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 matter.

The general theory that any building within 30m of the shoreline contributes to increased runoff and a visual hindrance is viewed by some as a threat to their current situations.

c. Shoreline Naturalization

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 property owners are not allowed to modify the lake bed (high water mark to centre of the lake) for any reason or by any means without authorization from the MNR or from the DFO (Department of Fisheries and Oceans). Exceptions are to install a waterline, a dock crib not measuring more than 15 square metres on the lake bed or for a floating raft. One is encouraged to install a dock that is floating or on legs so that water flows naturally along the shoreline, where possible, and vegetation should be left undisturbed.

d. Waste Water Management

The effect of this threat has received very little study at Lake Bernard. This section is mostly based on visual observation. Wash water from commercial activity and local businesses appears to go directly into the lake untreated. Other sources of waste water come from people camping around the lake who may dump their grey water on the ground, which is typically sandy and not far from the lake. When it rains, this water likely enters the lake without much in the way of natural filtration.

The Village of Sundridge storm sewers flow into the lake, with catch basins near the road, designed to reduce the flow and so that floating sediment isn't deposited directly into the lake. In Strong Township, ditching along the roads has been carried out to protect the road bed and the ditches extend directly to the lake edge with the detrimental effect of sediment flowing into the lake without filtration.

e. 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 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.

f. Fossil Fuels

Oil and gasoline are toxic to the lake, with one drop poisoning 25 L of water for aquatic life[3]. Motorboats are used on the water and many motors deposit some oil into the water as a result of the way they are designed. 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 one in 2010 http://www.boaternews.ca/content/helping-you-float-better-boat .

g. Invasive Species

Rainbow 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.

There is no evidence of Zebra Mussels or Quagga Mussels[4] in the lake at present. They can easily arrive. Many lakes have signs dedicated to this subject as does Bernard at the south end boat launch ramp.

4. General Topics (Quality of Life Issues)

a. Water Levels on Lake Bernard

The water level on Lake Bernard is managed by an outlet dam located in the SW corner of the lake. This 4 sluice dam, installed in 1959, was designed to manage the flow of water primarily to insure that the water level was maintained at a constant level over the summer months. The water fluctuation on the lake is maintained within a range of 60cm (2 feet). This is a fairly narrow range for such a large body of water with 23.0 km of shoreline, without an island. The management of the water level is maintained by the MNR with an arrangement with the LBPOA to assist where required. Of course, precipitation can be variable and is intermittently delivered by someone up above us. Remote monitoring, via satellite, of the water level at the dam was installed by MNR / EC (Environment Canada) in 2006 and is available over the internet.

*Note: On the Internet Remote Monitoring, you must add a conversion factor of **320.85***

[3] http://www.on.ec.gc.ca/community/classroom/93/env-citizenship-e.pdf

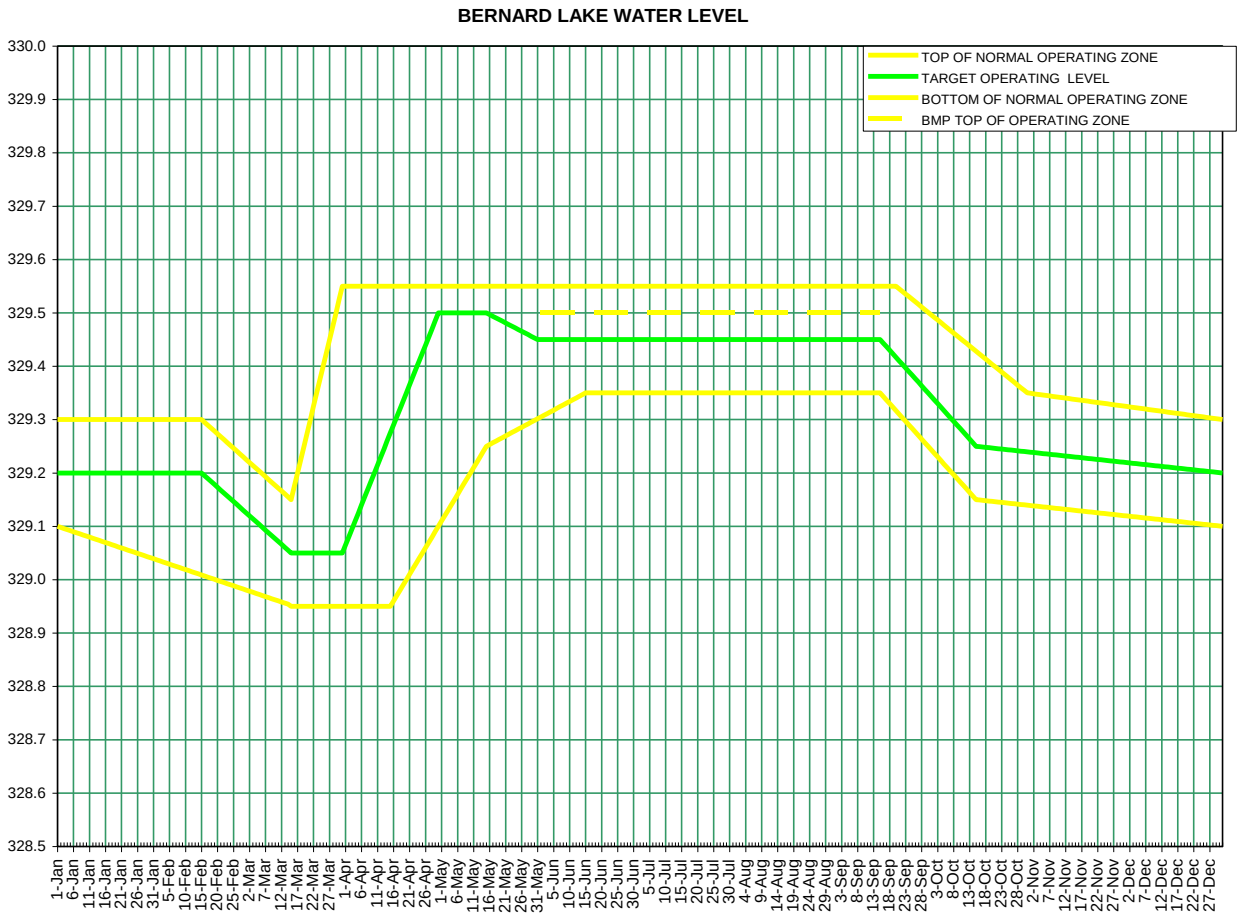
[4] Quagga Mussels are similar to Zebra Mussels in terms of their invasive nature and their effects on ecosystems.

To view the water level graph, go to:

http://www.wateroffice.ec.gc.ca/graph/graph_e.html?stn=02EA020&prm1

At the dam, you can view the water levels on measuring rods on both the upstream and downstream sides. The correlation with the rule curve is exact, with the summer water level plan to maintain at 329.45 (metres above sea level – or Canadian Geodetic Datum).

MNR has issued and utilizes a standardized curve to manage the water level (attached);



b. Bernard Creek Clearing

To manage lake levels to that prescribed by the MNR rule curve, Bernard Creek needs to be able to flow without serious obstructions. Beaver dams and debris slow the flow. Many of the dams are created on private land which means the municipality cannot trespass without the landowner's

authority to remove the obstruction. Removing these obstructions in the late fall should help somewhat as it is difficult and dangerous to remove these obstructions during high water in spring. 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 as has been the recent practise of the LBPOA.

c. The Fishery

MNR states that "The cold water fish community of the lake is dominated by whitefish and lake trout. Lake trout were stocked regularly until 1996. Stocking was suspended to allow the naturally reproduced component of the population to achieve its full potential. The lack of stocking has been unpopular with anglers and the local business community. The cold water community also supports burbot, a remnant population of native brook trout, a naturalized population of rainbow trout and introduced rainbow smelt, an invasive species. The warm water community is dominated by introduced smallmouth bass and rock bass as well as yellow perch and white sucker.

Numerous projects have been conducted on the lake focusing primarily on lake trout including stocking, population assessments, creel surveys, spawning observations, spawning habitat improvement and water quality monitoring. A creel survey was conducted during the winter of 2011, similar to ones conducted in 1993 and 2001. The purpose was to collect standard information on angling effort, catch, harvest and angler demographics applicable to long-term monitoring of the fishery."[5]

Stocking: MNR adds "The concern is that stocking of lake trout may impact the reproducing component of the population. Possible mechanisms are direct competition and predation, loss of genetic fitness and increased exploitation due to attracting fishing pressure (overfishing). The observation in the creel survey that the reproducing component of the population seems to have increased since stocking ceased appears to support this. There are other lakes where stocking impacts have been seen as well. "

Rainbow of Destruction: Rainbow smelt are skinny, silvery fish that measure up to 20cm long. Despite their small size they are predators, eating any smaller fish they can catch. These barracuda-like predators can literally form a "wall" of predators, devouring all small fish they encounter, including young trout.

Found along the eastern seaboard of the USA, they have been introduced into many lakes by anglers who use them for bait. You can help keep Lake Bernard healthy by NEVER using live baitfish and reporting anyone using live baitfish to the township or to the MNR at 1-888-MNR-TIPS (8477).

Rainbow Smelt Material from: The Raven at, http://www.algonquinpark.on.ca

Winter Fishing Summary (MNR - 2011); "Total winter fishing effort on Lake Bernard has been relatively stable since at least 1993. The fishery has shifted to targeting more on whitefish and less on lake trout as the abundance of stocked lake trout has declined. As stocked lake trout abundance declined, the harvest of naturally reproduced lake trout has increased, though not in direct proportion. The harvest of whitefish has increased substantially through a combination of higher targeted effort and increased

[5] Results of the Winter Creel Survey Conducted on Bernard Lake in 2011, by Stephen Scholten, MNR

catch rate. The total number of whitefish and trout harvested and the proportion of parties that were successful at harvesting at least one trout or whitefish are higher now than when stocked lake trout were common in the fishery. Supplemental stocking of lake trout for the purpose of increasing the lake trout fishery does not appear to be advisable. The recruitment of whitefish may be at risk from high abundance of smelt; though there is no evidence of an impact to date. Monitoring of whitefish recruitment should be done and consideration given to stocking of a smelt predator to control smelt abundance if an impact is detected."

d. Safety

Safety on the lake is a concern to many people who use it. The LBPOA along with the Township of Strong have been ensuring that bright orange markers or buoys properly mark shoals and deadheads under the water since 2005. Swimming safety is up to the discretion of individuals using the lake. Public swimming areas, which are no longer tested by the Ministry of Health, were tested by the LBPOA for E. coli twice a year to make sure it was safe to swim. In 2013, the Township of Strong will be taking on this responsibility from the LBPOA and will be posting the water quality information on their website.

5. Conservation Guide Action Items

We believe that the science is clear. Each of us needs to do his or her part to maintain the quality of the lifestyle enjoyed on our lake. The following issues, listed in order of importance, are those that will have the most impact;

1. **Issue - <u>Septic Systems</u> (on-site wastewater treatment systems)**

Background – phosphorous loading is the single largest issue affecting the water quality of Lake Bernard. All septic systems contribute phosphorous to the lake, although the rate of adoption varies depending on terrain and vegetation between the septic and the lake.

Action – The LBPOA provided dye strips at its 2012 Annual General Meeting to all lake property owners present to voluntarily test their on-site treatment systems. Individual remedial action was recommended as determined by the results of the voluntary testing. This program should be repeated every second year with the next one being in 2014. Consideration will be given to distributing the dye strips to all lake property owners with a method yet to be determined.

All property owners with septic systems are encouraged to have their systems pumped out every 3-5 years both to protect their investment as well as to insure its optimal operating performance. The Committee endorses the potential future action by the Provincial Government to mandate 5 year re-inspections of septic systems which has already been legislated through the Building Code in specific areas of Ontario including the watersheds of Lake Simcoe and South Lake Nipissing.

Reference Material: FOCA – Hot Topics at http://www.foca.on.ca/septics

2. **Issue – <u>Shoreline Buffer Zone Management</u>**

Background - There are many nasty things waiting to catch a lift down to the lake with the rain runoff. These include seepage from septic tanks, fertilizers and pesticides, deposits from family pets, and oil or gas spilled on the driveway.

For many cottagers and other waterfront residents, our quiet spot by the lake is a little bit of paradise where we can relax, play, and enjoy being closer to nature. But it is a special place for another reason too. The zone where the water meets the land, also known as the "ribbon of life", is one the most important for the fishery and for nourishing the lake with oxygen. The waterfront is crucial to a lake's health, providing food, cover and a barrier to contaminants, as well as a living retaining wall for the shoreline.

Action –Through education, increase individual knowledge of the significant value of leaving 75% of the shoreline and the buffer zone (2m to 5m setback from the shoreline) in a natural state. Trees with deep roots are much better in absorbing nutrients than shallow grass or rocks. They also provide a treasure trove of natural attributes for wildlife! Material from FOCA was provided at the Annual Meeting in July. At this time, the Committee does not endorse the need for a municipal by-law to restrict buffer zone land use as has been done in other Municipalities but would encourage the distribution of relevant material through the Municipalities in the future.

Reference Material:

http://www.dfo-mpo.gc.ca/regions/central/pub/shore-rivages-on/pdf/shore-rivages-on_e.pdf, http://muskoka.fileprosite.com/content/pdfstorage/242E1CAE790B44909DA3DE98C8D79462-ShorelineVegetationBuffers.pdf, http://www.severnsound.ca/ssea_NatShore.htm

3. **Issue – <u>Land Use Planning</u>**

Background – Over the years, Municipal by-laws have often reflected the desires of the residents to develop close to the lake, balanced with acknowledgement of any environmental issues and this has led to a compromise position. Lake Bernard is classified as a "Lake Trout Lake" by MNR due to its natural attributes (deep and cold). These attributes allow one of the most finicky and water quality sensitive fish, the Lake Trout, to live and reproduce naturally. "At capacity" MNR guidelines, which essentially means that human use around the lake is deemed to be at or near its peak, have evolved after many years of research.

Action - Support and promote the MNR "At Capacity" guidelines with Municipal Official Plans, Zoning By-Laws and with the North Bay-Mattawa Conservation Authority. The Committee endorses a change to the Official Plans and Zoning By-Laws of both the Township of Strong and the Village of Sundridge to maintain a 30 metre setback for all potential new building on lake front property.

Reference Material: http://www.lakeland.greenup.on.ca/documents/P_Walsh_LLConf.pdf & http://www.muskokaheritage.org/watershed/MSC.asp

4. Issue – Fertilizers and Pesticides

Background - Lawn and garden fertilizers may contribute phosphorous to the lake. Even products that claim that they are phosphorous free contain nitrogen which is also a problem. There is a need to educate people on the negative effects of growing and maintaining trimmed lawn right to the Lake's edge including not to use fertilizers of any kind within 30 metres of the lake due to runoff and effect on water quality.

Action – Implement an educational plan to eliminate use of fertilizers, pesticides and herbicides within 30 metres of the shoreline. At this time, the Committee does not recommend the need for a new by-law from the Municipalities similar to what has already been instituted in other jurisdictions in Ontario.

Reference Material:
www.kearneywatershed.ca, www.livingbywater.ca, www.shorelines.lrconline.com,

5. Issue – Wastewater Management

Background - Storm water is rain, melted snow or any other form of precipitation that has come into contact with the ground or any other surface. This water seeps into the ground, is absorbed by vegetation, evaporates or runs off the land into storm sewers, streams and lakes.

Wash water from commercial activity, businesses and the road network is currently designed to go directly into the lake untreated through the storm sewer system in Sundridge. People camping around the lake and some property owners dump their grey water on the ground, which is typically sandy and not far from the lake. When it rains, this water likely enters the lake without much in the way of natural filtration.

The Village of Sundridge storm sewers have catch basins along Main Street near the waters edge, but from these basins the storm sewers flow directly into the lake. Catch basins are designed to reduce the flow of run-off and capture floating debris so that floating sediment isn't deposited directly into the lake. This, however, does not capture contaminants dissolved in the runoff nor small solid sediment. Similarly, in Strong Township, ditching along the roads has been carried out to protect the road bed and, in certain places, the ditches extend directly to the lake edge with the same detrimental effect with sediment flowing into the lake.

Action - Implement educational awareness with the Municipalities to reduce sediment entering the lake where possible. MOE representatives are subject matter experts on this issue and have material that presents best practices which include consideration for economic issues.

Reference Material:
http://www.ene.gov.on.ca/environment/en/subject/stormwater_management/index.htm,
http://www.ene.gov.on.ca/environment/en/subject/stormwater_management/STDPROD_076045.html

6. **Issue – <u>Water Quality Testing</u>**

Background – For many years, the Lake Bernard Property Owners' Association (LBPOA) have tested the water on the lake through volunteers at many different locations. Particular emphasis is made at public beaches and known areas of sensitivity such as Joly Creek. This has allowed us to track the changes over the years in water quality; particularly E. coli and coliform changes. MNR and MOE have completed more detailed testing, however, not on an annual basis.

Action - LBPOA to maintain current water quality testing program (2 lake tests a summer by our Lake Steward) with the Municipalities financial support and MOE to reflect historical changes. Initiate a 3-year program with MNR and MOE for further enhanced water quality and clarity tests. Maintain the Lake Partner Program with MOE testing for changes in Total Phosphorous (TP).

7. **Issue – <u>Commercial and Industrial Activity</u>**

Background – Sustainable development is a key phrase used to identify the need and desire for economic, business or residential development in conjunction with environmental awareness and protection. Commercial activity can dramatically affect water quality due to large volumes of material not typically found in the same scale in a residential zone. The railway would be a good example of a commercial activity that could have a dramatic effect on the lake, if an accident were to occur. MOE is responsible for the rules that commercial activity is guided by but there are many instances where this isn't enough.

Action - Build environmental awareness with local business. Adopt best management practices where available to have the foresight to manage the unexpected. The LBPOA will dialogue with the Municipalities to adopt Best Practices on Sustainable Development for all future commercial development applications.

8. **Issue – <u>Landfill Management</u>**

Background – Strong Township has two landfill sites in the Municipality that are in the Lake Bernard watershed. Steps to reduce, recycle and reuse have reduced the amount of waste that goes into the landfill which the Committee endorses. This, however, does not necessarily stop the hazardous material that may enter the landfill and potentially, the source water system. The north end landfill is 900 metres from Joly Creek.

Action – The management of the landfill falls under the jurisdiction of the MOE. The site has wells drilled throughout the property to measure water quality. The Committee supports the continued long term measurement through the Ministry of Environment (MOE) of potential contaminants. In addition, the LBPOA is suggested to develop a program with MOE to measure ground water quality in Joly Creek, upstream and downstream, on a 3 year basis.

Environmental stewardship and sustainable development can be related and supported components of our journey to achieve our Vision. It is not a race and the pace of positive and effective change can be slow. The LBPOA and the Steering Committee look forward to interacting with the responsible Provincial Ministries and the community at large, to engage in activities that will allow us to achieve our Vision while supporting sustainable development.

We can leave a lasting legacy for generations to come.

Appendix A – The Lake Bernard Watershed

a. The Area and its Characteristics

Lake Bernard's watershed is fairly small with Lake Bernard being at the top of the Magnetawan River watershed. Unlike many lakes, for example Ahmic Lake or Doe Lake, Lake Bernard is not downstream of any major lakes. Because of its relatively large size with respect to its own watershed area, and its location at the top of the Magnetawan River system, many of the factors that other lakes have to deal with are not problems here. 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 23.0 km, a surface area of 20.5 km^2 (2050 hectares) and the watershed is 79.9 km^2 (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 while the depths remain relatively cold. A map of the watershed can be seen in appendix B.

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 and businesses are located around the lake. Strong Township comprises the bulk of the watershed. It has a population of about 1,300 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 about 1,000 people. It has many businesses including manufacturing, retail and services.

Much of the area was lumbered 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 available.

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. 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 within 900 metres of Strong Township's Landfill #1; however the bedrock flows towards the Southeast. 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. Groundwater enters the lake at many locations and contributes significantly to the water supply to the lake. If the nearby Kearney Watershed Study (conducted from 2002-2004 by *Gartner Lee*) is a good indication, groundwater easily enters lake waters. The geology and soil composition of Kearney and the Lake Bernard watershed are very similar.

Storm runoff water from Sundridge enters the lake directly through a storm water infrastructure. Water from commercial / industrial uses enters the lake untreated if it goes into the storm sewer system. Residential sewage generated in Sundridge is pumped through a long force main pipe (10 inch) to lagoons adjacent to Bernard Creek, a short distance downstream of the outflow control dam. Bernard Creek flows into Stirling Creek, and then into the Magnetawan River, which flows through Lake Cecebe, Ahmic Lake, Wahwashkesh Lake and into Georgian Bay at Byng Inlet. The Sundridge force main sewage pipe has failed at least once in recent years leaking into Lake Bernard until emergency repairs were made. When the sewage lagoons are flushed in the spring and fall the effluent is discharged into Bernard Creek downstream of the dam and not into Lake Bernard as the Dam under High Rock Drive stops this reverse flow from occurring. If the force main pump fails in Sundridge (electrical or mechanical failure), untreated residential sewage can enter the by-pass sewer system and flows into Lake Bernard either untreated or treated with chlorine.

There is no central sewage system in Strong or Joly Townships. A continually upgraded system of culverts in Strong allows surface waters to flow under existing roads and into Lake Bernard. Waste water from residences in Strong and Joly Townships enter septic systems for the most part, but some systems allow grey water from laundry areas and sinks to be discharged elsewhere. Discharged effluent from septic filter beds enters the groundwater system at various speeds. Grey water is regularly discharged into dry wells or in the case of the south end campground, into shallow holes in the ground. If the Kearney Watershed Study is a good indication, there may be some septics in the Lake Bernard 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 Lake Bernard shoreline. It is entirely in the Lake Bernard watershed and 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 Conservation Guide Purposes

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

- Surface area of the lake & 30 m of the shoreline

- Land area within 300 m of the shoreline (300 m is based on practice and MNR guidelines)

- Land 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.

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 even though 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.

Appendix C – Community opinion survey - 2011

Survey

Lake Bernard

Community input for the development of a "Conservation Guide"

Background: *A "Conservation Guide" 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 Conservation Guide 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 at the (check any that might apply):

North end _____ 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 (Sea doo, 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? _____

Appendix D – Parallels with Ontario Drinking Water Source Protection Program

a. Background

Following the tragedy in Walkerton in 2000, when the municipal drinking water supply was contaminated resulting in seven deaths and thousands of sick people, the Province of Ontario passed Clean Water Act legislation and set up a program to protect municipal drinking water sources in and adjacent to Conservation Authority jurisdictions. Lake Bernard, the Village of Sundridge and most of the Township of Strong are not being examined under this program, although the South River watershed to the north, which contains a small area in the northeast corner of Strong Township, is being studied by the North Bay-Mattawa Source Protection Committee.

b. Water Quality Threats

The provincial Source Water Protection Program examines municipal drinking water sources only; however, the following water quality threat categories that they identify and examine for drinking water sources are applicable to general water quality concerns, including lakes and rivers.

- Waste disposal and landfill sites
- Sewage collection, storage and treatment systems, including septic systems and storm water runoff facilities
- Storage and land application of agricultural source material (manure, etc.)
- Use of land for grazing and pasturing of livestock
- Storage and application of fertilizers
- Storage and application of pesticides
- Storage, handling and application of road salt
- Storage of snow removed from roads and parking lots
- Handling and storage of fuel
- Handling and storage of dense, non-aqueous liquids
- Handling and storage of organic solvents.

Most all of these activities take place to some degree or another in the Lake Bernard watershed, although a few do not. Nevertheless, this is an excellent list of potential threats to Lake Bernard water quality which can be examined in a Conservation Guide.

Appendix E – 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”.

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

In September, 2012, the LBPOA submitted a proposal to the Cottage Life Environmental Grant (http://cottagelife.com/the-cottage-life-environment-grant) in the amount of $5,000. We are anxiously awaiting the outcome which may happen around press time of the Conservation Guide. The proposal was to fund the printing of the Conservation Guide, for potential lit Bulletin Boards around the lake and for some Lake Bernard swag to hand out at the AGM.

b. Opportunities for internal funding

The Lake Bernard Property Owners’ Association 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 Conservation Guide, this may lead to a diminished pool of assets or higher annual fees for members.

Appendix F – Future Planning

a. Official Plans & Strategic Plans

Local land use planning policies as set out in municipal Official Plans provide the direction and vision for new development and redevelopment on Lake Bernard. Components of the Conservation Guide should be incorporated in Official Plans and updates

The LBPOA should work with Strong & Joly Township along with the Village of Sundridge to update the Comprehensive Zoning By-law in order to implement the policies set out in an Official Plan Amendment. This can be done concurrently with the Official Plan Amendment or can be initiated once the Official Plan Amendment is adopted by Council. To accomplish this, the LBPOA needs an understanding of the current Zoning By-law in order to identify areas that are of concern to them and to ensure that the required amendments to the Zoning By-law are made to implement the Official Plan Amendment.

b. Water Supply and Wastewater Treatment

The dependency and vulnerability of groundwater in the Village of Sundridge and adjacent shoreline, and its intimate association with surface water means that the Village of Sundridge and the Township of Strong should ensure that aquifer protection is addressed in all land use decisions.

The sensitivity of the ground and surface waters in Sundridge, the density of development in the town centre and the potential for resort and other development in the future suggest that, at some point, communal water treatment and upgrading of the lagoon-based wastewater treatment system may be required. The Village of Sundridge should undertake a proactive assessment of communal water treatment and wastewater treatment upgrades prior to making commitments to growth in its population, resort and other community development.

The Sundridge Wastewater Treatment Facility Upgrade was announced in February 2009 with a total project estimate of just under $7 Million. The expected outcome was improved facility reliability, allowance for future growth and improvements to surface water quality in Lake Bernard. Sundridge attempted to power the lagoons with solar or wind energy but this was not feasible at the time.

Appendix G – Potential Action Items

There are a variety of projects that can be undertaken to increase awareness, education and stewardship of Lake Bernard's resources and features. Success of the Lake Bernard Conservation Guide depends on the participation and interest of residents and a Stewardship Plan is intended to encourage individual residents to take an active role in preserving and enhancing the Lake Bernard experience. The following are some suggested projects that could be undertaken by the LBPOA with support, where applicable, from municipalities:

- **Communication Program:** - The development of a program to promote communication amongst all stakeholders on Lake Bernard. Communication is the best way to educate people about the impacts that development and human activity can have on their lake

environment. Such communication should utilize a variety of techniques such as designing and implementing an Association website, mail outs of pamphlets and newsletters, workshops for stakeholders, community maps and signage. This communication should build upon the commitment of the residents to the lake and be a blend of educational and social material.

- **Shoreline Re-vegetation:** Lakeshore residents should be encouraged to re-naturalize their shoreline properties where possible. To be successful, it is paramount that the residents understand the impact that artificial shorelines (i.e., lawns, retaining walls, etc.) have on the lake environment. The Association should ensure that sufficient information is available on shoreline protection and organize specific projects to re-naturalize shorelines that have been altered. Strong Township and Sundridge should be invited to participate in such projects, particularly involving the properties that they own.

- **Stewardship Awards:** The establishment of an awards program to recognize "good stewards" of the land. This could include the establishment of different categories of stewardship such as natural stewardship, volunteer, architecture, etc. or an overall recipient. Criteria for the award(s) would be established and published on the website or in a newsletter with a request for nominations. A committee would review and the award would be presented at the AGM.

- **Wildlife Inventory:** There are numerous volunteer wildlife inventory programs that the Association could participate in such as Canadian Lakes Loon Survey, Frog Watch, Breeding Bird Survey, etc. Many of these do not require a significant time commitment or expertise but provide critical information to these programs. The Association already is involved in the Loon Survey and this should be continued.

- **Lake Code of Conduct:** To assist residents in understanding the impact that their actions may have on others enjoyment of their time at Lake Bernard, a "code of conduct" could be prepared. The "code of conduct" would be voluntary but would hopefully help to educate residents on the various impacts that certain actions may have.

- **Emergency contact listing**: Municipalities and the LBPOA could provide regular contacts listings 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, Conservation Guide, 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 real estate offices.

- **Healthy Lake List**: Make-up a list of activities that people could 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 it 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 very attractive metal 'welcome to our lake' signs that were posted at every water access point on to the lake. In 2003 the signs cost about $100.00 each. A contrary view is that lake access points can become heavily populated with signs of all sorts and subject to "sign pollution"! A collation of sign information in one tasteful package and location should be explored.

- **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. It could be installed by the Association or Municipal representatives during summer months beside the south end and north end public beach boat ramps.

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

Appendix H – Conservation Guide as a Process

a. The Conservation Guide Steering Committee

The steering committee comprised of the following;

LBPOA	Jocelyn Palm & Jim Wright (President) - Steering Committee Chairs	
	Doug Cuthbert (Past President), Bob Renaud & David Gray-Donald (David is no longer on the Committee. We thank him for his excellent contributions.)	
Contributions From:	Township of Strong	Chris Ellis – Mayor
	Village of Sundridge	Elgin Schneider - Mayor
	Township of Joly	Mario Campese - Mayor

b. Enacting the Plan

Conservation Guides are seldom legal documents. Sometimes, a side-effect of a Conservation Guide 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 Conservation Guide.

Conservation Guides often help guide municipalities in future planning considerations and by-law amendments. In many cases, it is a document that is referenced, but is not legally binding.

Many parts of a Conservation Guide 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 become involved in legal affairs.

Around Lake Bernard there are many people who are excited about the prospect of a Conservation Guide 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. Current and Recent Discussions / Concerns

i. Formal Discussions

Until the summer of 2011, the main forum for discussions about the lake was the Annual General Meeting (AGM) of the Lake Bernard Property Owners' Association (LBPOA). The directors of the LBPOA also meet twice a year (in summer) to discuss issues around the lake. Concerns of individuals are often addressed to the directors at an AGM. Other owners would often contact just one of the directors, depending on the issue and their comfort level with the individuals. For issues such as lake level and fish populations, it has not been uncommon for property owners to contact MNR staff directly.

In 2010 and 2011, the idea of a Conservation Guide was brought forward with increased enthusiasm. An ad hoc planning committee met once in 2010 and several times over the summer of 2011 to have discussions on context and process. It was agreed that the townships in the Lake Bernard watershed should be involved in the 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 Conservation Guide could be presented to the community. It was deemed that during the process of planning, opinions from community members must be gathered to help guide the creation of the vision and a list of priorities.

The 2011 AGM of the LBPOA was a venue for discussion. Topics included lake levels, septic systems, phosphorous and shoreline damage suffered by several property owners during the spring break-up of lake ice. A presentation was made on lake planning where the issues of phosphorous and septic systems were raised. Announced at the AGM was a "Lake Visioning Workshop" the following Sunday.

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

The session was not able to draw out a lot of ideas about how to ensure that 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 the 4-lane relocation of Highway 11 in 2012.

ii. Formal Survey

The Workshop saw the introduction of a survey into the community. The survey was 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 were submitted by 60 people and an excel file was created to enter responses for analysis. The survey was distributed further to reach more community members.

iii. Informal Discussions

Informal discussions happen around the lake all the time, the proverbial dockside chats. 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 was that there is a lot of talk, but no action will come out of it for several years and momentum will be lost by then.

iv. Central Almaguin Economic Development Association (CAEDA)

Some extensive work has been done regarding the future of the area with the movement of Highway 11 away from urban centers of Central Almaguin. There are two full reports of relevance. On June 8, 2009, a *Central Almaguin Economic Base Review* was released by EDP Consulting in association with Precision Management. 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.

http://www.southriverontario.com/Economic_Base_Analysis_for_Central_Almaguin.pdf

In July 2009, the *Strategic Plan for Central Almaguin 2009: Discover the Good Life*, was released by Precision Management

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 minutes of CAEDA June 10, 2011, meeting indicate a desire for highway signage to include the name “Central Almaguin Tourist Area”.

http://www.southriverontario.com/Strategic_Plan_Central_Almaguin_2009_-_PUBLIC_DRAFT.pdf

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 concerns that the town hall meetings used to gather opinions from the community were not well publicized and discussions were often exclusive.

v. The Incomplete Picture

Many property and business owners in the Lake Bernard watershed have not been consulted as to what about the lake is important to them. Some have a certain amount of apathy. With a large geographic area and a population that is very diverse, it is a difficult task to collect input from everyone. 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.

d. 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 systems, how much re-naturalization of shoreline has occurred, how much educational material has been distributed.

e. Updating the plan

No plans are perfect, circumstances change, and some actions become obsolete. To remain effective, plans must be regularly reviewed and updated.

Conservation Guide Report Card

In an effort to report to the stakeholders on a regular basis, a report card will be used to track changes to significant issues. An example is displayed:

Issue	Date	Initiative	Status	Comment
Septic Systems	July 2012	Distribute dye test to voluntarily test septic systems.	Individual remediation, as required	Propose to do same in 2013
Buffer Zone		Get buy in for a No-Mow Zone		No-Mow Zone and discuss merit of native plants in buffer zone.
Land Use Planning	August 2012	Input to the Strong Township Official Plan to maintain a 30m setback for all new building around the lake	2nd Draft issued in June 2013. Setbacks have not been changed from 30m and 15m in Type 2 Zones	
Fertilizers & Pesticides	August 2012	Discussion at High Rock and at AGM on the benefits of non use	No status	
Waste Water Management	Spring 2013	Plan to discuss MOE documentation with Sundridge Council		
Water Quality Measurement	Summer 2012/13	Strong has assumed responsibility for water quality tests with assistance from the LBPOA.	Test results will be posted on the Strong website.	

Issue	Date	Initiative	Status	Comment
Commercial Activity				Review potential threats to water quality
Landfill Management				Get report from MOE Consultant
Water Level	Fall 2012	New contact at MNR		Set up meeting in Summer 2013
Fishery	Summer 2013	Invite Steve Scholten to 2014 AGM to discuss MNR future plans		
Invasive Species	Fall 2012	Asked Ulrike Hastings to do some research		