

July 2005



# Bella-Rebecca Lakes Stewardship Initiative Summary

## Introduction

The purpose of the Bella-Rebecca Lakes Stewardship Initiative is to recognize and protect the unique character of our lakes, to develop specific objectives for long-term protection and maintenance of the lakes, and identify stewardship and land use actions to protect these values.

The Stewardship Initiative recommends a series of actions that will ensure the long-term sustainability and healthy existence of our lakes for future generations. These actions are designed to address the lake's health, beauty, wildlife habitat, and recreational opportunities, as well as responsible future development.

The intent of the initiative process was to engage the property owners, family and friends in community based discussions to confirm appropriate land use and stewardship actions.

The Bella-Rebecca Lakes Stewardship Initiative is intended to be an on-going living document that will continue to evolve over time as circumstances and issues occur. Periodic updates should occur every 4-5 years, or more frequently if new information becomes available.

The Bella-Rebecca watershed encompasses all upstream streams, lakes and wetlands that flow into our lakes. (See Watershed Map on Page 7).

While background information has been collected



from areas covering a much wider geographic area (including Algonquin Park) for general information purposes and to identify potential impacts on Bella and Rebecca Lakes, the scope of the plan comprises the shoreline community immediately surrounding Bella and Rebecca Lakes.

Some specific recommendations may assist the Township of Lake of Bays in defining appropriate land use policies and tools to protect the special features of the lakes and local community, and ensure that development is sustainable.

Other recommendations will identify stewardship approaches that the whole lake community can initiate and participate in to protect those values that are important to maintaining the high quality of life on the lakes.



*This is a wonderful romantic region, abounding in the most picturesque scenery, to delight the eye of the artist and fill with rapture the soul of the close student of nature"*  
...Forester Sinclair News, Nov. 8, 1901

## How was the Bella-Rebecca Lakes Stewardship Initiative Prepared?

The Bella-Rebecca Lakes Stewardship Initiative was primarily created through the volunteer efforts of more than 70 members of the BRCA for the purpose of education, awareness and stewardship. In July of 2001, the Bella-Rebecca Community Association (BRCA) established a Steering Committee to formulate a Vision for the future of our area. The Vision and the Stewardship Initiative provide a focus for seeking "Quality Living Space" as outlined in the Lake of Bays Township Official Plan.



*"The residents of the Township of Lake of Bays will nurture and sustain clean water, fresh air, natural shorelines, healthy forests and wetlands that will be the pride of the province. We will offer an outstanding combination of economic opportunity, peaceful living and recreation. This is our dream and legacy for our grandchildren's grandchildren."*

*...Lake of Bays Township  
Official Plan*

In mid 2002, the Bella-Rebecca Community Association initiated the process and engaged French Planning Services Inc. to provide technical advice and assistance. Funding was obtained through individual donations, as well as the preparation of a cook book and an art auction. The commitment of the Steering Committee and the devotion of many individual volunteers to the future health of the lakes was the prime driving force for its completion. The intent of the process was to engage shoreline property owners in discussion about the values that support their quality of life, the issues and concerns that impact these values, and to prepare a strategy of actions to protect the elements that support this quality of life. These actions are listed on page 13, 14 and 15.

### Stewardship Initiative Process for Bella and Rebecca Lakes...

- |                                       |   |
|---------------------------------------|---|
| <b>Phase One</b><br>2002 and on-going | <b>Collect Background Information</b> —collect information on the Natural, Physical and Social Elements, and Land Use through workshops, surveys and research                                 |
| <b>Phase Two</b><br>2004              | <b>Identify and Confirm Issues and Actions</b> —discuss, identify and confirm issues relevant to the protection of the health and character of the lakes with lake residents and stakeholders |
| <b>Phase Three</b><br>2005            | <b>Prepare and Review the plan</b> —prepare recommendations and establish actions to be implemented and confirm with steering committee, lake residents and stakeholders                      |
| <b>Phase Four</b>                     | <b>Implement the Actions</b> and periodically, or as new information becomes available, update the data and recommendations (or actions).   |



## Background Information Considered in the Stewardship Initiative

### List of Information Collected

#### Natural Elements

- Water quality
- Wetlands
- Wildlife habitat
- Fish habitat
- Nesting sites
- Streams
- Vegetation
- Invasive Species
- Rare Species and Species at Risk

#### Physical Elements

- Narrow water bodies
- Steep slopes
- Flood prone areas
- Access
- Watershed conditions
- Mineral and aggregate resources
- Forestry

#### Social Elements

- Aesthetics
- Ambience
- Historical development
- Cultural sites
- Recreation
- Boating

#### Land Use

- Official Plans
- Zoning By-laws
- Site Plan Control By-laws
- Crown Land Policy
- Legislation

The collection and analysis of background information was completed by volunteers who live or cottage on Bella and Rebecca Lakes. A list of tasks was compiled and the volunteers undertook the preparation of specific components of the plan. The Steering Committee felt that this was the best way to minimize costs as well as to promote and maintain a high level of expertise on the lake.

Collecting background information helped us to identify important values, development constraints and land use considerations. There were many documents that provided detailed information on the Bella and Rebecca Lakes' area. One which was used frequently as a reference was Natural Heritage Values of the Bella & Rebecca Lakes Planning Area (December 2002), prepared By Dan Mansell and the Sunset Farm Hunt Club, exclusively for the Bella-Rebecca Lakes Stewardship Initiative Steering Committee.

It should be noted that the data and information contained in the report are based on a literature search and that no original fieldwork was undertaken. The information has been predominately collated, not scientifically evaluated except where sufficient information was available and expertise proven.

The BRCA's approach was to focus on the collection of existing information and to identify information gaps and prioritize the collection of new information within the available financial and people resources of the association. The collection of background information came from agencies and sources such as: the District of Muskoka, the Township of Lake of Bays, Ministry of Natural Resources (MNR) Bracebridge Area Office, the Ministry of the Environment (MOE) and Ontario Parks.



## How will the Bella-Rebecca Stewardship Initiative be Accepted?

The Bella-Rebecca Lakes Stewardship Initiative is a powerful stewardship tool. We are looking for acceptance of our plan by the BRCA membership as a guide for future stewardship actions.

Our Stewardship Initiative can also be used as a document to guide future development. The process for having parts of the Stewardship Initiative appended to the Official Plan is expensive and onerous, and therefore could be tackled at a later date if resources became available. For this to occur, we would require the approval of the broad majority of property owners.

## Summary of Consultation

The process of preparing the plan was as important as the product and, therefore, it was extremely important that ample opportunity be given to engage residential and commercial property owners as well as provincial officials and municipal councillors and staff. As a result this process was conducted over a three year period.

**Contact with Agencies to collect existing Information**—During Phase One members of the Planning Committee contacted agencies, collected information and prepared summaries of their findings. All agencies were supportive of the process including: the Township of Lake of Bays, District of Muskoka, MNR Bracebridge Area Office, Ministry of the Environment and Ontario Parks.

The collection of new information focused on obtaining the opinions and comments of permanent and seasonal lake residents.



**Resident Workshop 2002—Identify Values and Issues** — All residents were invited to a meeting held on August 10<sup>th</sup>, 2002 at the Billie Bear Lakeside Community Club. The purpose of the workshop was to gather thoughts and ideas about the planning process, discuss values and concerns, identify sources of information, and determine the level of interest in participating in the preparation of the plan. 48 people attended.

**Resident Workshop 2004—Seeking Solutions** — A second Resident’s Workshop was held on August 8<sup>th</sup>, 2004 at the Billie Bear Lakeside Community Club and 50 people attended. The purpose of the workshop was to confirm observations and recommenda-

tions that were identified from the collection of background information and to confirm actions and next steps.

**Residential and Commercial Surveys** — A survey was sent to every shoreline resident, and the Billie Bear Lakeside Community Club, during the summer of 2002. The purpose of the survey was to identify people’s ideas perspectives, issues, concerns and aspirations for the lake.

The survey obtained information on property size, buildings, features and use, resident occupancy, activities, observations, perceptions, and concerns. In total 221 surveys were distributed: 187 printed surveys and 7 were downloaded from the internet for a total of 194. There were 239 responses received. In a number of cases more than one person responded per survey which accounts for the total number of surveys being higher than the 194 returned. Billie Bear Lakeside Community Club located on Bella Lake is the only commercial operation on the two lakes and is represented by 24 individual members who were included in the total number of surveys distributed.

The 2002 survey asked residents to indicate what contributes to their high quality of life on Bella and Rebecca Lake and the following chart highlights their responses.

Lake Values	% of Respondents who rated as Important or Somewhat Important
Natural Vistas, Landscapes and Shorelines	100%
Diverse Natural Environment and Wildlife	100%
Pristine Water Quality	99.6%
Tranquil Ambience	99.6%
Personal Property Development that respects the Lakes	94.9%
Historic and Cultural Features	87.1%
Appreciating Property Value	82.5%
Social and Recreational Activities	81%
Economic Development that respects the Lakes	72.9%

## Our Vision for Bella and Rebecca Lakes

A vision statement provides guidance for what the lake should be and look like in the future and describes a common objective that is important to all community members. The following Vision Statement reflects the values that are shared by all people living on or near Bella and Rebecca Lakes.

Our vision for the future of our lakes is...  
  
"A place where water quality, wildlife habitat, natural beauty, recreational opportunities, and peace and tranquility are maintained and improved for present and future generations to enjoy".

The following principles and targets were established by the Bella-Rebecca Lakes Stewardship Initiative Committee, to provide a focal point and a method for measuring their efforts in the preparation and implementation of the plan and the protection of these features.

### Principles

### Targets

**Protect Lake Character**  
The natural, social and historic character of the lake must be protected, enhanced and rehabilitated.

**Balanced Approach**  
The plan will focus on end results and balance a range of means to achieve those results such as communication, education and regulation.

**Educate and Communicate**  
Implementation will favour education, communication and voluntary compliance over legislative and regulatory constraints.

**Water Quality**

*Strive to rehabilitate the water quality of both Bella and Rebecca Lakes to pristine levels.*

**Fish & Wildlife**

*Support a sustainable fish population including optimal habitat for naturally reproducing lake trout and small mouth bass, and maintain stability in the biodiversity of wildlife species and their habitat.*

**Shorelines**

*The protection and rehabilitation of the shoreline (littoral, riparian and upland areas) should be promoted to increase the amount of natural shoreline.*

**Trees & Vistas**

*The natural vista should be maintained. Buildings and structures should have a minimal impact on the natural appearance of the shoreline and the landscape.*

**Development**

*A cooperative working relationship has to be fostered between all community members to ensure that new development respects the environment and character of the lakes, as well as maintains property values.*

**Character**

*The historical, cultural, natural and recreational character of the lake is to be recognized, protected and restored, where appropriate. Future development must complement and be compatible with the historical, cultural and natural character of the lake.*

**Social Life**

*A range of social and recreational activities should be promoted that is consistent with the natural character of the lakes, preserves the health and ambience of the lakes, as well as fosters a sense of community.*



## Special Characteristics of the Bella and Rebecca Lakes' Watershed

Bella and Rebecca Lakes are headwater lakes on the Muskoka River System, found on the Canadian Shield. The Bella and Rebecca Lakes' planning area is in the extreme northeastern portion of the District of Muskoka and is entirely contained within Sinclair Ward of the Township of Lake of Bays.

### Lake Description

	Bella	Rebecca
Length	3.3 km	3.9 km
Surface Area	327.9 ha	210.5 ha
Max. Depth	37 m	27.4 m
Perimeter	14.7 km	14.1 km
Drainage Area	1748.1 ha	3666 ha

Bella and Rebecca Lakes are two distinct lakes separated by a small causeway and joined by a navigable channel that permits the passage of boats. Combined, the lakes have a total surface area of 538.4 hectares. Bella lake has a maximum depth of 37 metres (121 ft) and Rebecca has a maximum depth of 27.4 metres (90 ft). In terms of surface area, Bella Lake is about 1.5 times larger than Rebecca Lake (See p.8 for Bathymetry Map).

### Land Use

Land along the shoreline of Bella and Rebecca Lakes is predominantly privately owned. One of our assets is the Mabel Hart Brook & Marion Hill Memorial Foundation, which controls a conservation area with 3100 ft of beach and 520 acres of forest. There are two Crown land parcels on Rebecca Lake (Hutcheson Bay and near Brook's Mill where the dump is located) and Bella has one crown land parcel along the southern shore of the

Waterfront Properties	Bella	Rebecca	Total	% of Total Shoreline
Residential	79	78	157	56%
Vacant	20	26	46	19%
Managed Forest	3	3	6	16%
Billie Bear	1	0	1	1%
Crown	1	2	3	3%
Municipal	1	1	2	1%
Foundation	1	0	1	4%



main body of the lake.

The primary land use on Bella and Rebecca Lakes is waterfront residential, which occupies 56% of the total shoreline length. Only one resort commercial operation, Billie Bear Lakeside Community Club, exists. Both lakes have been designated as lake trout lakes "at capacity" and therefore, further lot creation is currently restricted.

The only access to the lakes is from Highway 60 and District Road #8 through municipally maintained roads to various points along the lakes. In the winter, snow machines gain access to both lakes by the above routes as well as from the major snowmobile routes north and east of Bella Lake. Bella Lake is a recognized Float Plane landing site, and float planes land on both lakes from time to time. Water access is available at Billie Bear Lakeside Community Club. Water access is not considered appropriate at the causeway on Fieldale Road because it is a sensitive fish area, and because road accessibility at that point is dangerous.

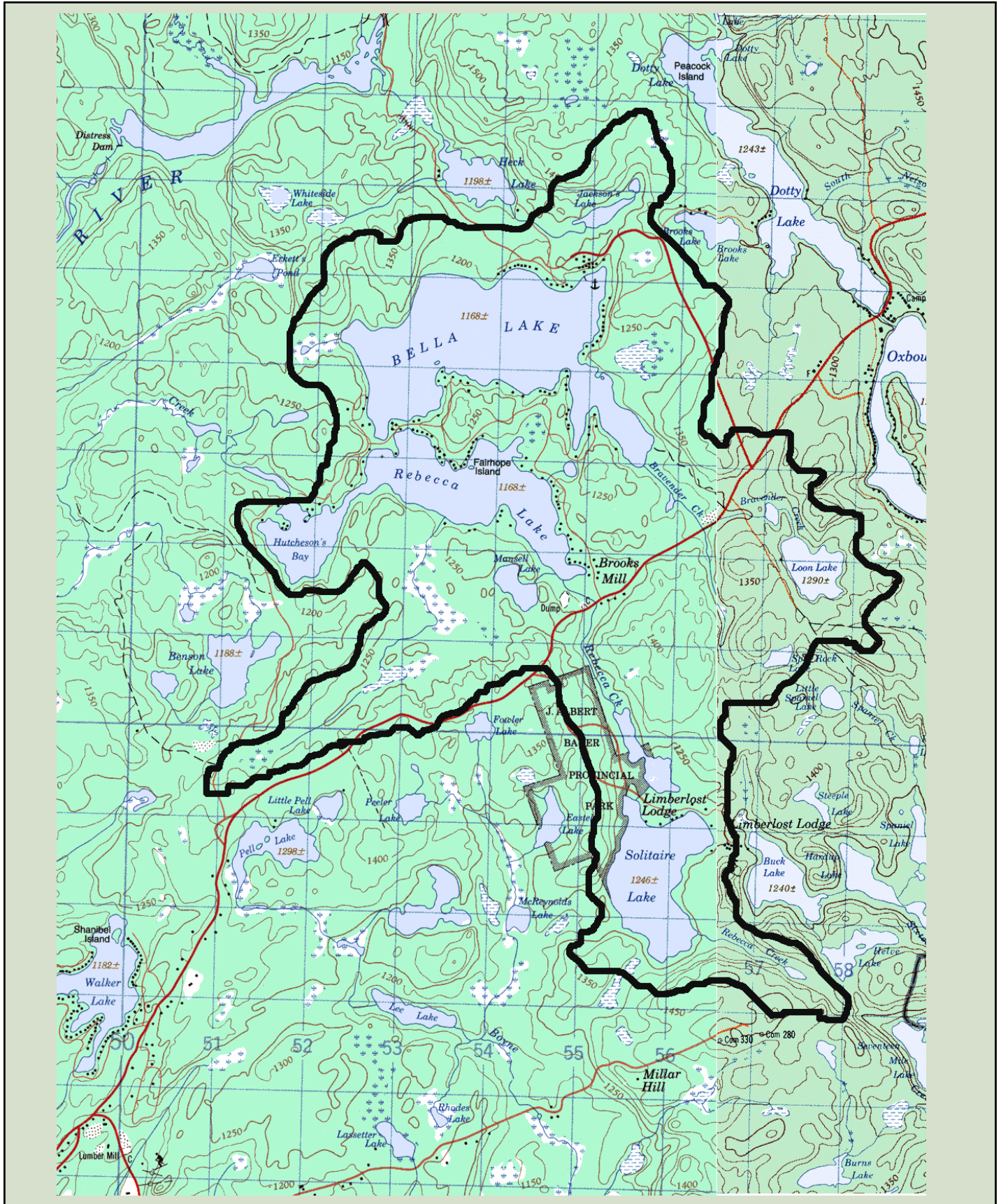
### Watershed and Water Level

The drainage basin is approximately 5,414 ha (9484 acres) that comprises a small area around the lakes and includes a few small, relatively undeveloped lakes and wetlands. Twelve small streams flow into our lakes from a number of small surrounding lakes and wetlands, and the outflow is through Rebecca Creek, which flows west from the north end of Hutcheson Bay (in Rebecca Lake) to the Big East River. From Rebecca Creek water exits our lakes to the Big East River, Lake Vernon, Fairy Lake, Mary Lake, the North Branch of the Muskoka River, and Lake Muskoka eventually reaching Georgian Bay via the Muskoka River.

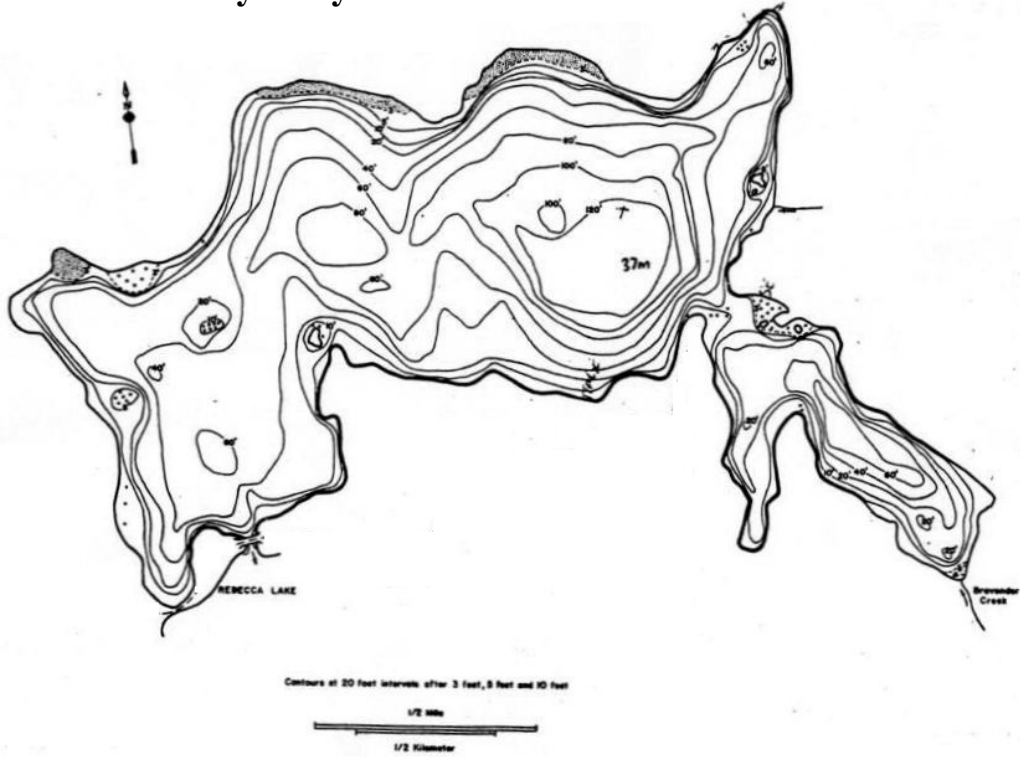
Bella Lake receives water from Jackson's Lake to the north and Loon Lake to the south through Bravender Creek. Rebecca Lake receives water from Bella Lake to the north, Pitcher Plant Lake to the east, three lakes to the south (Solitaire, Turtle and Clear Lakes) and Mansell Lake to the southwest.

The water level of Bella and Rebecca Lakes is unregulated and there are no dams or other water control structures. Any variation of water levels is due to climate or other natural variations.

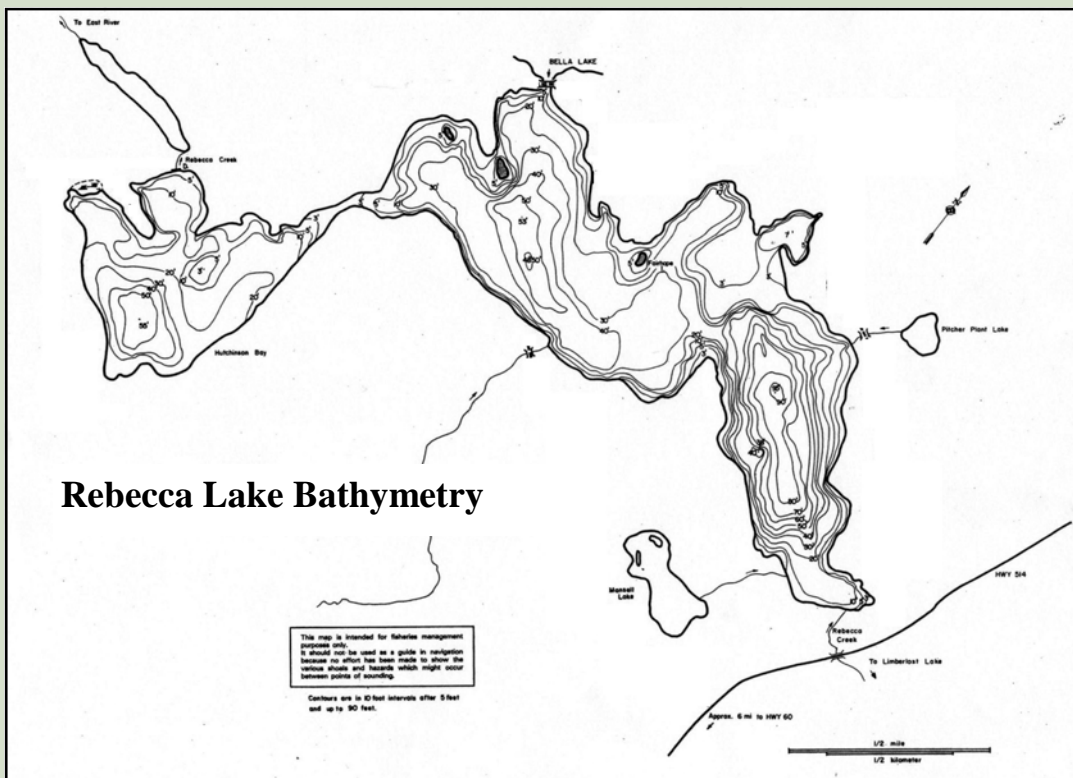
# Bella and Rebecca Lakes' Watershed



### Bella Lake Bathymetry



### Rebecca Lake Bathymetry





## Social Elements Contribute to Quality of Life

### Community Values and Character

Residents of Rebecca and Bella Lakes have clearly indicated their support for maintaining the special nature of the lakes. Cottagers value the peace and quiet that exists and social amenities such as recreational activities and social events.

Social Elements enhance the quality of life on the lakes and it is recognized that a collective effort is required to ensure protection and enhancement of the social elements for the enjoyment of future generations:

- 95% wanted personal property development to respect the natural, social and historical character of the lakes.

### Landscape and Aesthetics

The residential survey indicated that one of the most valued attributes of the lake is the natural beauty of the shorelines. Significant portions of the shorelines and backlands remain undeveloped, and these natural shorelines, rolling hills and steep cliffs contribute to the natural beauty of this area. High profile development and resource management activities taking place in the viewscape, such as aggregate extraction or clear-cut forestry practices, will have a serious negative impact on these values:

- 99.6% of the residents indicated that the beautiful natural vistas, landscapes and shorelines, as well as the tranquil ambience were important.
- 65% of the respondents in the 2002 survey indicated that between 75-100% of their land remains in its natural state.

### Cultural and Historical Sites

There are many local historical and cultural sites that help to connect us to the land and the history of the area. It is important to continue to develop an awareness and appreciation of these unique features:

- Some of the sites identified include Nick Bakers cottage, Sunset Lodge (Mansell), Jim Bennett's original home, Billie Bear Lodge, Mizpah Cemetery, Antioch Pioneer Settlement, Betty's island (ideal for picnics) and the Foundation Beach.
- 88% say that the Foundation Beach is important or very important to their enjoyment of the lake.
- 4 dugout canoes have been found in the watershed, and the one discovered on Rebecca Lake is at the Muskoka Heritage Place in Huntsville.

### Neighbourhood Character

There are at least nine (9) distinct neighbourhoods on Bella and Rebecca Lakes and they include Billie Bear, Fieldale, Mansell Beach, Hutcheson Bay, Swains Bay, Bella

Beach, Brook's Mill Bay, Buck Island Road and Bella Shores. These neighbourhoods are largely geographical groupings. Some of them, however, were formed by families or by specific development applications.

### Recreational Activities

Residents on our lakes enjoy a variety of recreational activities both land-based and water-based. According to respondents to the survey:

- The most popular water-based activities are swimming (96%), canoeing (90%), fishing (59%), sailing (52%), power-boating (41%) and water-skiing (38%).
- The most popular land-based activities are relaxing (97%), reading (92%), nature appreciation (91%), hiking (78%) and socializing (71%).
- Residents own at least 282 motorized boats, 28% with 4-stroke and 72% with 2-stroke engines.
- Jet skis (PWCs) are a concern for many (82%) due to water and air pollution, noise, inappropriate operation and wave action harming the delicate nesting grounds of loons and other wildlife.
- 46% of survey respondents felt that boat traffic negatively impacted their enjoyment of cottage life either significantly (18%) or moderately (28%).

### Noise and Light Pollution

The quiet and darkness of the shorelines at night add greatly to the enjoyment of cottagers on Bella and Rebecca Lakes. Excessive and unnecessary lighting detracts from the natural ambience of the lake and results in reduced visibility of the stars:

- 90% of survey respondents indicated that peace and tranquility are important components of lake-life.
- The survey results indicate that daytime noise was of concern (9.3% were affected significantly, 28.3% moderately) and that nighttime noise was also a concern (6.2% were affected significantly, 12.8% moderately).
- About 23 % of those surveyed indicated that they were either significantly (10.3%) or moderately (13.4%) impacted by light pollution.

### Importance of Social Events

Social events make a significant contribution to life on the lakes. Over the years, the cottagers on Bella and Rebecca Lakes have come together to attend a number of annual events including Bella-Rebecca Community Annual Meeting, the Regatta, and the Corn Roast:

- 81% of our survey respondents indicated that social and recreational activities were important to enhance the sense of community.



## Natural Values in the Bella and Rebecca Watershed

### Natural Facts

The people of Bella and Rebecca Lakes have spoken with a united voice through the survey that it is their desire to maintain the lakes in their current natural state. The lakes are special because of their natural shorelines, water quality and abundance of wildlife and vegetation indigenous to the area. It is the wish of the land owners that, through a stewardship approach, the lakes remain as close to their natural state as is humanly possible.



Natural heritage areas and features provide ecological functions that are critical to the survival of all species, including humans. Here are some of the facts:

#### Water Quality

Water is our keystone resource and 96.6% of survey respondents indicated that quality of water is a value that must be protected and enhanced for future generations:

- In the past Bella and Rebecca Lakes were considered oligotrophic bordering on mesotrophic lakes, which means they were low to moderately enriched with nutrients, and their water quality was fairly stable over the past 15 to 20 years (1983-2002).
- Mean Secchi disk depth, which measures water clarity, for Bella Lake was 6.0 metres (1983-2001) and 4.2 metres for Rebecca Lake (1990-2002), which means that the water in Bella was quite clear or low in turbidity, but that Rebecca was slightly more turbid.
- More recently (2003-2004) both lakes have seen a decline in water clarity, accompanied by suspended algae and algae blooms. In 2004, mean secchi disk depth for Bella was 3.0 m and for Rebecca 2.9 m.
- Mean total phosphorus, which measures nutrient concentrations, for Bella was 10.2 ug/l (1988-2002) with increases in 2001 and 2002 to 21.8 ug/l and 13.4 ug/l, respectively. These increases occurred simultaneously with the spiny water flea infestation in 2001 and the large die-off in 2002, which washed up on the shore.
- Mean total phosphorus level for Rebecca Lake was 8.5 ug/l from 1990 to 2002.
- Average total phosphorus levels for both lakes fall within the Provincial Water Quality Objectives (PWQO) of 10 ug/l to 20 ug/l, with 10 ug/l consid-

ered the upper limit for the propagation of cold water fisheries, such as lake trout.

- Bella Lake contains both optimal and useable lake trout habitat in the hypolimnion (the lowest water layer in a stratified lake), however, Rebecca Lake does not, and these optimal conditions in Bella Lake may be deteriorating.
- The bottom waters (10 m off bottom) of Rebecca Lake have been consistently low in dissolved oxygen levels (<3-4 mg/L and in some years <1 mg/L) from 1983 to 2002.
- Based upon water quality objectives for optimum averages of Chlorophyll a for the District of Muskoka's Official Plan, Bella Lake (3.0 ug/L) is restrictive (at capacity for development or redevelopment) and Rebecca Lake (1.5 ug/L) is not sensitive.
- Recent Ph readings are excellent (6.9 in 1999). However, since the bedrock is mostly granite and provides little buffering, our lakes could be highly susceptible to acidification if acid rain concentrations should increase in the future.

#### Streams

Streams are a significant feature of the landscape and are an integral element of the fish and wildlife habitat of the lakes: 12 streams flow into Bella and Rebecca Lakes, with one outflow from Rebecca Lake. These streams have not been surveyed or inventoried to date.

#### Vegetation

Natural vegetation helps to stabilize soil from erosion and reduce runoff into the lakes, as well as provide a good food source and habitat for wildlife:

- The region is of mixed—coniferous and deciduous tree and shrub species, with predominant shoreline trees consisting of Eastern White Cedar, Eastern Hemlock, White and Red Pine trees, with small pockets of White and Yellow Birch and White Spruce, as well as maples and other tree species.

#### Fish Community

MNR is managing Bella Lake as a cold water fishery (lake trout) and Rebecca Lake is managed as a warm water fishery (smallmouth bass):



- Fish species that are common to both lakes include Lake Trout, Burbot, Smallmouth Bass, Lake Whitefish, Rainbow Smelt and White Sucker.
- Bella and Rebecca Lakes have been designated trout lakes "at capacity". This means that further lot creation is restricted in order to protect the water quality for lake trout habitat.

## Natural Values in the Bella and Rebecca Watershed

### Exotic Species

Exotic or invasive species are non-indigenous species that have been introduced into non-native habitats and can have devastating effects on the overall health of an aquatic ecosystem.

- Rock bass were introduced into Bella and Rebecca Lakes in early 2000 and rainbow smelt were introduced into both lakes during the 1960s as bait fish by anglers.
- The spiny water flea was first noticed in Bella Lake in 2001, and many were found washed up on the sand beaches on Bella Lake in the spring of 2002, causing an offensive odour.
- Other invasive species such as the zebra mussel have not been confirmed for the watershed.



### Wetlands

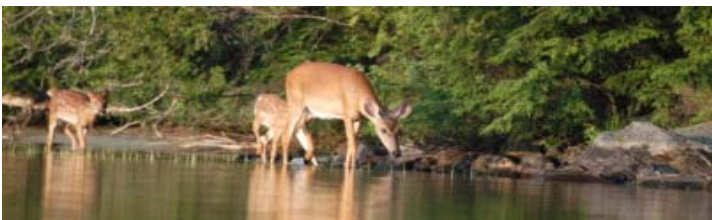
In the Township of Lake of Bay's Official Plan, the benefits of wetlands are highlighted "as integral to the Township ecosystem". Wetlands "provide habitat for fish and wildlife; flood and erosion control; shoreline stabilization and sediment retention for the protection of water quality; recharge for groundwater; and tourism, recreational and educational opportunities".

- For both streams and wetlands, more data is needed that relates specifically to Bella and Rebecca Lakes.
- No systematic evaluation of wetlands and their biodiversity inventory has been undertaken.

### Wildlife

Wildlife viewing is an integral component of a high quality of life on the lakes:

- Historically it is known that deer wintering areas occurred in several small sites throughout the southern part of the watershed. Currently there is known to be one large deer yard in the southeastern part of the watershed.
- There are no evaluated moose aquatic feeding areas in the watershed despite their presence on several wetlands and shallow lakes, such as Mansell Lake, where they are seen feeding regularly in the spring and early summer.
- Significant potential birding habitat, such as rock cliffs



and wetlands, have not been evaluated for our watershed.

- The area has a moderately low population of moose and deer, a low population of bear, moderate population of ruffed grouse and very low population of waterfowl.
- 48 mammals are listed for the area and 37 have been confirmed.



- 13 reptile and amphibian species are confirmed and 83 bird species breed in our watershed.

### Species at Risk (SAR)

Species at Risk include mammals, birds and vegetation that are rare, threatened or endangered. The long term existence and rehabilitation of these species depends on the protection and maintenance of their habitats. The following species are known to inhabit the Bella Rebecca area:

- Red-shouldered Hawk, Special Concern in Ontario.
- Eastern Hog-nosed Snake, Threatened in Ontario.
- Eastern Milksnake, Special Concern in Ontario.
- Red-headed Woodpecker, Special Concern in Ontario, and a non-breeder to the area..
- Potentially the Peregrine Falcon, Endangered in Ontario, but no confirmed sightings recently.
- Regionally rare amphibians include the mudpuppy and the pickerel frog, and two amphibian species are regionally uncommon for Muskoka, the red-spotted and northern two-lined salamanders.

### Natural Areas

Other natural areas have been identified by the Muskoka Natural Heritage Areas Program as regionally important areas within our watershed:

- Bella Lake Glaciofluvial Outwash deposit.
- Big East Glaciofluvial Outwash deposits.
- Till Deposit east of Bella Lake on Bella Shores.
- Big East River Corridor Muskoka Heritage Area.

## Physical Elements in the Bella and Rebecca Watershed

### Physical Facts

To understand current natural history findings, one must be aware of geology, climate, landscapes and settlement. The following are some facts about the physical influences in the Bella Rebecca watershed.

#### Soils and Steep Slopes

The soils in the area are shallow, stony, sandy and acidic, with low fertility and frequent bedrock outcrops. The surface deposits are predominantly ice-deposited materials that range from well-drained sandy loam tills to well-drained medium to fine sands with some inclusion of coarse sand and gravel. Silt and clay are a component of nearly all sands:

- The overall thin soil cover of rock, silt and fine sands, on Precambrian bedrock, makes many areas susceptible to erosion if disturbed, and stabilization by regeneration is difficult due to topography and other factors.

*“As regards to agricultural capabilities, Sinclair is rather an inferior township, even for Muskoka, the soil through the Township generally being filled with boulders and other fragments of gneissoid rocks to such an extent as to preclude the larger portions of the area from becoming arable”*

*John McAree, P.L.S., 1876*

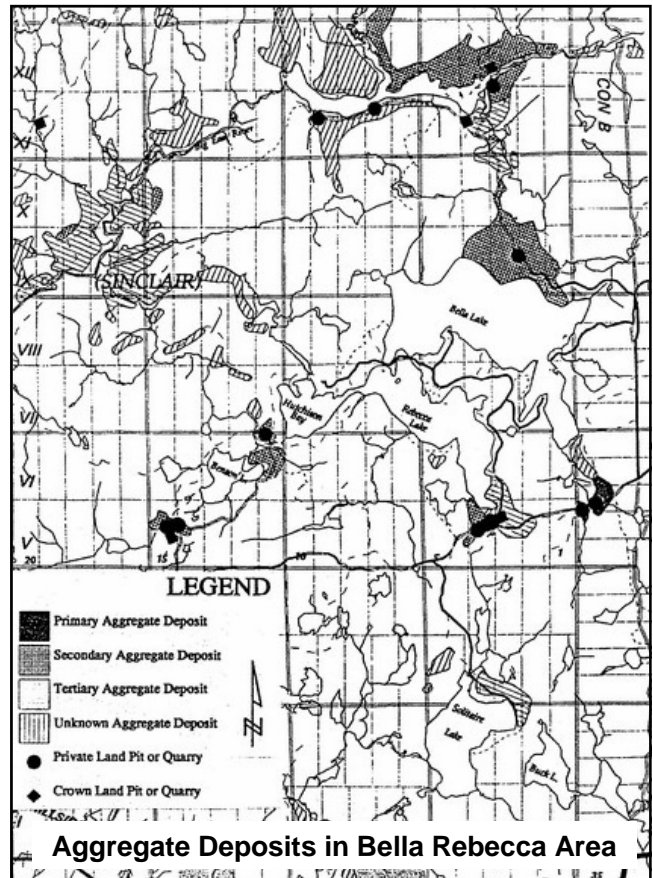
#### Minerals and Aggregates

Aggregates such as sand, gravel and rock, used for construction, industrial, manufacturing, and maintenance purposes, are plentiful, and numerous sand and gravel pits are currently in operation in the watershed and around Bella-Rebecca Lake:

- The north shore of Bella Lake contains a glaciofluvial outwash deposit and is identified as a Muskoka Heritage Site. Development of this deposit is discouraged and aggregate extraction is prohibited.
- Mineral resources in the area are unknown. Some areas of current aggregate extraction have been identified on Township maps. Any new mining or aggregate extraction should be prohibited within the viewscape of the lakes.

#### Floodplains

Floodplains on Bella and Rebecca Lakes are limited and flooding is not a major concern.



#### Narrow Waterbodies

Narrow waterbodies are defined by the Lake of Bays Official Plan as areas being less than 150 metres (500 ft) from shore to shore. The confined nature of these areas result in the perception of increased density and less private recreational space for boating and swimming:

- There are three narrow waterbodies on Bella and Rebecca Lakes.

#### Viewscope

The viewscape is the area surrounding the lakes that can be seen from any point on the lake. These areas are important to the maintenance of the natural beauty of the rolling hills that surround the lake:

- The viewscape of the lake should be recognized in the Lake of Bays Official Plan and new pits and quarries or mining sites should be prohibited in this area.



## Bella-Rebecca Lakes Action Plan

The following actions have been developed through consultation with the Stewardship Initiative Steering Committee, lake residents, and other stakeholders. The following provides a summary of the actions to be accomplished and more detailed information is provided in the Background Information Report.

### Objective 1—Monitor, Protect and Enhance Water Quality

**Action 1—Monitor chemical and physical elements** — continue with the Lake Partners program and request a budget from the BRCA to conduct water testing to allow an additional 4-5 samples, per year, for an analysis of TP, at a private lab, in addition to the annual analysis through the Lake Partners program.

**Action 2—Monitor biological elements** — establish a benthic-testing program to conduct 2 workshops annually, and maintain a data-base for long-term data analysis. Establish a wildlife monitoring program to investigate species, such as loons, herons and other waterfowl, and turtles, frogs and other wildlife, habitats and to establish population sizes. Investigate existing programs, such as Marsh Monitoring, Loon Watch, Frog Watch, etc. Any of the above monitoring programs occurring on private property would require the consent of the relevant property owners.

**Action 3—Work with the District of Muskoka on revisions to their water quality model** — to derive a better way of determining the impact of development on water quality and to determine the recreational carrying capacity of our lakes.

**Action 4—Muskoka Water Strategy** — appoint a liaison person to maintain contact with this organization, to advise the BRCA of new monitoring programs being developed, training opportunities, and resources available for our use.

**Action 5—Monitor and maintain septic systems** — encourage the Township of Lake of Bays to continue with their Septic Re-inspection Program for Bella and Rebecca Lakes, as an on-going program. Encourage cottagers to pump out septic tanks on a regular basis.

**Action 6—Preserve natural shorelines** — support the part of the Development Permit By-law which regulates vegetation removal, and encourages re-vegetation (where needed) when development occurs. Encourage re-planting of native species.

**Action 7—Preserve water quality** — the use of fertilizers and pesticides should be strongly discouraged within 50 m of the lake. New mineral and aggregate extraction sites and quarry expansions should be regulated to prevent negative impacts on streams feeding Bella and Rebecca lakes. Property owners should be encouraged to follow sound forestry practices, especially near streams and lakes, to prevent sedimentation and runoff impacts. Encourage governments to study and approve waste systems that have proven themselves in other jurisdictions, and encourage property owners to use these systems.



### Objective 2—Education Program

**Action 1—Initiate educational programs** — encourage stewardship efforts; establish workshops to train local volunteers to continue water quality, wetland and wildlife monitoring and sampling; continue distributing the Stewardship Initiative “Visions” newsletter; and continue eco-tours to promote interest in our local plants and animals. Develop a children’s program to encourage young people to get involved in stewardship.

**Action 2—Attend educational programs**—such as the Muskoka Heritage Foundation “Shoreline Workshop”.



## Bella and Rebecca Lakes Action Plan

### Objective 3—Improved Communication with Lake Residents

**Action 1—Provide prepared information on waterfront stewardship** — order copies of brochures on topics to help inform cottagers of ways to conserve their land and do things that are considerate of others. Distribute pamphlets, available from Muskoka Watershed Council, Fisheries and Oceans, FOCA, Cottage Life and others at each AGM; and promote a phosphorus-free lifestyles around the lake, including a list of local phosphate-free products and alternatives.

**Action 2—Promote Environment Canada’s Ecological Gifts Program** — make people aware of this program through the newsletter and website, and identify other similar programs, such as the Muskoka Heritage Foundation Trust Fund.

**Action 3—Promote stewardship** by preparing a Special Handout geared to our lake concerns for distribution (e.g. invasive species, septic systems, outdoor fires, boating etiquette).

**Action 4—Prepare Cottage Etiquette List** — prepare a list of do’s and don’ts for use of cottagers, their guests, and renters.

**Action 5—Research and promote the history of the area** — prepare a book on the historical buildings, sites and communities on the lakes, including histories of particular cottages, buildings, social history, as available. Long-term residents have been requested to write down the history of the community in which they live; ask for financial assistance from the BRCA to compile this history; and promote history through existing newsletters and other communication vehicles.

**Action 6—Make the buying public aware of the values of the lakes** — investigate ways of informing prospective buyers of the values expressed in our Stewardship Initiative, in order to acquaint prospective buyers with the philosophy of land owners on Bella-Rebecca Lakes, Consider developing an agreement similar to the one Bob Hutcheson developed for the Bella Shores development.

**Action 7—Develop educational tools to raise awareness about important wildlife and sensitive areas** around the lakes to encourage the reduction of speeds and noise levels in the waterways.

**Action 8—Encourage residents to attend social gatherings** to promote open communication in a fun way.

**Action 9- Promote Awareness of Foundation** and appropriate use of its land through the Stewardship Initiative newsletter and other communications.



### Objective 4—Preserve and Enhance Fish and Wildlife Habitats

**Action 1—Prepare guidelines for good fishing practices, as well as development and site alteration near fish and wildlife habitat** — Dennis Robinson has prepared 2 lists: “Fishing Guidelines for Rebecca and Bella Lakes” and “Habitat Protection Guidelines”; circulate provincial (MNR) Ontario Fishing Regulations to all cottagers and their guests; and prepare a list of guidelines for development activities, consistent with the federal (DFO) Fisheries Act, in or adjacent to fish and wildlife habitat.

**Action 2—Conduct a thorough fish species inventory** — conduct a species inventory to identify native and exotic species, as well as their relative abundance; investigate the MNR’s management approach to stocking non-native lake trout in our lakes; and determine whether exotic fish species and over-fishing are threats to our fish populations.

**Action 3—Conduct a stream assessment** — use standardized MNR monitoring protocols to collect fish and habitat quality data.

**Action 4—Discourage fish derbies.**



## **Bella and Rebecca Lakes Action Plan**

### **Objective 5—Environmental Monitoring and Rehabilitation Programs**

**Action 1—Conduct a wetland evaluation—** of all wetlands on the lake with approval from property owners.

**Action 2—Continue invasive species monitoring programs—**appoint a representative to promote a invasive species monitoring program and ensure appropriate signage at all access points.

**Action 3—Inventory areas subject to shoreline erosion—**from boat wakes, and encourage appropriate boating behaviour (low wakes) in these areas through education (and signage where necessary).

**Action 4—Identify and preserve the area within the viewscape and other scenic areas—**Identify on a map all land that can be seen from the lake (and other scenic areas) and ensure the Official Plan contains policies to restrict high profile development, and resource extraction such as aggregate pits and quarries, within the viewscape.



### **Objective 6—Recreational Boats/ATVs—Promote Considerate/ Safe Use of Recreational Vehicles**

**Action 1—Promote safe operation of motor boats—**promote operator awareness and education about safety issues, noise & pollution.

**Action 2—Consider ways of discouraging Jet Skis on our lakes—**use public-ity measures and word of mouth.

**Action 3—Promote the use of 4 stroke motors and new high efficiency 2 stroke motors—**consider approaches to encourage boat owners to convert old 2 stroke engines to more efficient motors.

**Action 4—Monitor boat speeds through education and signage where most effective —**in particular, on narrow areas of both lakes, such as Swain's Bay and Hutcheson's Bay.



### **Objective 7—Ensure Appropriate Land Development**

**Action 1—Determine how to control public access to our lakes—**liaise with Township officials on an appropriate location for boat launching in an area that can be controlled and monitored, and post signage at access points about invasive species and boating rules such as speed limits.

**Action 2—Determine how to deal with problems of boat launching at causeway—**liaise with the township on an alternative location for public boat launching.

**Action 3—Work to Streamline Development Permits for vegetation removal—**liaise with the township on streamlining the amount of paperwork required for vegetation removal.

**Action 4—Monitor success of Development Permit By-law—**ask BRCA members who make applications under new by-law to relate their experiences to the Property Advisory Committee.

**Action 5—Provide input to Township regarding new large-scale development—**request the Township to circulate new large scale development applications to the BRCA, and encourage residents to notify the BRCA of any issues or opportunities pertaining to land use development.

**Action 6—Investigate technologies for removing phosphorus from sewage waste and promote new Septic System technology.**

**Action 7—Monitor subsurface water quality near old landfill sites.**



## How Can I Get Involved?

*From the President*

*The future health of Bella and Rebecca Lakes depends on the participation and commitment of everyone in our community. I encourage you to read the detailed Background Information Report for the Bella-Rebecca Lakes Stewardship Initiative and get involved in the action plan.*

*On behalf of the membership of the Bella Rebecca Community Association (BRCA), I want to thank the many committee members who worked so hard to produce this exceptional document. It is a most valuable tool for the ongoing stewardship and education required to maintain and improve the natural environment we love so much.*

For more information please contact us:

**Bella-Rebecca Community Association**

**John Ellis—President**

J.n.ellis@sympatico.ca

994 Harkness Ave.

Ottawa, Ontario K1V 6P2



**Barb Paterson—Secretary,**  
Bella-Rebecca Lakes Stewardship Initiative Committee

paterson@vianet.ca

French Planning Services Inc.

Suite 4, 6 Dominion St. , Bracebridge ON

P1L 2A6

705-646-0851



## Whose Plan is It, Anyway?

The Bella-Rebecca Lakes Stewardship Initiative is a community document that was prepared by volunteers who live on our lakes.



This was a joint effort by residents and landowners on both lakes to develop stewardship initiatives for the preservation of the values identified through the planning process as important to our community, and to address common concerns through stewardship and education.

To fund this important process, community volunteers organized two very successful fundraising events—a cookbook sale and an art auction. There was also a great response by our lake community in contributions through personal donations.

This summary is being distributed in draft form to generate feedback from the community on any of the information presented here. Please let the committee know if you have additions or changes that you feel are important.