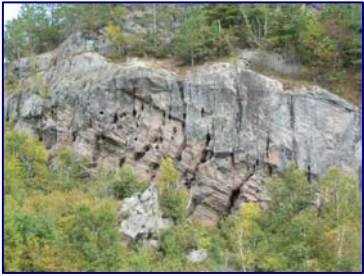


# Baptiste Lake Physical Elements Study



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Comments are welcome



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## Introduction

The purpose of this study is to examine the physical aspects of the area surrounding Baptiste Lake and identify potential constraints and opportunities for present and new land development and resource management. Soils, floodplains, narrow water bodies, steep slopes, viewscales and the location of productive forests, renewable and non-renewable resources, and minerals and aggregates are discussed in this section.

The Physical Elements Study will answer the following questions

- How does the MNR regulate water levels? When was the dam constructed?
- What are the soils and bedrock in the watershed? How do they affect water quality?
- What is a floodplain, and are there any development restrictions?
- Are there any pits, quarries or mines in the watershed?
- Are there any areas in the watershed where a new pit, quarry or mine may be located?
- Are there any areas where the mineral rights have been disposed of? What are surface and mining rights and what are our property rights?
- Are there any development restrictions on narrow waterbodies?
- Are there any development restrictions for constructing on a steep slope?
- What is a viewscape? Can the natural landscape be protected?
- What are the regulations regarding forestry operations on Crown and private lands?

The information provided is intended to assist the community of Baptiste Lake and the Baptiste Lake Association in working with Crown, County and Municipal agencies in establishing appropriate guidelines for the future development of the lake. These recommendations must be reviewed by all community members (rural, village and shoreline residents, business operators), the people who directly or indirectly depend on the lake, including any government or non government body that has a stake in the future health and development of the lake.

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# 1 Water Regulation and Use

The water levels on Baptiste Lake have been altered by humans for the past 100 years. The original dams were built for forestry purposes and raised the water levels to a lesser degree than current levels. In 1931-1933 a dam was built at the east end of the lake along the York River by the Ontario Department of Public Works and the Ontario Hydro Electric Power Commission. The purpose of the dam was to regulate flows to hydroelectric generating facilities on the Madawaska River system. On January 1, 1956 the Department of Lands and Forest (now the MNR) assumed responsibility for operation and maintenance of the dam.



The following is from an unnamed Fisheries Report (MNR 1966):

*Much of Baptiste and Elephant lakes and parts of the intervening York River consist of flooded land created by a Public works dam, completed in 1931 at the effluence of the York River from Baptiste Lake. This dam is currently being replaced. The old Public Works dam was preceded by logging dams which elevated the water level to a lesser degree than the present dam. Much of the flooded land was not cut over prior to the elevation of the water to its present level. The flooded lands are consequently rife with crowned and partly eroded trees. The resulting water areas which were created are especially productive in both food and over for fishes, but create a potential winterkill problem because of the extreme shallowness of the water, heavy growth of aquatic vegetation, and thick layers of organic matter overlying the substratum.*

The current dam was constructed in 1967 in "order to provide a more stable structure which would be better at controlling the release of water". (OMNR, Acres, 2006) The new dam increased the height by 1 foot and increased the storage capacity to reduce the severity of the summer draw down.



The dam is owned by the MNR and is operated by staff from the local Bancroft Office. The dam is used for recreational purposes, flood control purposes and to regulate the flow of the York River. (OMNR, Acres, 2006) The consequences of failure of the Baptiste Lake Dam would result in potential property damage and incremental loss of life downstream. (OMNR, Acres, 2006). The dam has gone through several safety assessments and repairs were made in 1998 and 2003.

The structure is a concrete gravity dam about 112 metres (367 ft) in length. It is comprised of a 23.8 metre long stop log controlled spillway, a 2.9 metre long valve section and a 61.0 metre long overflow section (as shown in the picture).

The dam is operated according to the operation manual developed by MNR in 1988 (Figure 1 on following page). The operating range in summer is 351.49 metres to 351.94 metres with the normal water level at 351.76 metres which provides an operating range of about 0.47 metres (about 18 inches). During the winter the reservoir is lowered to 351.33 metres and a water level gauge has been installed at the dam to provide a measure when the dam site is visited. The intent of the plan was to operate the dam to balance the needs of the Bancroft Public Utilities Commission, the Municipalities, the property owners of Baptiste, Elephant and Benoir Lakes and Martin's Lumber. At that time, Martin's Lumber required a specific elevation at the dam to provide water to spray logs and for an emergency fire sprinkler system. Since that time Martin's Lumber is no longer in business.

An Emergency Preparedness Plan was prepared in March 2006 by Acres International to assist with the identification of responsibilities and actions should the dam fail.

**Potential Uses - Hydro Electric Facility** – According to the Crown Land Policy Atlas the permitted commercial activities include power generation development.

In a 1985 Lake Association newsletter, Gordon Flagler reported:

- hydro electric proposals started in 1984 – Bancroft Utilities Commission received funds from the MOE to carry out a feasibility study which states that “it is technically feasible to construct a hydroelectric generating plant at Baptiste Lake dam”
- report recommends a generating capacity of 750 kilowatts and says that “there does not appear to be any negative environmental impacts
- BLA stated they were concerned with low flows over high falls during summer months will affect an historic attraction
- clearing and tree removal for new road, access and dam facility and power lines
- locals should receive the power

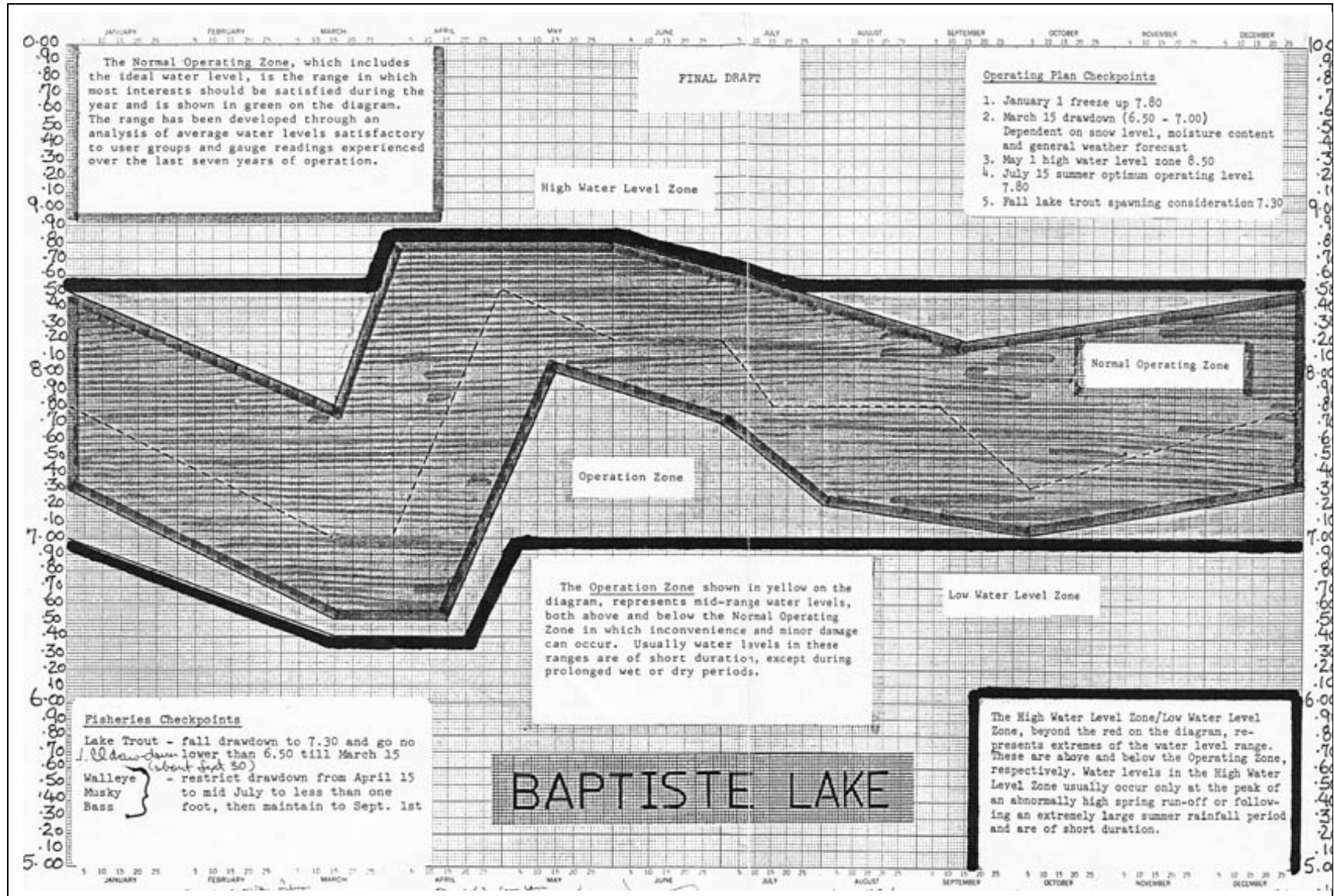
#### ***Observations – Water Regulation and Use***

- *The water levels on Baptiste Lake have been altered by humans for the past 100 years.*
- *The first dams were constructed by loggers for forestry purposes and raised the levels to a lesser degree than current levels.*
- *In 1931-1933 a dam was built at the east end of the lake along the York River by the Ontario Department of Public Works and the Ontario Hydro Electric Power Commission. The purpose of the dam was to regulate flows to hydroelectric generating facilities on the Madawaska River.*
- *The current dam was constructed in 1967 in “order to provide a more stable structure which would be better at controlling the release of water”. The new dam increased the height by 1 foot and increased the storage capacity to reduce the severity of the summer draw down.*
- *The dam is operated according to the operation manual developed by MNR in 1988.*
- *There have been many proposals to turn the existing dam into a hydroelectric generating facility.*

#### **Recommendations – Water Regulation and Use**

1. The association should be involved in any proposal for a hydroelectric generating facility at High Falls and ensure that the proponent conducts an assessment to demonstrate no negative impact on lake levels, surrounding environments, including lake trout spawning activity.

Figure 1 – Rule Curve for Managing Water Levels on Baptiste Lake



## 2 Physiography - Soils and Bedrock

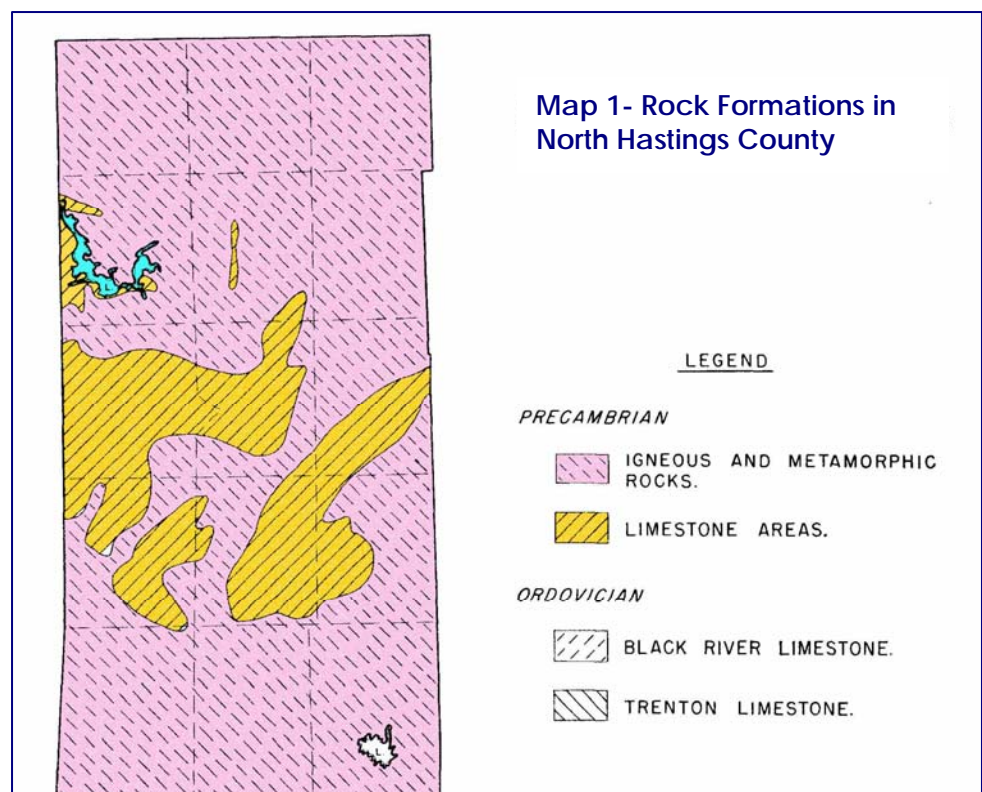
Soils are an important “story-teller” of the processes that have occurred in the past that have shaped the current landscape. Soils are also the medium of growth. Within the “climatic regions” of Ontario, it is the nature of the soil that determines the occurrence and structure of many of our terrestrial and wetland ecosystems. Soil type, quantity and fertility also influence the land-use and conservation practices applied in resource management.

Physiography refers to the characteristic of different landforms and how they together create a variable landscape, such as gradients in relief (elevation) and resource availability (ELC Manual, 2003). Baptiste Lake watershed lies on the Canadian Shield in eco-region 5E and eco-district 5-9, an area which is typically complex with moderately undulating bedrock ridges interspersed with troughs and hollows, wetlands, streams and uplands; landmarks left behind by the glaciers (NHIC, 2001). See the Natural Heritage Inventory for more information on natural vegetation, wetlands, streams and wildlife. Soil substrates are usually shallow and patchy, as well as acidic and low in nutrients.

The Canadian Shield rock is predominantly made up of acidic metamorphic and igneous rocks (e.g., granite, quartz, gneissic), which are hard and generally resistant to weathering (see Map 1). Erosion and soil accumulation are a slow process in this area. Glacial sediments in the area are generally located in bedrock controlled valleys or depressions.

Map 1 also indicates the presence of

crystalline limestone in this area which provides natural buffering for the effects of acid rain. This precambrian form of limestone is not the same type of sedimentary limestone located in the Kawartha Lakes region. The limestone is infused into the metamorphic and igneous rocks through the metamorphic alteration of rocks brought about by excessive heat and pressure and by chemical changes. (Briggs 1993)



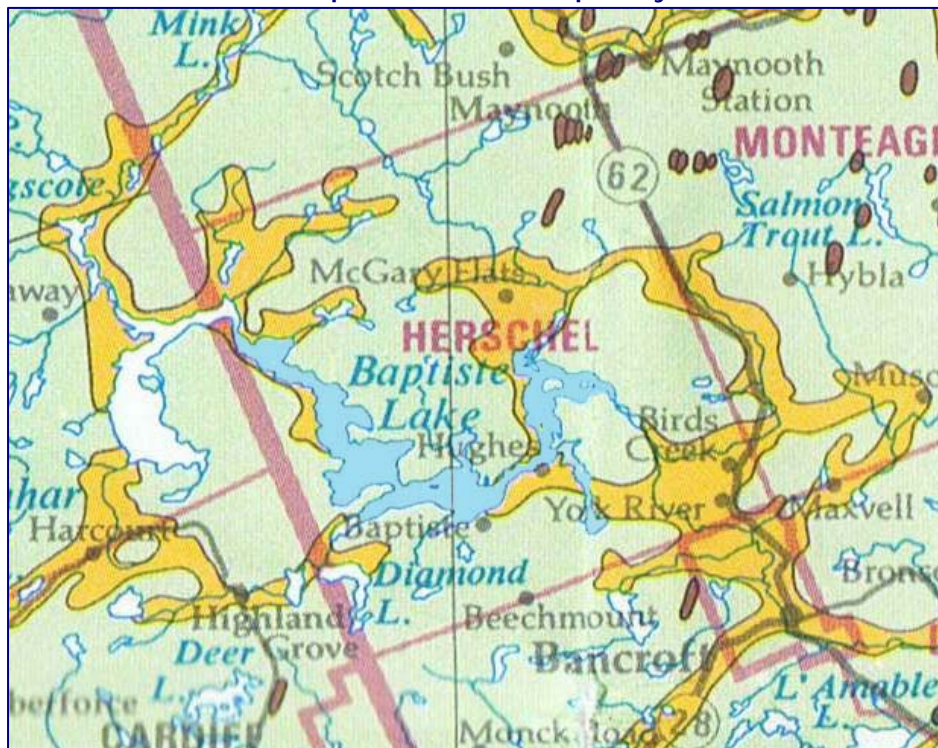
Baptiste Lake is found within the south eastern portion of the Algonquin Highlands physiographic region, which is defined by a broadly domed-shaped relief, with heights of land (elevation) peaking at 550 m above-sea-level. The topography of the area is characterized by the granite and other Precambrian rock bedrock and glacial deposits. (Source Chapman Putnam 1984)

Roughly 10,000 years ago glaciers covered  $\frac{3}{4}$  of Ontario and their movements scoured the Canadian Shield eroding the pre-glacial topography, scraping away soils and carving out the current landscape. Upon their retreat, the glaciers' weight, movements and torrential melt water cut and scoured the Canadian Shield eroding pre-glacial topography, scraping away soils, and filling in depressions, carving out the current landscape. Northern lakes are, therefore, typically younger, in geological years, than the lakes south of the Precambrian Shield.

Map 2 shows the location of spillways which are glacial meltwater drainage channels. The typical spillway is a "broad trough, floored wholly or in part by gravel beds at one or more levels, often with a cedar swamp and are usually occupied by a stream." (Source – Chapman, Putnam, 1984)

Map 3 shows the general location of soils in the vicinity of Baptiste Lake. Most of the

**Map 2 – Location of Spillways**



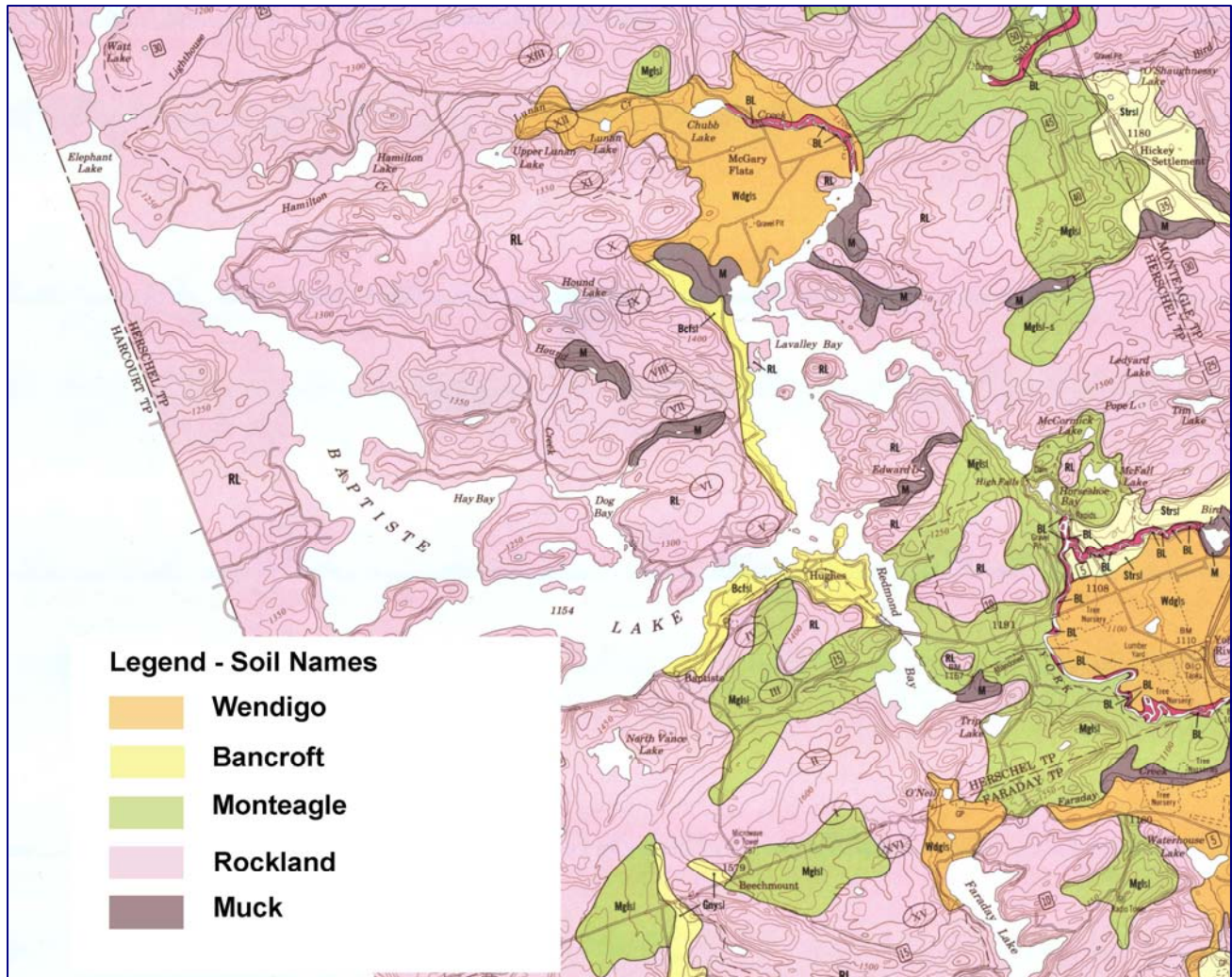
Source –Chapman, Putnam 1982

surrounding area (pink) is bedrock and soil substrates are usually shallow and patchy, as well as acidic and low in nutrients. Sedimentary rock deposits are formed through deposition of weathered rock (e.g., clay, silt, sand) and organic, fossilized particles, largely



made up of carbonate minerals, accumulated material under large water bodies. These areas develop nutrient rich deeper fertile soils.

**Map 3 – Baptiste Lake Soils**



There are general three types of soils found along the shorelines and backlands of Baptiste Lake: Wendigo loamy sand podzol (orange), Monteagle podzol (green), and Bancroft podzol (yellow). The brown areas in Map 3 indicate areas of muck. Podzols are found in heathlands and coniferous forest ecosystems and the surface layers of these soils are usually poorly decomposed litter, followed by an eluviated A horizon and a B horizon in which combinations of organic matter, aluminum and iron are eluviated. (Briggs 1993)

The McGary Flats area is generally comprised of Wendigo loamy sand (shown in orange on Map 3) which is well drained soils that are typically found on gently to moderately sloping topography. The pale brown coarse parent material occurs about 18 inches from the surface and is non-calcareous. According to the Soils of Hastings County (1962)... “the Wendigo soils that occur in Hastings County are not suitable for agriculture. They are very low in natural fertility and very droughty (dry). Forestry is perhaps the best land use for these soils.”

The location of the Bancroft podzols (shown in yellow on Map 3) is limited to the western shore of Lavalley bay and the general vicinity of Baptiste Village (south shore of the main basin to Redmond Bay). These soil materials are non-calcareous fine sands, finer in texture than the Wendigo soils of the area. Good drainage is provided both by the nature of the materials and the moderately to steeply sloping topography. The Bancroft soils have weak Podzol development, the ashy leached horizon is generally completely destroyed under cultivation. In virgin locations the leached whitish horizon varies from 1 to 2 inches in thickness and is continuous. The subsoil is yellowish red and is high in organic matter content. Utilization in the early history of the County, the Bancroft series was referred to as the white pine soils and undoubtedly they have produced large crops of timber. (Soils of Hastings County, 1962)

The Monteagle podzols (shown in green on Map 3) are generally found in the area south of Baptiste Village and surrounding the lower portion of Redmond Bay. These soils are well drained. The topography is variable but dominantly moderately to steeply sloping. Rock outcroppings are few to many in the areas mapped Monteagle. The series also occurs as a minor constituent in the large area mapped as Rockland. The soil parent material consists of a gravely sandy loam glacial till containing a high percentage of stone. This material is non-calcareous since it is derived from non-calcareous Precambrian rock. The surface texture is sandy loam. These soils are generally very stony on the surface and for this reason cultivation is very limited and individual areas are small. (Soils of Hastings County, 1962)

### **Observations – Physiography – Soils and Bedrock**

- *The physiography of the Baptiste Lake watershed is primarily comprised of bedrock with a few areas with well drained and unfertile soils. These areas were the glacial meltwater spillways.*
- *The presence of crystalline limestone in the metamorphic rock provides natural buffering for the affects of acid rain.*
- *Some of the soil types in this area may contain higher concentrations of iron, which is known to bind phosphorus and limit its migration to the lake.*

### **Recommendations – Physiography – Soils and Bedrock**

2. Consider recommending for all development that results in major alteration of landscape and soils that a Storm Water Management and Construction Mitigation Plan be submitted. Construction specifications should include:
  - o Appropriate assessment of soil characteristics causing sedimentation and erosion; and
  - o Construction measures (silt fences, hay bails, runoff ponds) that are needed to prevent silting and erosion of banks of water courses.
3. Undertake soil analysis in areas where new lots are to be created to determine the phosphorus retention capability of natural soils. Where necessary, consider additional measures regarding the location and design of septic systems in order to lessen the impact of phosphorus migration. For more information on the impacts of phosphorus see the Natural Heritage Inventory,

### 3 Floodplains

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The construction of buildings and structures in floodplain areas puts property and the health and safety of residents at risk. In addition, the placement of fill in floodplain areas displaces water and can result in other off site impacts, increased flows and water levels, and downstream impacts.

The County of Hastings Official Plan indicates that where flood plain mapping has been completed that specific restrictions apply. In the case of Baptiste lake, detailed flood plain mapping has not been prepared, two criteria are used: the boundaries of the lands designated Environmental Protection: and a flood line elevation of 352 m GSC (pers. comm. Paul Walsh, County of Hastings). No buildings and structures (except shoreline structures such as docks and boathouses) may be constructed below this elevation. Given the relatively steeply rising nature of the shoreline of Baptiste Lake, there are relatively few areas that would be affected. The County of Hastings will impose the flood plain requirements through the application review process for the creation of new lots.

#### **Observations – Floodplains**

- *Development in areas that are susceptible to flooding puts property and the health and safety of residents at risk*
- *The County of Hastings Official Plan indicates that all areas designated as Environmental Protection are considered to be floodplains. The County imposes a flood elevation of 352 m. for new lots being created, however, this elevation is not recognized in the official plan.*
- *Given the steep nature of the shoreline there are likely few areas that are susceptible to flooding*

#### **Recommendations – Floodplains**

4. Work with the County to ensure that the Official Plan and Zoning By-law reflect the appropriate flood plain elevations

### 4 Minerals and Aggregates

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The need for minerals and aggregates (gravel) in southern Ontario has increased greatly in the past few decades and the potential sources of these raw materials are scattered throughout cottage country. Minerals and aggregates are used in roads, construction materials, and for manufacturing products that we use every day. However the impacts from mining and aggregate operations can be substantial when they occur near a lake or waterbody. Aggregate and mineral excavation can have impacts on ground water levels, sedimentation of lakes and streams result in noise pollution from increased truck traffic, blasting and machinery operation and affect the natural aesthetics and ambiance of living near a lake.

**Minerals and Mining** – Mineral occurrences in the Municipality of Hastings Highlands include Corundum (cor), Graphite (Gf), Feldspar (Fel), Molybdenum (Mo), radioactive mineral (Ra), Nepheline (Ne), Feldspar (Fel), and Mica. The following occurrences in the adjacent geographic townships of Bangor and Monteagle are reported by north-hastings.com:

There are two areas with concentrations of Corundum (cor) occurrences within the former township of Bangor. The first area is located in the southern half of Lots 5 to 17, Concession 1. Corundum mining has taken place in that part of the zone within the Township of Carlow. The location of the second zone is concentrated in Lots 25 and 26, Concession 1 and it continues along the extreme southern portions of Lots 27 through to 32. There has been corundum mining in that part of the mineral potential zone that falls within Renfrew County. At this time there are not any mining operations being conducted in the township.

There are also three mined potential zones within the former township of Monteagle, which is now a part of Hastings Highlands. A Graphite (Gf) potential zone is located in Lots 23 and 24, Concession 13. The Feldspar (Fel), Molybdenum (Mo) and radioactive mineral (Ra) potential zone is large in size and is primarily located in Lots 21 to 10, Concessions 7 to 8. There has been mining in these zones in the past. The final zone is a Nepheline (Ne), Corundum (Cor), Feldspar (Fel), and Mica potential zone. This potential zone is located in Lots 5 to 3, Concessions 1 to 3 of the former Monteagle Township.

To the south of Herschel Township there are:

Two uranium potential zones in the Township of Faraday and both have been mined in the past. The first zone was the occurrence mined by Madawaska Mines Limited and located in the immediate area of the north half of lot 17, concession 11. This mine ceased producing ore in July 1982. The ore body is considered good, but the ore mined cannot be sold competitively in either the present national or international markets. The second uranium potential zone is located in the area north of Pipe Lake in lots 11 and 12, concession 10. The Greyhawk uranium mine was located in this zone. Both of these sites were reactivated in 1976 and closed again in 1982, the mining company was obliged to formally decommission the site to standards set by the Atomic Energy Control Board.

While there are no active mining operations in the Baptiste Lake area there are two areas where mining claims have been made on Crown Land located south of the Baptiste Lake watershed. A mining claim (known in the MNDM as an unpatented mining claim) is an area of Crown Land that is staked out by an individual or a mineral exploration company that holds a valid Prospector's license. This grants the individual or mineral exploration company the mineral rights to the staked out piece of land as provided for under the Mining Act of Ontario.

A disposition is an area of Crown Land where the ownership status and permitted activities are granted by legal means (e.g. patent, lease, license of occupation). These documents are initially generated by the Office of the Surveyor General, Ministry of Natural Resources

and are described by legal survey. These dispositions can be for surface rights, mining rights or for both surface and mining rights. (Source MNM)

While there is a limited likelihood of new mining operations in the near future, there always remains a potential concern as there are numerous surface and mining right active dispositions that apply to patent (private) land. Under the Mining Act of Ontario, "The System of Free Entry", individuals and mining companies have the right to crown owned minerals from the surface of the claim downwards. Three rights come with free entry:

- Right of entry and access on the majority of land in Ontario (normal trespass laws do not apply);
- Right to locate and record a claim without consulting land users; and
- Right to acquire a mining lease with no discretion on the part of the Crown.

The assumptions and implications of free entry are:

- Mining is the first and best use of land
- Mining prevails over private property interests
- Mining claims are granted on a first-come first-served basis
- Large land tracts can be maintained as mining claims to protect mining interests on one claim
- All crown lands are open for mineral exploration unless excluded or withdrawn by statute

On 24 hours notice, a mining company can clear cut up to 2500 square metres and excavate up to 1000 tonnes of material without permission of the landowner and within 100 meters of any water body. Environmental assessments or impact studies are not required. Legislation does not require restoration of "grassroots" exploration. Orders can be given to do what is necessary to gain access to waterbodies and to move water into natural or artificial drainage systems, to drain off, lower or divert the water of any lake, pond, river, stream or watercourse.

In addition to protecting the lake environment, local landowners have also expressed serious concerns about maintaining the integrity of individual property interests. Often property owners are not aware there has been a mining claim on their property and they have only one year to file a dispute to that claim. In any dispute, the onus is on the owner of the property (who only has the surface rights) to prove their case against the mining claim.

The provincial policy favours mining for primary land use over agriculture and recreation or tourism and protects any area of mineral potential from any development, unless the Municipality can prove either long term public use for the area or that mining is not feasible. Presently, the Provincial Policy Statement and the Mining Act both protect mining interests and the Ontario government seems reluctant to give this issue priority for review.

The Paudash Lake Conservation Association has been active in dealing with the decommissioning of the Bicroft and Dyno Mines since the early 1980's and may provide additional information and support. There are two other organizations in the Perth area that

are lobbying for reform of the Mining Act. The Citizens Mining Advisory Group worked to reduce the 60 claims in Tay Valley Township to 14 in number. In Bedford District of the Township of South Frontenac, the Bedford Mining Alert aims to reform the Ontario Mining Act to protect property owners and the environment. As well The Federation of Ontario Cottagers' Associations may be another source of information. More information may be obtained at <http://www.bedfordminingalert.ca/> and [www.foca.on.ca](http://www.foca.on.ca).

**Aggregates** – The term mineral aggregates refers to gravel, sand and various types of bedrock that are suitable for construction, industrial, manufacturing and maintenance purposes. The Municipality of Hastings Highlands contains almost 60% of all known aggregate operations in North Hastings (see Figure 2).

**Figure 2 – Aggregate Sources in North Hastings**

Township	Acreage	%
Bancroft	2,100	10.0
Carlow/Mayo	3,500	17.0
Faraday	2,300	11.0
Hastings Highlands	11,900	58.0
Limerick	400	2.0
Tudor & Cashel	220	1.0
Wollaston	230	1.0
North Hastings	20,500	

*http://www.north-hastings.com*

In Herschel Township, there are 17 private pits, 3 crown pits, and approximately 2,600 acres of aggregate. A large percentage of the aggregate is classified as 3(b), but there are also some 3(a), 2(a), and 1(b) deposits. There is a large aggregate deposit at McGary Flats and another large aggregate deposit in the Bird's Creek and York River vicinity. The total amount of aggregate extracted up to 1978 was 495,000 tons. Of that total 184,000 tons were extracted from private pits. (Source <http://www.north-hastings.com>)

The location of sand and gravel deposits is primarily in the areas shown in orange on Map 2. Future development of this resource must ensure protection of lake features and ensure that appropriate rehabilitation plans are in place to ensure re-vegetation to predevelopment conditions.

**Observations – Minerals and Aggregates**

- *While there are no active mining claims on Crown lands within the sub-watershed of Baptiste Lake, there are hundreds of active land dispositions for surface and mining rights on private lands.*
- *There are few aggregate resources in the North Hastings, and the Municipality of Hastings Highlands has about 60% of the potential aggregate areas. However, there are limited opportunities for gravel extraction in the Baptiste watershed.*
- *The creation of new pits and quarries within the viewscape of Baptiste Lake could detract from the natural beauty, tranquility and ambience of living near the lake.*

### **Recommendations – Minerals and Aggregates**

5. *Ensure that all new mineral and aggregate extraction sites and quarry expansions are appropriately reviewed to prevent negative impacts on streams feeding your lake as well as prevent visual, noise and traffic related impacts.*
6. *Ensure that your municipality has appropriate regulation to protect your watershed and require the rehabilitation of resource properties after operations are completed.*
7. *Encourage the County and municipality to amend the Official Plans to prohibit the creation of new pits and quarries or mining sites within the site horizon (viewscape) of your lake.*

## **5 Narrow Waterbodies**

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Development on narrow waterbodies can create problems for navigation and decrease the aesthetic beauty of the immediate area. When too many docks and boathouses protrude into a narrow bay or portion of a river it may result in congestion and create a hazard with respect to water users and water sports activities (skiing, wakeboarding, tubing, canoeing and swimming). In addition, congested portions on the waterbody detract from the overall usual beauty of a waterbody.



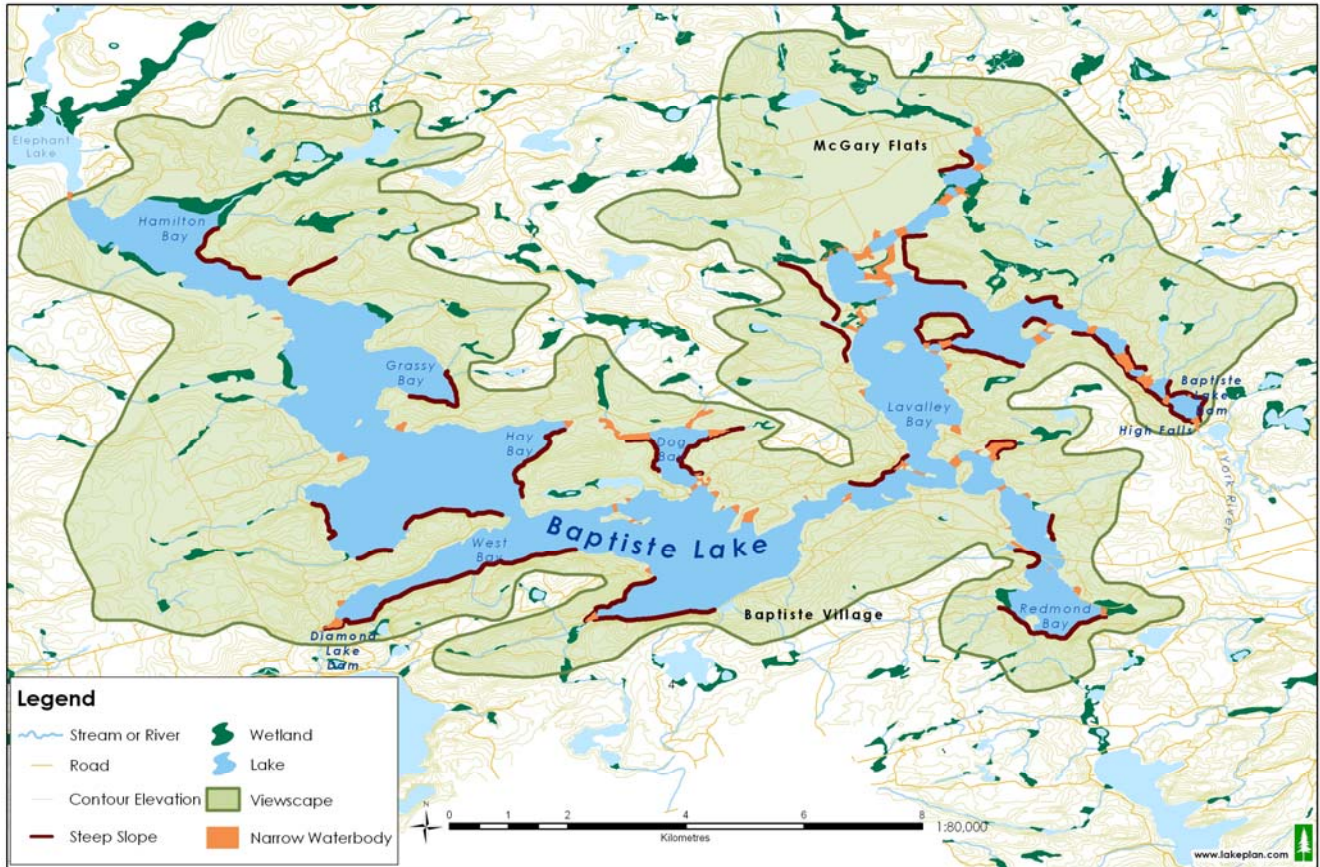
To discourage congestion in these areas, some municipalities in Ontario have introduced official plan policy requiring increased lot frontage and other design considerations in the narrow portions of lakes and rivers.

The Official Plan for the County of Hastings defines narrow waterbodies as a physical constraint to property development. "A narrow waterbody is an area where the minimum average distance from shoreline to shoreline is 150 metres (492 ft) for a lake and 50 metres (164 ft) for a river." Official Plan policy 3.3.5.b) page 29) states that

*In Waterfront areas, no lot shall be approved adjacent to a narrow waterbody unless the water frontage is at least 100 metres (328 ft) in order to ensure safe boating and swimming conditions, to avoid an overdeveloped appearance in a constricted area and to help ensure a reasonable separation between residential uses.*

In conversations with Paul Walsh (County of Hastings Planning Department), the difficulty in applying this policy is the lack of a map showing the location of all narrow waterbodies on the lake. Map 4 shows the location of all narrow waterbodies on the lake.

**Map 4 – Narrow Waterbodies, Steep Slopes and Viewscape**



**Observations – Narrow Water bodies**

- *There are numerous narrow waterbodies on Baptiste Lake and this adds to the naturalness of the lake and its shorelines.*
- *Development in narrow channels, bays and rivers at the same density as open areas of the lake will result in a congested appearance and create a potential hazard with respect to water users.*
- *The official plan contains policy that requires lot frontages of 100m (328 ft), (note 150 ft required in open areas) for new lots being created.*

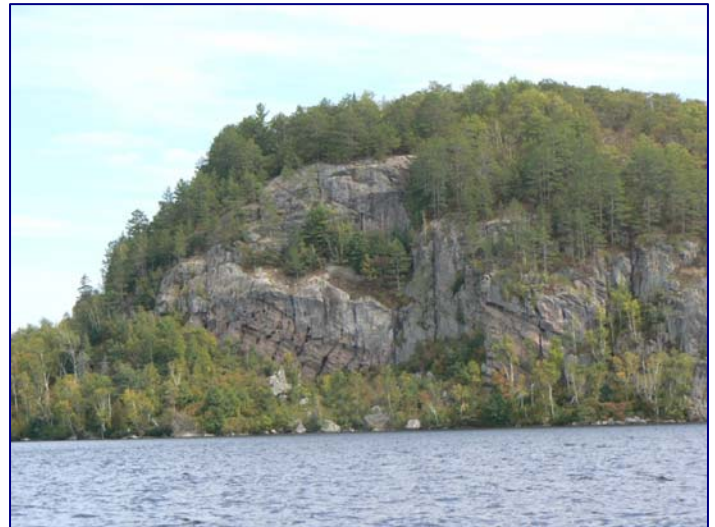
**Recommendations – Narrow Water bodies**

8. *Work with the County and the municipality to include a map in the official plan of all narrow waterbodies on the lake. The zoning by-law should also be amended by adding a new zone that recognizes the location of narrow waterbodies and requires a minimum lot frontage of 100m for new lots.*



## 6 Steep Slopes and Viewscapes

Aesthetic values differ greatly from person to person. Some people prefer 'urban park like settings' that is characterized by manicured lawns and vegetation, and others prefer a natural setting with few interruptions of human infrastructure. From information gathered from the residential survey and the residential and stakeholder workshops, the naturalness of the landscape and shoreline is one of the four top values treasured by the people of Baptiste Lake. Maintaining the natural landscape is enhanced when development on steep slopes or narrow waterbodies is sympathetic to the general characteristics of their surrounding landscape.



**Steep Slopes** – Development on steep slopes can result in substantial alteration of the natural landscape and visual impact due to the prominence and location of development or resource extraction activities. Indirect environmental impacts associated with development or forestry operations on steep slopes include increased erosion, slope instability, a significant increase in storm water run-off and the resulting potential damage to fish and wildlife habitat. Indirect social impacts include in altered natural landscape and development that dominates the landscape.

Map 4 shows the location of steep slopes along the shoreline of Baptiste Lake. The County of Hastings Official Plan provides one very limited policy for residential development in areas of steep slopes. Policy 3.3.5 ii) (page 28) of the official plan states, "buildings should be set back far enough from the crest or toe of steep slopes to ensure structural stability and to avoid natural hazards and visual intrusion into the landscape." The official plan does not provide direction about other forms of development such as commercial or resource extraction activities such as forestry; where steep slopes are located on the lake; or apply guidelines or criteria on how to reduce the visual impact of development in these areas. The most common approach to reduce visual impact that is used by many municipalities across southern Ontario is to require increased lot frontages of up to 400 ft for new lots in areas of steep slopes. The increase in the minimum lot frontage for new lots will lessen the density and the visual intrusion of buildings constructed in these areas.



**Viewscapes** – There are two important lines in our landscape that dominate our natural environment: the shoreline and the horizon or skyline. When we view the opposite side of the lake, our eyes are immediately drawn to these two lines and the area in between. Any development or resource activity that disrupts the natural character of these lines greatly detracts from the natural landscape. Map 4 identifies the approximate location of the viewscape line, which is generally the area that can be readily seen from any point on the lake. Development, vegetation removal and resource extraction (forestry, mining aggregate) in this area would be the main source of potential visual impacts, and it is important to assess these visual impacts before any development or resource activity occurs.



In order to maintain the natural appearance of shorelines the skyline must have minimal disturbance, and shoreline activity areas (boathouses, docks and recreation areas) should be kept to a minimum. High profile structures, such as 2 storey boathouses and brightly painted buildings, detract from the natural beauty of the shoreline, however there are no existing regulation tools that deal with the issue of colour, and communication may be the best approach, at this point in time. Similarly, high profile development that stands above the tree line of the horizon draws immediate attention to the structure and diminishes the natural value of the feature. Tall buildings, communication towers and areas with clearcut logging practices alter the natural vegetation and will have an impact on the natural aesthetics of the area and should be minimized.

Any development or resource extraction activity that occurs within this area must be evaluated based on the visual and noise impacts on the lake. The official plan currently contains no policy or criteria that delineates or protects the viewscape.

#### **Observations – Steep Slopes and Viewscapes**

- *Significant portions of Baptiste Lake's shoreline remains undeveloped and in a natural state. The natural shorelines, rolling hills and steep slopes contribute to the natural beauty of the lake.*
- *The residential survey indicates that one of the most valued attributes of the lake is the natural beauty and natural shorelines. High profile or dense developments in areas of steep slopes or in areas that can be viewed from the lake detract from the natural beauty.*

- *The ruggedness and natural landform of the Baptiste Lake area is due in part to the steepness of the terrain. Several areas surrounding the lake have steep slopes and the design of buildings or the location of forestry or aggregate extraction activities must receive special attention to take into account terrain and aesthetic considerations.*
- *Many of the shoreline areas that are steep are located on Crown lands.*
- *The Official Plan provides limited direction about development or resource extraction activities in steep area, and provides no policy on the protection of the viewscape.*

### **Recommendations – Steep Slopes and Viewscape**

9. *Work with the municipality and the county to update the Official Plan to ensure that all land uses (residential, commercial and resource extraction) have consideration for structure stability and safety and to consider the associated visual impacts. Consider the following*
  - o *Include a map indicating the location of steep shoreline slopes so that people are aware of any development restriction*
  - o *Require increased lot frontages for new lots being created in areas of very steep slopes to lessen the density and visual impact of development.*
  - o *Prepare different policies based on the steepness of the slopes. Common categories of steepness considered are; >20 % (typical lot); 20-30% (moderately steep); 30-40 % (steep); and >40% (really steep).*
  - o *Other policies to be considered include location of septic systems, visual impact, and buffer zones.*
10. *Work with the municipality and county to update the Official Plan by delineating the viewscape and adopting policies to ensure that high profile development and resource management activities (forestry mining pits and quarries) on heights of land, scenic areas or within the viewscape are compatible with the natural character of the lake. Ensure that the Official Plan contains policy to recognize the importance of landscapes and natural vistas on the lake.*
11. *Ensure that significant removal of vegetation does not occur along the treed horizon or natural shoreline. Shoreline preservation and restoration should be encouraged.*

## **7 Forestry**

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There are different government control mechanisms regulating tree cutting in Crown forests and privately owned forests.

**Bancroft Forest Management Plan** – On Crown lands, forestry activities are carried out in accordance with Forest Management Plans. These plans now have a 10 year planning cycle. Their purpose is to set long term management direction and identify the location of areas that are selected for harvest, renewal, tending, and road construction during two 5 yr periods. Values, including natural and social features are identified and the guidelines for their protection by various methods are determined. The planning process includes several

opportunities to provide input through advertised public open houses and participation on local citizen's committees.

The Baptiste Lake watershed is within the management area known as the Bancroft Minden Forest, which is the northern portion of the Bancroft MNR District. The current approved Forest Management Plan is dated 2006-2026 and expires on March 31, 2026. This plan was recently approved and forest operations are now being conducted in accordance with 2006-2011 work plan.

The Bancroft Minden Forest Management Plan is prepared by the Bancroft Minden Forest Company Inc. located at 27578 Hwy 62 South, RR1 Bancroft ON K0L 1C0 [www.bmfc@bancroft.cc](mailto:www.bmfc@bancroft.cc). The forest's Sustainable Forestry License (SFL) is a cooperative of ten sawmills, one pulp and paper mill, one particle based mill and two associations of 25 independent loggers. The annual harvest is up to 183,000 cubic metres. For comparison purposes the Algonquin Provincial Park Forest's annual harvest is up to 470,000 cubic metres.

Map 5 and 6 show the areas that are allocated for forestry operations in areas immediately surrounding Baptiste Lake.

There are three forms of silvicultural practices (forest harvesting operations); selection; shelterwood; and clearcutting. Selection is the least invasive of the three silvicultural techniques as it selectively harvests trees and does not result in larger open areas, such as shelterwood and clearcut operations.

Map 5 shows areas north of Baptiste Lake that are scheduled for operations between 2006 and 2011. The first area is adjacent to the Provincially Significant Wetland on Hamilton Bay and it has been selected for tending and renewal activities. Two other areas are shown in purple that have been selected for a clear cutting operation. On Map 6, there is one other area located about one kilometre northeast of Lavalley Bay, near Cullin Lake that is scheduled for a clear cut operation. This area is not visible from Baptiste Lake.

Sensitive natural, cultural and physical values are identified as "Areas of Concerns" and specific guidelines for cutting and tending operations must be followed. For example, there is a 120 m (400 ft) modified management area adjacent to the Provincially Significant Wetland on the north end of Baptiste Lake (see map 5). Within 120 m of the wetland normal selection and shelterwood practices are permitted; clearcut harvest must retain a minimum of 9 m<sup>2</sup>/ha in trees >10 cm DBH; den tress and snags must be protected; mechanical and chemical site preparation are prohibited; new primary and secondary road construction is prohibited; and tertiary roads and landings require special approval from MNR.

In addition to these standards, the Bancroft Forest Management Plan recognizes that the Crown forests of the management unit are shared with many other groups and individuals. Throughout the management unit the use of Crown land is high and there are countless parcels of patent lands and many provincial parks and 19 conservation reserves adjacent to the managed forest. Because of this mixed land use, a "good neighbour" policy is

implemented to protect the interests of all stakeholders. The following is from the Bancroft Forest Management Plan on the good neighbour policy.

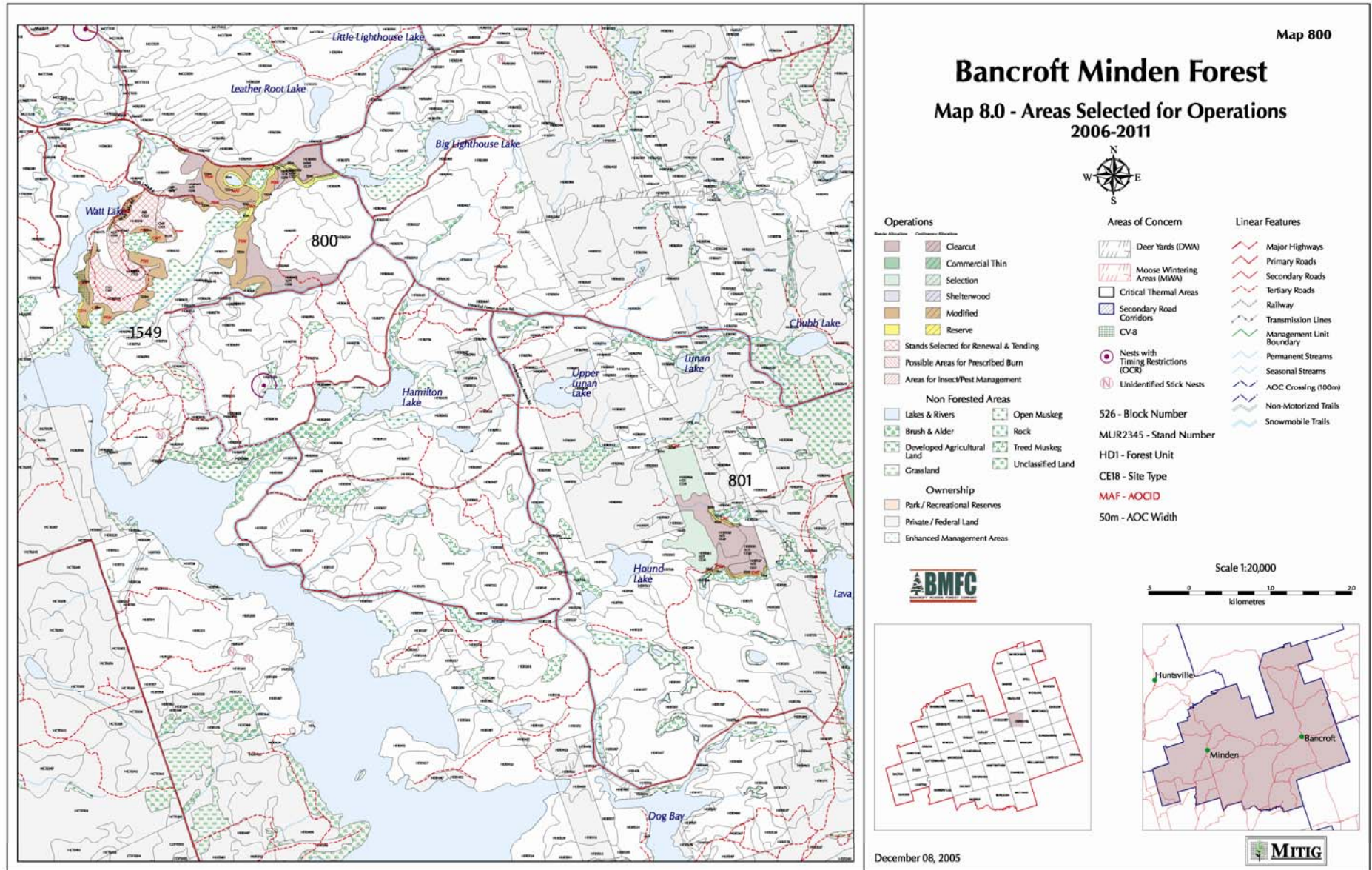
*“Private landowners adjacent to planned operations will be contacted during operational layout primarily to ensure that the limits of planned operations do not encroach on private land. A protocol is included in the company’s compliance plan (see Appendix 5) to guide the company’s efforts. Both the protocol and the Compliance Plan may be updated periodically without requiring an amendment to the forest management plan*

*Existing roads are heavily used by seasonal and permanent residents, tourist outfitters, hunters, fishermen and snowmobile clubs. There are many undocumented trails used for recreation or trapping activities. Where the affected party can be identified, contact will be made to discuss the timing and extent of operations. Modifications to operations may be implemented to resolve public safety, aesthetic or joint use concerns. Roads and trails will be left in an “as found” state unless otherwise agreed. For general high-use areas, signs will be posted along access corridors prior to operations beginning to give the public notice of operations soon to start-up.” (BFMP, 2006)*

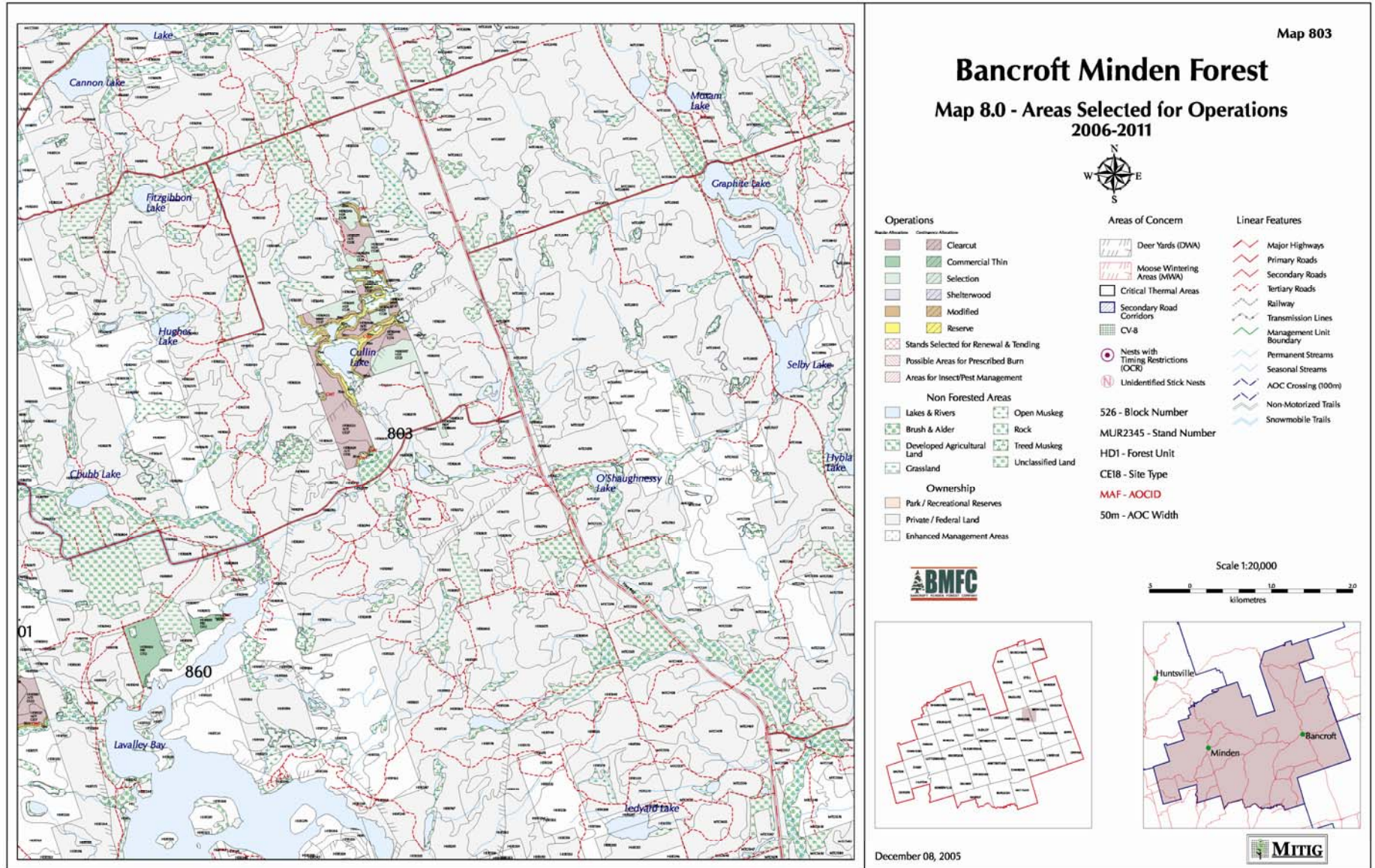
While the Bancroft Forest Management Plan provides significant protection, there does not appear to be any guidelines to reduce the visual or noise impacts of any future activities within the viewscape of Baptiste Lake (see Physical Report for description of Viewscape). However, the Forest Management Plan includes specific operational prescriptions for those areas that can be viewed from Nunikani and Sherbourne Lakes in the County of Haliburton. The intent of this special prescription is to reduce the visual and sound impact of forestry operations on the adjoining lake users by: prohibiting new primary and secondary roads, permitting roads and landings only in locations that are not visible from the lake, prohibiting aggregate extraction, and limiting forestry operations to normal selection and shelterwood activities, and clearcuts that retain a minimum of 9 m<sup>2</sup>/ha in trees >10 cm DBH.

The association should request MNR to consider this type of restriction on all Crown lands that are visible from Baptiste Lake. The intent is not to prohibit forestry activities, but to promote appropriate practices adjacent to recreational and resort lakes. The MNR has new viewscape analysis tools that can be used in any subsequent plans, starting after 2008.

Map 5 – Areas Selected for Forestry Operations – North of Hamilton Bay



Map 6 – Areas Selected for Forestry Operation – North of Lavalley Bay



**Forest Management on Private Lands** – On private lands, forestry operations are not regulated except within areas of the adjacent Haliburton County. The Managed Forest Tax Incentive Program (MFTIP) is a voluntary program available to landowners who own four hectares or more of forest land, and who agree to prepare and follow a Managed Forest Plan for their property. Map 1 of the Land Use Study shows the location of lands that have been accepted in this program.

Under the MFTIP, participating landowners have their property reassessed and classified as Managed Forest and taxed at 25 percent of the municipal tax rate set for residential properties.

To participate in the MFTIP, landowners must agree to certain conditions including preparing and following a Managed Forest Plan for their forest. The plan improves the owner's knowledge of the forest and increases the owner's participation in managing the forest. In turn, this helps to encourage the stewardship of Ontario's private forests. The Ontario Woodlot Association and the Ontario Forestry Association are partners in the delivery of this program and handle most of the public inquiries and program administration.

Owners of large parcels of land (> 4 ha (10 acres)) should be encouraged to apply for a managed forest status. More information and guidelines are available at: <http://ontariosforests.mnr.gov.on.ca/mftip.cfm>

Tree cutting on privately owned forested lands can also be regulated in accordance with a local municipal Tree Cutting By-law, however, the County or the Municipality has not enacted one. This type of by-law usually applies to commercial activities and does not apply to trees cut for personal use, the construction of buildings, road maintenance or the removal of injured trees.

This type of by-law can require; landowners or logging contractors to apply for a permit to cut trees; prohibit tree cutting in provincially significant wetlands or areas of natural and scientific interest (ANSI's) designated by the MNR; restrict clear cutting using a residual tree density rule; establish diameter based restrictions for different tree species; and may require logging operations to be carried out in conjunction with a plan that is prepared by a Registered Professional Forester (RPF).

However, there are no current regulations that prevent the cutting of trees on most private property. The County of Hastings Official Plan contains limited policy with respect to the requirement and protection of shoreline buffers.

### **Observations – Forestry**

- *Forestry operations on Crown land are regulated by MNR and many guidelines are provided to ensure the protection of natural fish and wildlife resources, social and*



*cultural values. Clearcutting forestry operations can occur within the viewscape of the lake*

- There are limited opportunities to manage commercial forestry operations on private lands. The Management Forest Tax Incentive Program is a volunteer program where owners of parcels greater than 4.0 hectares (10 acres) can apply for property tax relief when they prepare a forest management plan for their property.*
- There is limited policy direction in the official plan and other municipal tools to regulate the cutting of trees on private land. The shoreline buffer is the most important area on the lake where the protection of natural vegetation can have a positive impact on the lake health.*

### **Recommendations – Forestry**

- 12. Participate in future Forest Management planning processes and consider a Skyline Land Use area for forestry operations surrounding Baptiste Lake to protect the remote setting of these lakes. Involvement by the association will also help to consider appropriate areas allocated for forestry operations in the 2011-2016 work plan.*
- 13. Encourage all property owners to follow sound forestry practices, especially near lakes and streams. Prepare or obtain a best management practices manual on cutting practices and make available to all shoreline property owners.*
- 14. Encourage Private land owners of > 4 ha to apply for the Managed Forest Tax Incentive Program.*
- 15. Where applicable, encourage your local municipality to adopt and implement a Tree Cutting by-law in order to impose appropriate requirements for commercial operations, and the cutting of trees for personal use and to address visual impact.*

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