REVISED AGENDA

COMMITTEE OF THE WHOLE

Thursday, November 18th, 2021
9:15 a.m.
Via Zoom Meeting
9 James Street, Parry Sound, Ontario

To ensure the practice of proper social distancing measures, and to help prevent the spread of COVID-19 in the community, Council Meetings will be held electronically in accordance with section 238 of the Municipal Act, 2001. All Meetings will be recorded, and posted on the Township website for members of the public to view.

➢ **(Add-on)**

9:15 a.m. ENVIRONMENT (O)

1. Georgian Bay Mnidoo Gamii Biosphere

i) 2020 Township Environmental Report

Pages: 1-100

ii) 2021 Environmental Program Report

Pages: 101-112

iii) 2022 Proposed Workplan

Pages: 113-118

10:15 a.m. PLANNING AND BUILDING (O)

1. Seguin Township. Proposed Application for Minister's Zoning Order

Pages: 119-130

2. Zoning By-law Amendment Application No. Z09-21 (Omar Island/McNally)

Pages: 131-147

Classification: Closed (C) - Closed to the Public Open (O) - Open to the Public

Please note, the timing of matters listed above are approximate and the order in which they are discussed is subject to change.

3. Building Permit Summary

Pages: 148-151

11:00 a.m. THE ARCHIPELAGO AREA PLANNING BOARD (O)

11:30 a.m. FINANCE AND ADMINISTRATION (O)

1. Georgian Cliffs Memorial Park Cemetery – New Cemetery By-law

Pages: 152-193

2. Skerryvore Road Financing Report

Pages: 194-197

3. Revenue and Expenditure Summary as of 9/30/2021

Pages: 198-199

4. Legal Update

➢ **5. Purchase of Meeting Management Software**

Pages: 204 - 207

➢ **6. Ontario Municipal Partnership Fund 2022 Allocation Notice**

Pages: 208 - 209

12:00 p.m. PUBLIC WORKS (O)

1. Operational Services Update

Pages: 200-203

12:30 p.m. LUNCH

➢ **1:00 p.m. HUMAN RESOURCES (C)**

1. Closed Meeting

NOW THEREFORE BE IT RESOLVED that the Human Resources Committee move into a CLOSED MEETING at _____ a.m./p.m., pursuant to Section 239(2)(f)

Classification: Closed (C) - Closed to the Public Open (O) - Open to the Public

Please note, the timing of matters listed above are approximate and the order in which they are discussed is subject to change.

of the Municipal Act, 2001, S.O. 2001, c.25, as amended, to deal with advice that is subject to solicitor-client privilege, including communications necessary for that purpose.

i) Human Resources Matters

2. Open Meeting

NOW THEREFORE BE IT RESOLVED that the Planning and Building Committee move out of a CLOSED MEETING at _____ a.m./p.m.

Township of the Archipelago Environment Report

August 2021

Acknowledgements

The water quality monitoring program represents a successful partnership between the Township of The Archipelago, ratepayer associations, and numerous volunteers in areas along the coast and inland lakes that has lasted since its inception in 1999. The volunteer-based program provides an important avenue for relaying information about our environment to ratepayers and for providing valuable information to the Township.

The Township wishes to thank all of its ratepayers, and in particular the volunteer monitors, for their keen interest and drive to ensure our high quality environment is maintained. The Township is committed to addressing environmental issues and ensuring the maintenance of the environment we all enjoy. This philosophy is integrated into the day to day functioning of the municipality from public works operations to detailed planning analysis.

Report compiled by Georgian Bay Biosphere and Westwind Forest Stewardship Inc. with technical support from Bev Clark.

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Executive Summary

Due to the ongoing Covid-19 pandemic, the Lake Partner Program (LPP) had limited capacity in 2020 and therefore received and analysed a greatly reduced number of water samples. As a result, the annual TOA Environment Report does not include LPP/water quality updates for all communities/associations. The list below indicates the sections of the 2021 Environment Report with updated content.

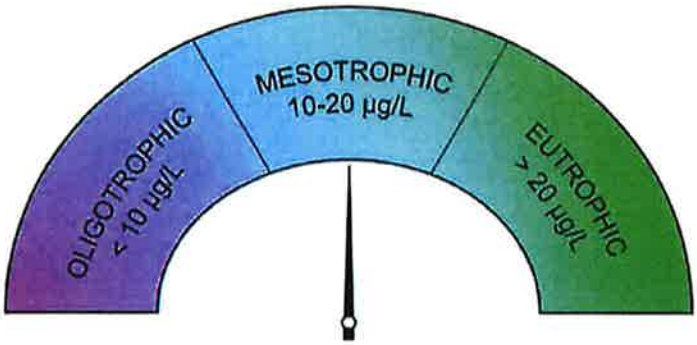
Summary of 2021 Report Updates

Water Quality	Forest Health
Lake Partner Program • Crane Lake Association • Kapikog Lake Cottagers' Association • South Channel Association • Three Legged Lake Association	• Emerald ash borer • LDD moth • Spruce budworm • Introduced pine sawfly • French-Severn harvest areas 2020-2021
Benthic Monitoring • Blackstone Lake Cottagers' Association • Crane Lake Association • Healey Lake Property Owners' Association • Kapikog Lake Cottagers' Association	

The Township of The Archipelago's (TOA) water quality monitoring program represents a successful partnership between the TOA, ratepayer associations, and numerous volunteers in areas along the coast and inland lakes that has lasted since its inception in 1999. The volunteer-based program provides an important avenue for relaying information about the environment to ratepayers, and for providing valuable information to the Township.

In addition, water quality monitoring data collected in the TOA also helps inform the bigger picture story around TP trends in eastern Georgian Bay. Along with data collected by provincial agencies, federal agencies, and other organizations, volunteer collected data (e.g., TOA monitoring data) is used to report on water quality in the 2013 and 2018 *State of the Bay* reports (available here). By bringing all of these sources of data together, a more spatially and temporally complete picture of water quality in eastern Georgian Bay can be achieved. Key among the findings in the 2018 *State of the Bay* report is that there are differences between TP levels in the nearshore and offshore.

Generally, in the offshore, deep waters of Georgian Bay, total phosphorus levels have been naturally low, around 5 micrograms per litre (µg/L). In shallower, protected bays or near wetlands, phosphorus levels can be much higher, this type of nutrient-rich habitat is considered more productive and can support a more diverse food web. However, when nutrients are trapped or concentrated, an algal bloom may result, with TP levels as high as 20 µg/L (to learn more, visit www.stateofthebay.ca). The figure below illustrates the terms used to describe these differences in TP concentrations.



A lake's trophic status is determined by its total phosphorus concentration. Oligotrophic lakes have TP levels less than 10 µg/L and are considered unproductive environments. Mesotrophic lakes have TP concentrations ranging between 10 and 20 µg/L and are moderately enriched. Finally, TP concentrations over 20 µg/L indicate a eutrophic aquatic environment in which persistent, nuisance algal blooms are possible.

By continuing to monitor existing Lake Partner Program (LPP) sites, and by initiating monitoring at sites recommended in this report, volunteers in the TOA provide crucial information and supplement existing data collection by government agencies so that local and regional water quality trends can be tracked over time.

This report presents the most recent results of water quality monitoring efforts in the TOA (see table below for a summary). It is important to note that updates to information gathered through the LPP are limited. In 2020, the LPP received and analysed a greatly reduced number of water samples due to the ongoing Covid-19 pandemic. Updated information is presented where it is available.

Benthic monitoring continued in 2020 on four TOA lakes, Blackstone, Crane, Healey, and Kapikog. This marked the third year of sampling and as such, interpretation of the data was possible for the first time. The objective of benthic monitoring in TOA lakes is to characterize the benthic community of each lake and compare it to lakes in the Parry Sound-Muskoka District in order to determine whether the benthic community is considered typical of what would be expected for a lake in this region. This comparison is made possible by calculating the percentage of pollution-sensitive taxa in each lake including larval mayflies (*Ephemeroptera*), dragonflies (*Odonata*), and caddisflies (*Trichoptera*), collectively referred to as EOT. Following the methodology established by the Muskoka Watershed Council, average %EOT was calculated for each lake and compared to the normal range for lakes in the region. Based on this analysis, the benthic community in each of the four lakes is considered 'typical' for the region. Monitoring should continue annually to note any sudden or gradual changes in the benthic community that could signify changes in water quality.

Fish community data gathered by the Ministry of Northern Development, Mines, Natural Resources and Forestry is included in this report. As new data become available, these summaries will be updated. The featured forest pests in this year's report are: beech bark disease, emerald ash borer, forest tent caterpillar, LDD moth, spruce budworm, introduced pine sawfly, oak wilt, and hemlock wooly adelgid.

Association / Waterbody	Monitoring Status	Total Phosphorus		Trophic Status	Recommendation
		Average (3-5 yrs)	Trend (>5 yrs)		
Bayfield Nares Islanders' Association	Active (LPP)	n/a	Increasing	Oligotrophic	Continue current monitoring
Blackstone Lake Cottagers' Association	Active (LPP & benthic monitoring)	n/a	Decreasing	Oligotrophic	Continue current monitoring
Cranberry Lake	Active (LPP)	n/a	n/a	n/a	Continue current monitoring
Crane Lake Association	Active (LPP & benthic monitoring)	n/a	Increasing	Oligotrophic	Continue current monitoring
Healey Lake Property Owners' Association	Active (LPP & benthic monitoring)	8.3 µg/L	n/a	Oligotrophic	Continue current monitoring
Iron City Fishing Club	Active (LPP)	n/a	n/a	n/a	Continue current monitoring
Kapikog Lake Cottagers' Association	Active (LPP & benthic monitoring)	6.1 µg/L	n/a	n/a	Continue current monitoring
Manitou Association	Inactive (no history of LPP monitoring)	n/a	n/a	n/a	Begin standard LPP monitoring
Naiscoot Lake Association	Inactive (no history of LPP monitoring)	n/a	n/a	n/a	Begin standard LPP monitoring
Pointe au Baril Islanders' Association	Active (LPP)	n/a	Decreasing	Mesotrophic	Continue current monitoring
Rock Island Lake	Inactive (no history of LPP monitoring)	n/a	n/a	n/a	Begin standard LPP monitoring
Sans Souci & Copperhead Association	Active (LPP)	n/a	n/a	n/a	Continue current monitoring
Skerryvore Ratepayers' Association	Inactive (no history of LPP volunteer monitoring)	n/a	n/a	n/a	Begin standard LPP monitoring
South Channel Association	Active (LPP)	7.5 µg/L	n/a	Oligotrophic	Continue current monitoring
Three Legged Lake Association	Active (LPP)	4.8 µg/L	n/a	Oligotrophic	Continue current monitoring
Woods Bay Community Association	Active (LPP)	9.4 µg/L	n/a	Oligotrophic	Continue current monitoring

1. Introduction

Each year the Township of the Archipelago's (TOA) Environment Report presents the results of the past year's Water Quality Monitoring Program, fish community data gathered by the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF), and an overview of featured forest pests and diseases found in the Parry Sound-Muskoka area. The main objective of this annual report is to gather all environmental information for the township in one place, making it easier for ratepayers to track trends over time.

This year, updates to the water quality information gathered through the Lake Partner Program (LPP) are limited. In 2020, the LPP received and analysed a greatly reduced number of water samples due to the ongoing Covid-19 pandemic. Updated information is presented where it is available.

The remainder of this report provides a brief overview of the methods used to collect water quality data and details the results, by ratepayer association, from the most recently available data gathered. This includes an overview of sampling locations, water clarity, total phosphorus concentrations, calcium concentrations, and benthic macroinvertebrates. Fish community summaries are detailed where data exists. The final section presents an update on forest health in the region.

All past reports can be viewed on the TOA's Environment webpage.

2. Water Quality and Fish Communities

2.1 Overview of water quality monitoring program

In the spring of 2016, the TOA recommended changes to its water quality (WQ) monitoring program, with the main recommendation being a shift from bacteria to phosphorus monitoring. These changes came about as a result of a partnership with the Georgian Bay Biosphere (GBB). Over three years, as part of their *Coordinated Nutrient Monitoring Program*, GBB worked with partners to review existing nutrient monitoring efforts along eastern Georgian Bay. Together they developed a new set of guidelines and recommendations to improve effectiveness and efficiency of the collective efforts of volunteers, associations, agencies, and other organizations (click here for further information). Changes to the WQ monitoring program were communicated to ratepayer associations and volunteers in the spring of 2016. Starting in 2018, the TOA also began benthic monitoring on several inland lakes – Kapikog, Healey, Blackstone, and Crane.

Why monitor total phosphorus?

Monitoring total phosphorus (TP) is very important as phosphorus is the nutrient that controls plant growth (including algae) in lakes. Measuring TP year after year is necessary to detect long-term changes in water quality that may be due to impacts of shoreline development, climate change, and other stressors. The objectives associated with monitoring phosphorus in eastern Georgian Bay are as follows:

1. Mitigating localised water quality issues;
2. Regional characterisation of water quality;
3. Spatial and temporal trend detection; and
4. Identifying the effects of regional drivers and multiple stressors to protect ecosystem function.

GBB is encouraging ratepayer associations and volunteers to join, or continue with, the Lake Partner Program. The LPP is an Ontario-wide, publicly funded, free program that collects data about phosphorus, water clarity, and calcium from volunteers. The simple tests for TP and water clarity provide a strong basis for assessing the health of the ecosystem, and whether TP is too high or too low. Advantages of the LPP are that it facilitates comparisons with other organizations monitoring on the Bay, as well as Ontario Ministry of Environment, Conservation and Parks (MECP), and Environment and Climate Change Canada (ECCC) monitoring programs. Data collected by volunteers are analyzed by the Dorset Environmental Science Centre (DESC) which makes all data available online.

Why shift away from regular bacteria monitoring?

The rationale for shifting away from bacteria monitoring is based on a Hutchinson Environmental Sciences report (available here) which concluded that single samples taken at one point in time do not indicate either the spatial or temporal extent of the levels of bacteria observed. This is based on the fact that survival of E. coli in the recreational water environment is dependent on many factors, including temperature, exposure to sunlight, available nutrients, water conditions (e.g., pH, salinity), and competition from, and predation by, other micro-organisms. The new guideline for water quality monitoring recommends that should organizations wish to continue with bacteria testing, it should happen in the framework of a scientific investigation focused on testing specific hypotheses on potential sources of contamination through a focused sampling program. For example, recreational sites (e.g., beaches) could be considered for bacteria monitoring as per the province's Beach Management Guidance Document.

Why monitor benthic macroinvertebrates?

Different types of water quality monitoring provide water managers with complementary information. Most people are familiar with the idea of looking at water quality from a "stressor-based approach". This includes monitoring water chemistry parameters like pH, dissolved oxygen, total phosphorus, and others. Stressor-based monitoring approaches provide important information about an ecosystem's exposure to stress, but they leave unanswered questions about the significance (or effect) of that stress.

Biological monitoring (e.g., benthic monitoring) uses an "effect-based approach" to provide information about how ecosystems have responded to a stress, for example by looking at fish communities or benthic macroinvertebrates. However, effect-based approaches leave unanswered questions about what stresses are being responded to. Therefore, these approaches (chemical and biological monitoring) are complementary and together provide a complete picture of aquatic ecosystem health (i.e., the lake's exposure to stress and associated ecological response).

Over the last three decades, the use of biological monitoring in Ontario has increased dramatically. The first reason for this is that researchers, water managers, and broader society have acknowledged its ability to reflect the effects of non-point-source and episodic pollution, the effects of habitat changes, and the cumulative effects of multiple stressors. The second reason is that monitoring biodiversity, and using biotic changes to evaluate ecosystem condition and water management performance, has grown in relevance and legitimacy – to the point that legal and regulatory frameworks in many countries now require information on biological condition. Ontario's Water Resources Act (R.S.O 1990, C. 040) and Environmental Protection Act (R.S.O. 1990, C. E19), for example, define impairment and adverse impact in clearly biological terms.

Benthic macroinvertebrates (or benthos) are small aquatic organisms (including insects, crustaceans, worms, and mollusks). The term benthic macroinvertebrate can be broken down to understand what these organisms are like. Benthic macroinvertebrates spend all or part of their life cycle living at the bottom of the lake (benthic), they are quite small but can generally still be seen with the naked eye (macro), and they lack a backbone (invertebrate).

These animals are well suited as indicators of water and sediment quality as they spend most or all of their lives (1-3 years) in constant contact with lake sediments and the water in a specific area. Furthermore, they are relatively easy and inexpensive to sample and they have different tolerances to disturbances and pollution. A healthy lake will support high species richness (the number of species) and abundance. If a lake has low species richness and mainly pollution-tolerant species, the lake could be impaired. Changes in the benthic community of a lake (e.g., changes in the types of organisms, abundance) can indicate changes in the lake ecosystem (e.g., improvements in water quality, habitat alteration, introduction of invasive species).

Finally, benthic macroinvertebrates are an important part of the food web of a lake. Certain benthic macroinvertebrates are an important food source for a variety of fish species, while others play a key role in decomposing organic matter.

2.2 Methods

2.2.1 Water Chemistry

Sampling locations in the TOA have been recommended for enclosed bays and inland lakes in GBB's *Enclosed Bays and Inland Lakes Phosphorus Monitoring Guideline*. These sampling locations supplement existing data collection by provincial and federal programs so that local and regional water quality trends can be tracked over time. Whenever possible, volunteers are encouraged to contact GBB prior to sampling if they have any comments or concerns about the suggested monitoring locations.

Enclosed bays that are connected to Georgian Bay, and have limited exchange of water due to convoluted connections or constricted openings, will have water chemistry characteristics that are mostly subject to influences from the upstream watershed. This will be especially true if there are major inflows or shoreline development within the bay. Even in cases where the bay is considered to be 'natural', there are multiple stressors associated with all ecosystems that occur as a result of climate change, long-range transport of pollutants, and the influx of invading species. Monitoring in these areas will help to understand the impacts of these stressors and support federal and provincial monitoring in similar nearshore areas.

Inland lakes require TP data to help assess background concentrations relative to present day concentrations. Inland lakes should be sampled in all cases where there are no previous data collected. Developed lakes should be sampled before undeveloped lakes in the case where resources are limited. As a general rule, only one representative sampling location is required for each lake even in large convoluted lakes with multiple arms (e.g., Healey Lake). In the event that there are compelling reasons to believe that water quality in different areas of the lake would be influenced differently by rivers or development for example, or there are local observed differences or perceived problems, more sites might be recommended. Generally speaking, if the watershed influences are similar across a lake, the water quality will be similar as well.

Spring sampling (following LPP protocols) is sufficient for most locations in the TOA, as there are few areas that experience fall algal blooms. However, in some locations 'enhanced' monitoring (beyond LPP) may be required. Generally, the 'trigger' to consider additional monitoring relates to high TP and/or algal blooms. In these scenarios, further water quality parameters can be obtained with only a few additional pieces of equipment, most notably oxygen meters and specialized bottles to collect samples at distinct depths. The following two sections briefly describe the sampling method employed for regular sites and enhanced sites.

Regular monitoring sites

LPP volunteers collect one TP sample in May (during the spring-turnover period) at a deep spot. Additionally, volunteers take Secchi disc water clarity measurements at least once every two weeks throughout the summer. The black-and-white Secchi disc is lowered into the water until it is at the absolute limit of being visible. This depth is the Secchi depth of visibility, which is directly related to water clarity and can be used as a simple and effective monitoring tool for determining the effects of human activities on water clarity and, indirectly, on the nutrient content in the water.

The materials needed to take the water samples and conduct water clarity measurements are sent to volunteers by the province. Instructions and training videos are available online and additional training

is provided by the Georgian Bay Biosphere. Samples are returned (postage paid) to DESC for analysis and Secchi observation sheets are mailed to DESC in November.

Enhanced monitoring sites

In some cases, further monitoring is required beyond what is recommended by the LPP. Generally, the 'trigger' to consider additional monitoring relates to high TP and/or algal blooms. The collection of additional water quality data should be determined on a case-by-case basis following a review of existing data. GBB's *Enclosed Bays and Inland Lakes Phosphorus Monitoring Guideline* (available here) includes a decision tree to outline how further monitoring could occur under several different scenarios. It also outlines potential equipment needs and general water chemistry parameters for enhanced monitoring programs. The guideline ensures that information is collected in a standardized way that allows comparison between sites and over time.

2.2.2 Benthic Monitoring

Certified GBB staff conduct benthic macroinvertebrate sampling on behalf of the TOA using the standardized Ontario Benthos Biomonitoring Network (OBBN) protocol for lakes. For each lake, three shallow, nearshore areas representative of the lake are selected as test sites (referred to as "lake segments" in the protocol). The same lake segments are sampled each year so segments should ideally be located on Crown land (for continued access). At each lake segment, the travelling-kick-and-sweep sampling method is used. The individual doing the sampling disturbs the bottom of the lake in transects from the water's edge to 1m in depth. Using a net, the dislodged material is collected and placed in a bucket. Sampling is usually done for about 10 minutes. These samples are then processed to count and identify the different types of benthos in the sample (video available here). There are 27 different taxa of benthos that are searched for, each ranging in sensitivity to water pollutants and water quality.

2.3 Results – Regular Monitoring Sites

The following section includes a brief discussion on the interpretation of results and the locations of, and results for, each TOA sampling location active in 2019 and/or 2020. Please note that only data collected after the MECP took over coordination of the LPP (2002 to present) are shown in graphs and labelled on figures. Since 2002, LPP phosphorus samples have been analysed on a low-level phosphorus analyser that has increased the precision of results from +/- 6 µg of phosphorus per litre to +/- 0.7 µg/L. This low-level analysis is especially important for Georgian Bay TP samples that may have low levels of TP (e.g., 2 µg/L). Complete data for all historical and active sampling locations, including data collected prior to 2002, are available in tables in Appendix A.

Water clarity

In general, water clarity, as measured by Secchi depth, tends to be higher in open areas of Georgian Bay and in bays with good water circulation. Water clarity tends to diminish (smaller Secchi depth values) in enclosed bays, near wetlands or sources of organic material, and in lakes or areas that have higher nutrient levels either from natural or anthropogenic sources.

When examining the data, it is typical to see a small decline in Secchi depth throughout the year with lowest depths reading near the end of the summer and into September. However, a major decline in the readings should be evaluated more carefully. A multi-year comparison of data is of particular value here to assess the water clarity trends for a particular area.

Where more than one year of water clarity data exists for a sampling location, Secchi depth in metres is graphed and an average depth is given.

Calcium

Calcium is a nutrient that is required by all living organisms. Some organisms, for example Daphnia, which are a primary food for many fish, as well as other aquatic animals such as mollusks, clams, amphipods, and crayfish, use calcium in the water to form their calcium-rich body coverings. These organisms, and many others, are very sensitive to declining calcium levels.

Calcium concentrations have been shown to be decreasing in Canadian Shield lakes in response to depleted watershed stores of calcium caused by logging and decades of acid loading associated with acid rain. Combined with lower food availability and warmer temperatures predicted as part of a changing climate, this decrease represents an important stressor for many aquatic species.

Calcium concentrations should be considered over the long term to identify trends. Where more than one year of calcium concentration data exists for a sampling location, calcium concentration in mg/L is graphed.

Total phosphorus

As phosphorus is the nutrient that controls the growth of plants (e.g., algae) in the aquatic environment, TP concentrations are used to interpret nutrient status. The nutrient status of an aquatic environment is typically described in terms of three broad categories – oligotrophic, mesotrophic, and eutrophic (Figure 1). TP concentrations below 10 µg/L indicate an oligotrophic or unproductive environment. Aquatic environments with TP concentrations ranging between 10 and 20 µg/L are termed mesotrophic and are moderately enriched. Finally, TP concentrations over 20 µg/L indicate a eutrophic aquatic environment in which persistent, nuisance algal blooms are possible.

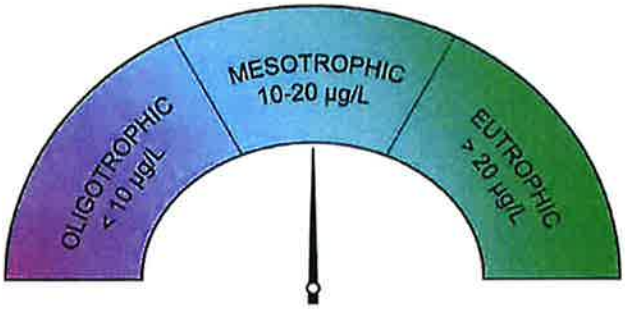


Figure 1. A lake's trophic status is determined by its total phosphorus concentration: oligotrophic lakes have TP levels less than 10 µg/L; mesotrophic lakes have TP concentrations ranging between 10 and 20 µg/L; and eutrophic lakes have TP concentrations over 20 µg/L.

The Interim Provincial Water Quality Objective (PWQO) for TP in lakes is 20 µg/L. The Interim PWQO for TP is a measure for inland lakes intended to serve as a warning for, and to prevent, conditions that could result in the nuisance growth of algae. Results in this report are used to characterize trophic condition and assess any TP trends (e.g., upward, downward). When interpreting data, the MECP cautions that although only three years of data are required to establish a reliable, long-term average to measure current nutrient status, a longer data set is required to examine trends. Some aquatic environments

exhibit relatively large differences in TP between years, highlighting the need for long-term data collection to distinguish between natural variation and true anomalies.

Where more than one year of TP data exists for a sampling location, TP in µg/L is graphed. Average TP is calculated for sampling locations with between three and five years of data, as well as locations with five or more years of data for which there is no apparent trend. For sampling locations with five or more years of TP data and for which there is an apparent trend, a trend line is shown on the TP graph and average is not calculated. Visible outliers are removed for the purpose of determining whether a trend exists but are included in the graph showing Secchi depth, calcium concentration, and TP.

The LPP database (available here) contains TP data from over one thousand sampling locations across Ontario. Readers may find the database useful in understanding how TOA sampling location TP concentrations compare to other waterbodies across the province. It is important to note that LPP TP data are presented as two samples (TP1 and TP2) plus an average for each sampling date. TP1 and TP2 are duplicate TP concentrations which help to verify confidence in the results and provide a contingency against one sample being lost due to breakage during shipment or laboratory accidents. If there are major differences between TP1 and TP2, it is likely that one of the two samples was contaminated, for example by zooplankton or other debris. In this section, only averages are presented and in cases where there is a major difference between TP1 and TP2, averages are not included to avoid erroneous interpretations. TP1, TP2, and average TP are all reported in Appendix A.

Benthic macroinvertebrates

Four TOA lakes (Blackstone, Crane, Healey, Kapikog) have had benthic macroinvertebrate sampling conducted each year since 2018. The objective of the benthic monitoring is to characterize the benthic community of each lake and compare it to lakes in the Parry Sound-Muskoka District to determine whether the benthic community is considered typical of what would be expected for a lake in this region.

The District Municipality of Muskoka has been working with lake associations to conduct benthic monitoring throughout the district since 2004. This rich Muskoka dataset, combined with additional benthic data for lakes in south-central Ontario from the Dorset Environmental Science Centre and from Jones et al. (2007), provides the basis needed for regional comparisons among lakes.

As detailed in the 2018 Muskoka Watershed Report Card Background Report, the Muskoka Watershed Council (MWC) reports on lake benthic communities in terms of the percentage of pollution-sensitive taxa found. Specifically, the pollution-sensitive taxa include larval mayflies (*Ephemeroptera*), dragonflies (*Odonata*), and caddisflies (*Trichoptera*), collectively referred to as EOT. These taxa are very sensitive to pollution and habitat alterations, meaning that their numbers will be highest in healthy lakes and lowest in unhealthy or disturbed lakes. The average %EOT for a lake is compared to the normal range for %EOT in lakes in the region. In other words, this monitoring seeks to answer the question, does the %EOT for the lake of interest fall within the normal range of what would be expected for a lake in the region?

The normal range for %EOT in lakes in the region was determined by MWC for the Muskoka Watershed Report Card by "randomly selecting one data point from each lake sampled between 2012 and 2017 and characterizing the distribution of values observed among these lakes" (MWC, 2018, p. 46). The resulting range of %EOT values is shown in Figure 2 and is used for analysis in this report.

Following the methodology used by MWC (2018), the average %EOT was calculated for each of the four lakes sampled in the TOA using data collected between 2018 and 2020. The average %EOT for each lake was then compared to the normal range (Figure 2) to determine whether the lake is considered typical, atypical, or extremely atypical. These categories are defined by MWC (2018) as follows:

- **Typical**: %EOT is between the 10th and 90th percentile. These lakes resemble the majority of lakes in the region, and therefore are comprised of typical percentages of EOT species.
- **Atypical**: %EOT is between either the 5th and 10th percentile or the 90th and 95th percentile. These lakes are outside of the normal range of the majority of lakes in the region. The percentages of EOT species may be slightly higher or lower compared to the majority of lakes in the region.
- **Extremely Atypical**: %EOT is less than the 5th percentile or greater than the 95th percentile. These lakes do not represent the majority of lakes in the region in terms of the percentages of EOT species. These lakes may have very high or very low percentages of EOT species compared to the majority of lakes in the region.

If a lake is considered atypical or extremely atypical, additional monitoring may be necessary to determine a cause.

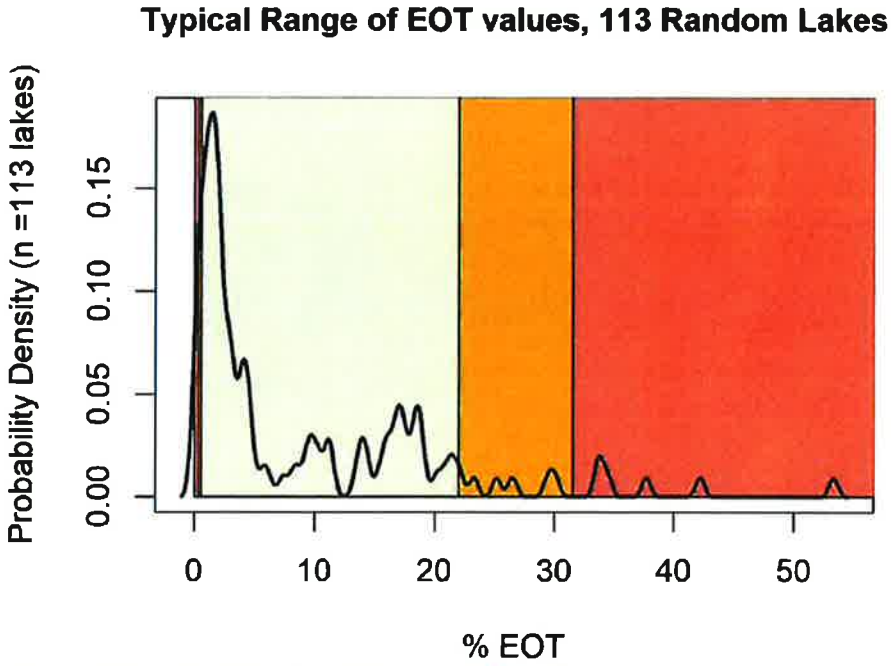


Figure 2. Range of %EOT values of sampled lakes in the region from 2012 to 2017. Typical is shown in green which is between the 10th and 90th percentile (%EOT between 0.55 and 20.99). Atypical is shown in orange which is between the 5th and 10th percentile (%EOT between 0.3 and 0.54) and 90th and 95th percentile (%EOT between 22.1 and 28.01). Extremely atypical is shown in red which is less than the 5th percentile (%EOT less than 0.29) or greater than the 95th percentile (%EOT greater than 31.5).

Fish communities

The MNDMNRF is responsible for gathering data on fish communities in inland lakes. Not all lakes are sampled on a regular basis, nor is the same data collected from every lake. The fish community information presented here represents the most up to date information available from the MNDMNRF for TOA lakes.

2.3.1 Bayfield Nares Islanders' Association

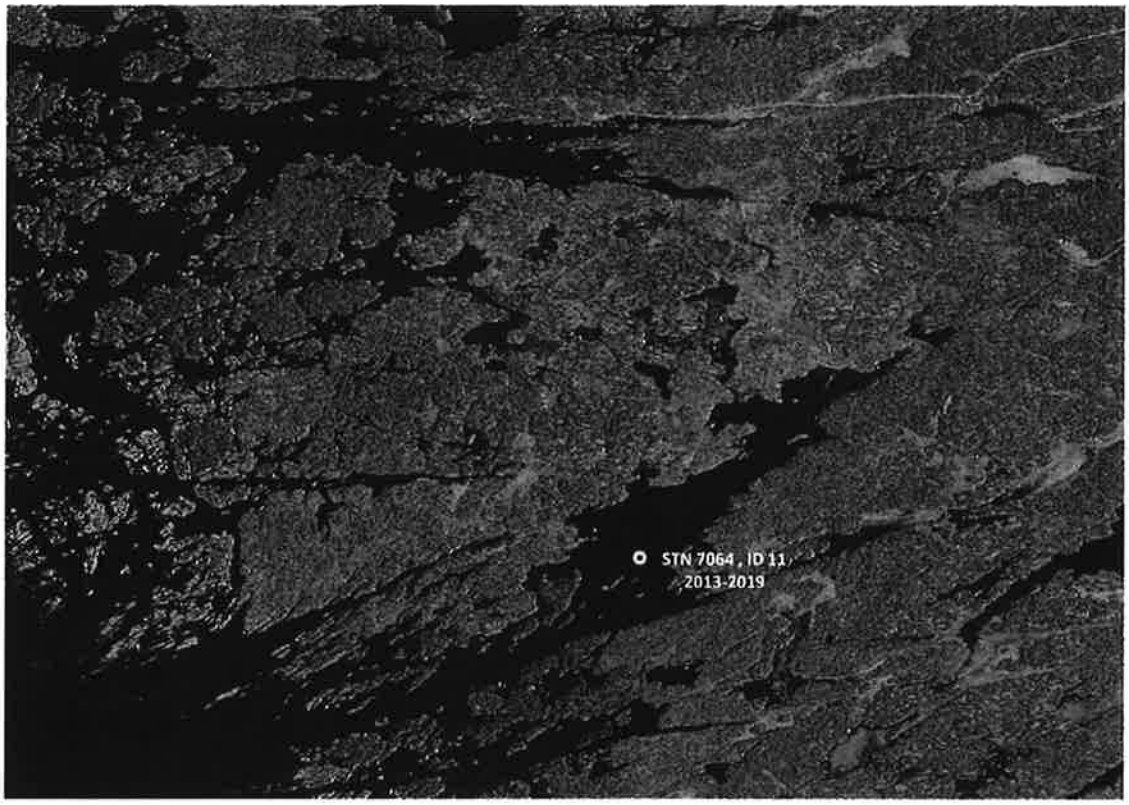
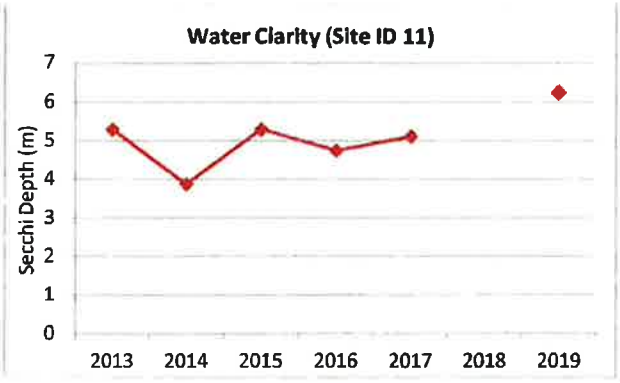


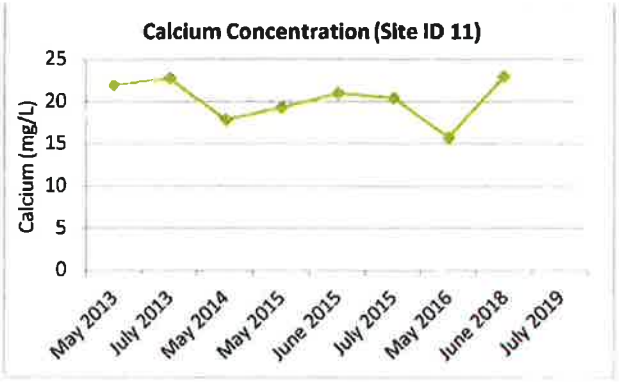
Figure 3. Active LPP sampling location.

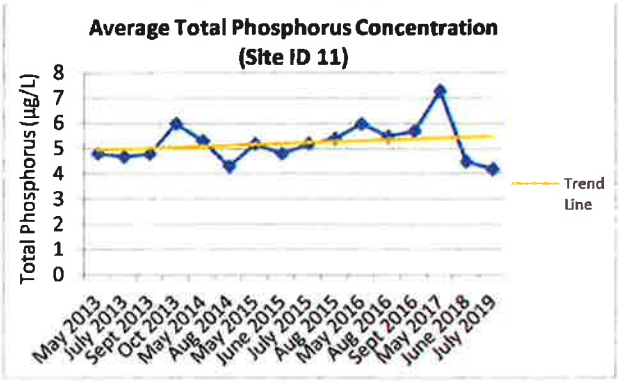
Nares Inlet

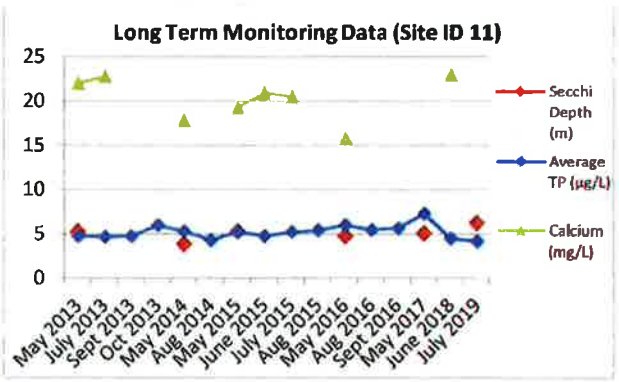
• Station: 7064	• Trophic status: oligotrophic
• Site ID: 11	• Average TP: n/a
• Description: Nares Inlet, deep spot	• Trend (Y/N): Y – increasing
• Data collector: LPP volunteer	• Average Secchi depth: 5.1 m
	• Visible outliers: none

Recommendation: continue with standard LPP monitoring at Site ID 11 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).


Water Clarity (Site ID 11)
Secchi Depth (m)
0
1
2
3
4
5
6
7
2013
2014
2015
2016
2017
2018
2019


Calcium Concentration (Site ID 11)
Calcium (mg/L)
0
5
10
15
20
25
May 2013
July 2013
May 2014
May 2015
June 2015
July 2015
May 2016
June 2018
July 2019


Average Total Phosphorus Concentration (Site ID 11)
Total Phosphorus (µg/L)
0
1
2
3
4
5
6
7
8
Trend Line
May 2013
July 2013
Sept 2013
Oct 2013
May 2014
Aug 2014
May 2015
June 2015
July 2015
Aug 2015
May 2016
Aug 2016
Sept 2016
May 2017
June 2018
July 2019


Long Term Monitoring Data (Site ID 11)
0
5
10
15
20
25
Secchi Depth (m)
Average TP (µg/L)
Calcium (mg/L)
May 2013
July 2013
Sept 2013
Oct 2013
May 2014
Aug 2014
May 2015
June 2015
July 2015
Aug 2015
May 2016
Aug 2016
Sept 2016
May 2017
June 2018
July 2019

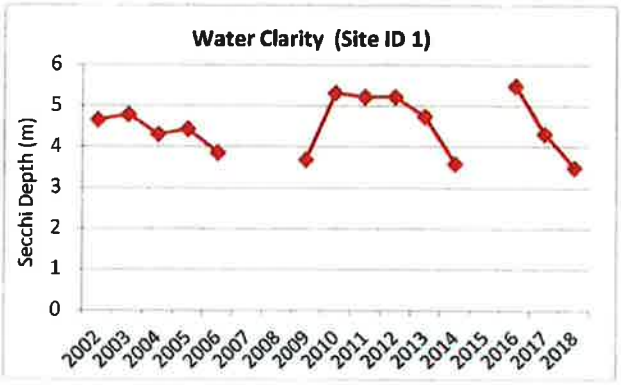
2.3.2 Blackstone Lake Cottagers' Association

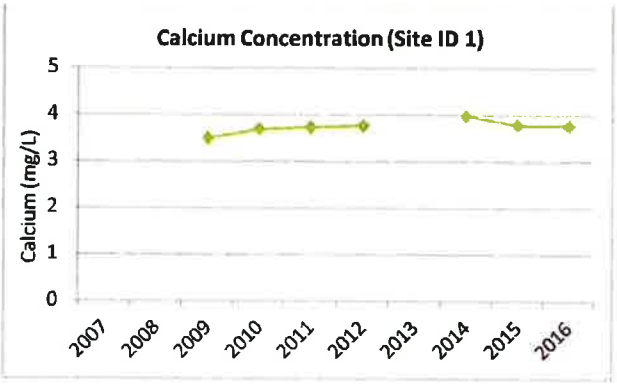
Figure 4. Recently active LPP sampling locations. Data collection at locations labelled in white is undertaken by LPP volunteers while data collection at locations labelled in orange is undertaken by the MOE Northern Region.

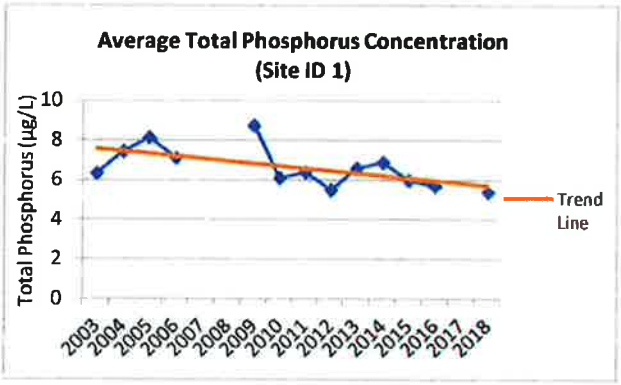
Blackstone Lake

• Station: 461	• Trophic status: oligotrophic
• Site ID: 1	• Average TP: n/a
• Description: Mid lake, deep spot	• Trend (Y/N): Y – decreasing
• Data collector: LPP volunteer	• Average Secchi depth: 4.6 m
	• Visible outliers: TP of 22 µg/L in 2002; TP of 12 µg/L in 2017

Recommendation: continue with standard LPP monitoring at Site ID 1 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).


Water Clarity (Site ID 1)
Secchi Depth (m)
0
1
2
3
4
5
6
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018


Calcium Concentration (Site ID 1)
Calcium (mg/L)
0
1
2
3
4
5
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016


Average Total Phosphorus Concentration (Site ID 1)
Total Phosphorus (µg/L)
0
2
4
6
8
10
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Trend Line

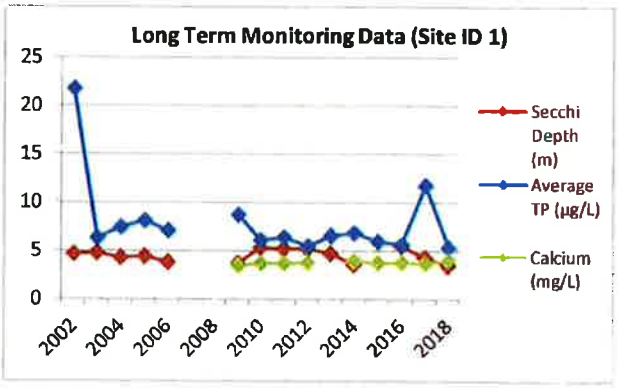

Long Term Monitoring Data (Site ID 1)
0
5
10
15
20
25
2002
2004
2006
2008
2010
2012
2014
2016
2018
Secchi Depth (m)
Average TP (µg/L)
Calcium (mg/L)

Table 1. Blackstone Lake benthic monitoring results (2018-2020). Listed in each row are the number of individuals counted from the lake segment (1-3) sub-samples.

		2018			2019			2020		
Common Name	**Scientific Name**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
Hydras	Coelenterata	0	0	0	0	0	0	0	0	0
Flatworms	Turbellaria	1	2	0	1	2	1	0	0	0
Roundworms	Nematoda	11	4	8	18	5	15	25	14	25
Aquatic Earthworms	Oligochaeta	10	10	10	1	0	1	9	3	1
Leeches	Hirudinaea	0	0	0	0	0	0	0	0	0
Sow bugs	Isopoda	1	28	16	1	21	16	17	23	16
Clams	Pelecypoda	1	0	0	0	0	0	0	0	0
Fairy Shrimp	Amphipoda	7	7	15	5	13	9	14	5	2
Crayfish	Decapoda	0	0	0	0	0	1	0	0	0
Mites	Hydracarina	16	26	11	17	18	9	7	9	10
Mayflies	Ephemeroptera	14	8	11	5	5	3	19	10	5
Dragonflies	Anisoptera	0	0	0	2	1	2	1	1	3
Damselflies	Zygoptera	0	0	0	0	0	0	0	1	0
Stoneflies	Plecoptera	0	0	0	0	0	0	0	0	0
True Bugs	Hemiptera	0	0	0	0	0	0	0	0	1
Fishflies and Alderflies	Megaloptera	0	0	0	0	0	0	0	0	0
Caddisflies	Trichoptera	10	3	6	3	6	2	5	5	6
Aquatic Moths	Lepidoptera	0	0	0	0	0	0	0	0	0
Beetles	Coleoptera	3	4	4	1	5	2	2	0	0
Snails and Limpets	Gastropoda	0	0	0	7	12	9	1	1	1
Midges	Chironomidae	16	4	21	52	20	37	15	28	50
Horse and Deer Flies	Tabanidae	0	0	0	0	0	0	0	0	0
Mosquitos	Culicidae	0	0	0	0	0	0	0	0	0
No-see-ums	Ceratopogonidae	10	4	5	8	4	4	2	1	4
Craneflies	Tipulidae	0	0	0	0	0	0	0	0	0
Blackflies	Simuliidae	0	0	0	0	0	0	0	0	0
Misc. True Flies	Misc. Diptera	0	0	0	0	0	0	0	0	0
Total Count		100	100	107	121	112	111	117	101	124
Number of Taxa		12	11	10	13	12	14	12	12	12
Average %EOT		9.0%								

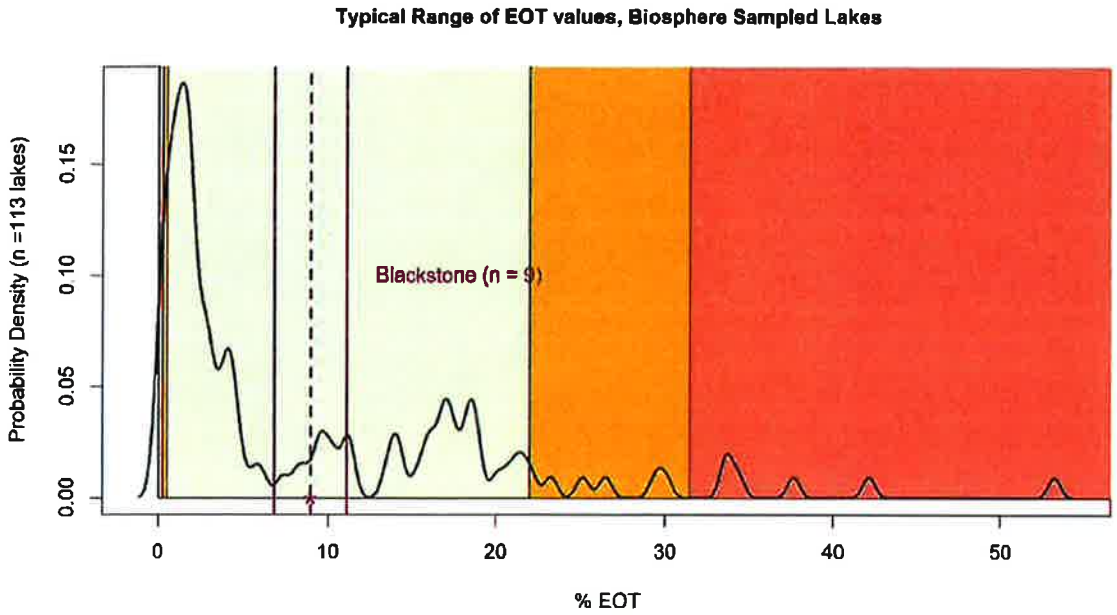


Figure 5. Blackstone Lake average %EOT (dashed purple line) and standard deviation (solid purple line) sampled from 3 lake segments over 3 years (n = 9) fall within the "typical" category (green area) on the typical %EOT range plot (based on 113 sampled lakes). This indicates that the Blackstone Lake benthic community is typical of what would be expected for a lake in this region.

Table 2. Summary of fish communities and their management in Blackstone Lake (see link)

Major fish species	Lake trout (stocked), largemouth bass, muskellunge, black crappie, smallmouth bass, walleye, northern pike, yellow perch
Other fish species	Cisco, white sucker, emerald shiner, bluntnose minnow, Johnny darter, logperch, rainbow smelt, golden shiner, brown bullhead, pumpkinseed, burbot, rock bass, mottled sculpin, common shiner
Lake trout management	Designated; put-grow-take. Season open all year (excluding sanctuary).
Current stocking	Lake trout; put-grow-take. No natural reproduction expected, stocked every second year with yearlings.
Historic stocking	Walleye (2006)
Contaminants (species tested)	No testing done

Relative to most other inland lakes in the TOA, the fish community in Blackstone Lake has been fairly well studied in recent decades. Based on a 2005 Spring Littoral Index Netting (SLIN) survey which captured 23 lake trout (catch per unit effort 0.77 ± 0.52; $p<0.05$), Blackstone Lake was considered to have an average or moderate abundance of lake trout, indicating good survival of stocked lake trout. This catch per unit effort was similar to that observed in the Parry Sound reference dataset (0.83) and the Provincial reference dataset (1.20). All but one of the 23 lake trout captured were from the 1999 and 2001 stocking events.

No natural lake trout reproduction occurs in Blackstone Lake despite having a large amount of deep-water juvenile habitat (limited water clarity may limit its use to some degree). A visual reconnaissance of nearshore areas was done in 2011 to identify potential lake trout spawning habitat. While not abundant, some suitable habitat is present, suggesting that other factors are limiting lake trout recruitment. The genetic strain of lake trout being stocked has been changed from the Killala Lake strain, identified as seldom reproducing successfully in other lakes in the region, to the Lake Manitou strain, which has been shown to reproduce in some lakes. Following the spawning shoal reconnaissance, it was suggested that enhancement of spawning habitat may be warranted in the future if signs of reproduction are detected.

The walleye population in Blackstone Lake was studied in 1993 (synoptic trapnet survey), 1996 (Index Walleye Spawners Survey), and again in 2005 (synoptic trapnet survey and Index Walleye Spawners Survey). The synoptic trapnet surveys were primarily aimed at ascertaining the status of the walleye population with a secondary purpose of assessing the overall status of the nearshore fish community and the individual fish species that comprise it. In 2005, overall fish productivity for all species combined was approximately average for Parry Sound area lakes. Catch was dominated by muskellunge (50.5%), smallmouth bass (24%), and walleye (16.2%). All other remaining species (northern pike, white sucker, rock bass, pumpkinseed, and black crappie) comprised only 9.3% of the total catch weight. Although walleye catch per unit effort was much lower in 2005 (0.9 ±0.7; $p<0.05$) than 1993 (4.6 ± 2.6; $p<0.05$), the two were not statistically different ($p<0.05$). Biosampling and catch data from this and other surveys on Blackstone Lake indicate chronically poor levels of walleye spawning and recruitment success. Smallmouth bass abundance as measured by catch per unit effort was essentially unchanged between surveys. More muskellunge and fewer pike were caught in 2005 relative to 1993, but the numbers were too small between surveys to formulate any conclusions about relative abundance. Rock bass were much more frequently caught in 2005. In addition, one black crappie was caught in 2005; a species that was not present in the lake in 1993.

The Index Walleye Spawners Surveys were intended to monitor the status of the spawning population and assess changes that have occurred between the 1996 and 2005 surveys. The walleye catch per unit effort for the 2005 survey was 7.0 ± 5.6 ($p<0.05$); down considerably from 17.3 ± 10.3 observed in 1996. However, walleye catch per unit effort is not a reliable indicator of spawning population. The most significant indicator of spawning population health was contained in the biosampling data. Mean length and size distribution of male and female walleye in the spawning population had shifted alarmingly to larger fish in 2005 relative to 1996. This shift was indicative of several years of poor or negligible recruitment to the spawning population. Another notable change was the highly unusual sex ratio in the 2005 walleye sample. Sex ratio of male to female walleye was 1:7.4. In 1996, it was almost 1:1. The potential impact of this sex ratio is unknown.

Records on walleye habitat rehabilitation in Blackstone Lake over the years include:

- 1974 - 60 cubic yards of rock rubble added to spawning beds below bridge
- 1975 - Spawning area of 240 square feet enhanced at Blackstone Creek (inlet from Third Lake)
- 1983 - Junior Rangers added rock rubble to Blackstone Creek
- 1989 - 121 tons of limestone rip-rap added to spawning beds
- 1991 - 45 cubic yards of rip-rap deposited in Rat Creek

2.3.3 Cranberry Lake

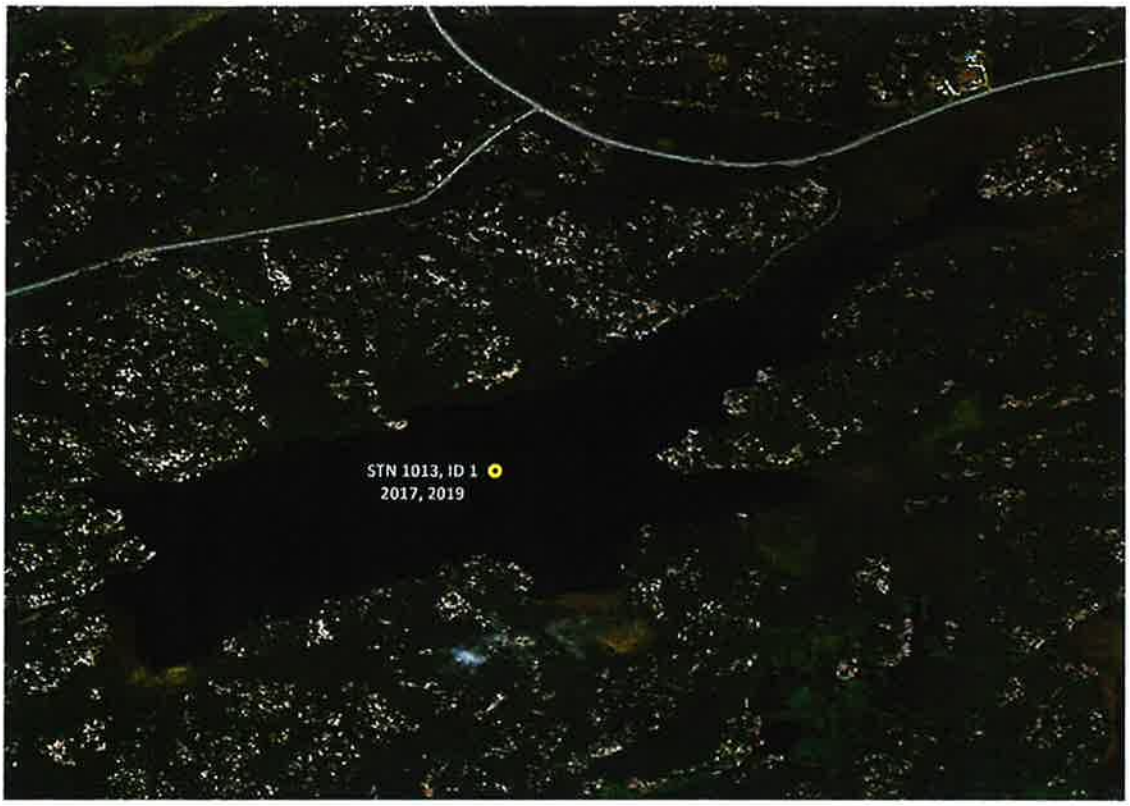


Figure 6. Active LPP sampling location.

Cranberry Lake

• Station: 1013	• Trophic status: mesotrophic
• Site ID: 1	• Average TP: n/a
• Description: mid lake, deep spot	• Trend (Y/N): n/a
• Data collector: LPP volunteer	• Average Secchi depth: 1.5 m
	• Visible outliers: none

Recommendation: continue with standard LPP monitoring at Site ID 1 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).

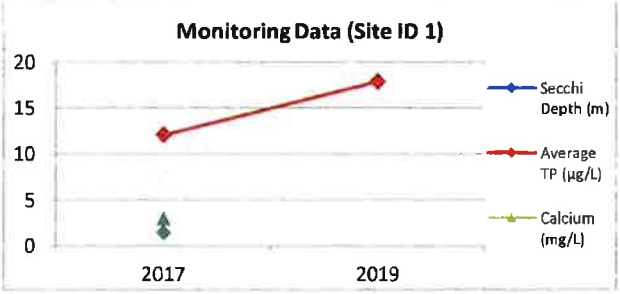


Table 3. Summary of fish communities and their management in Cranberry Lake (see link)

Major fish species	Northern pike, largemouth bass (introduced), black crappie (introduced)
Other fish species	Yellow perch, brown bullhead, pumpkinseed, rock bass, Iowa darter, bowfin, golden shiner
Lake trout management	Not designated
Current stocking	None
Historic stocking	Walleye (1940), largemouth bass (1979)
Contaminants (species tested)	No testing done

The first recorded MNDMNRF survey of Cranberry Lake was completed in 1978 and was focused on examining the bass fishery. Cranberry Lake was noted as having excellent largemouth bass habitat despite the fact that few bass were found. Field staff speculated that brown bullhead were in direct competition with bass. Following this initial survey, coarse fish removal was undertaken with 1,500 brown bullhead being removed from the lake in 1978 and 3,197 brown bullhead and 45 bowfin being removed in 1979. Also in 1979, 238 adult and sub-adult largemouth bass were transferred from Yarrow (91), Windfall (61), Nevelle (34), and Brennan (52) Lakes to Cranberry Lake. Four years later the lake was assessed for the presence of largemouth bass. None of the largemouth bass planted in 1979 were captured in 1983 but eight others were, representing some natural production. Based on this assessment, it was concluded that the establishment of a self-sustaining largemouth bass fishery had failed. In 1986, a trapnet survey revealed catches of brown bullhead (1,534), black crappie (410), pumpkinseed (292), northern pike (96), largemouth bass (84), bowfin (50), yellow perch (23), and golden shiner (2). No further assessments have been conducted.

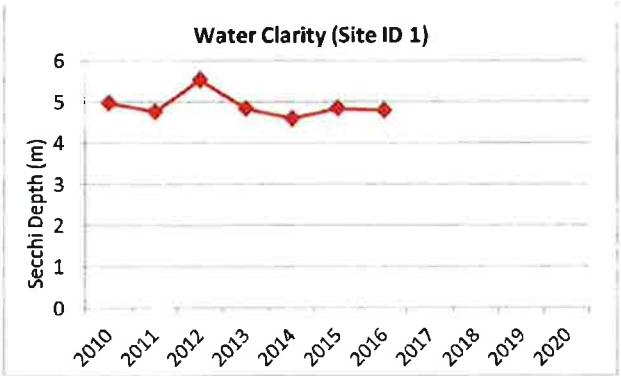
2.3.4 Crane Lake Association

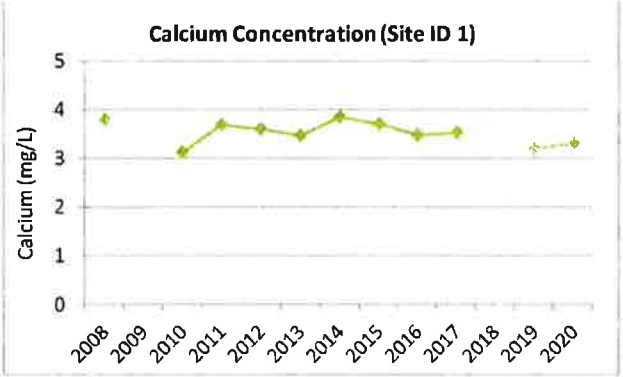
Figure 7. Active and recently active LPP sampling locations. Data collection at locations labelled in white is undertaken by LPP volunteers while data collection at locations labelled in orange is undertaken by the MOE Northern Region.

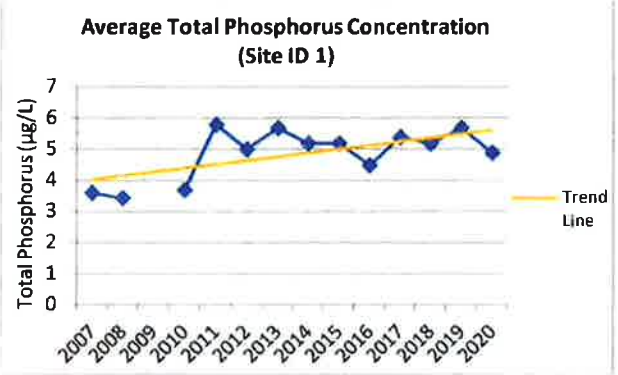
Crane Lake

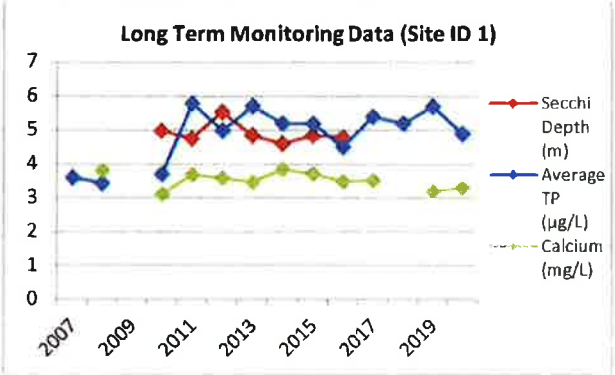
• Station: 1014	• Trophic status: oligotrophic
• Site ID: 1	• Average TP: n/a
• Description: mid-bay, deep spot	• Trend (Y/N): Y – increasing
• Data collector: LPP volunteer	• Average Secchi depth: 4.9 m
	• Visible outliers: none

Recommendation: continue with standard LPP monitoring at Site ID 1 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).





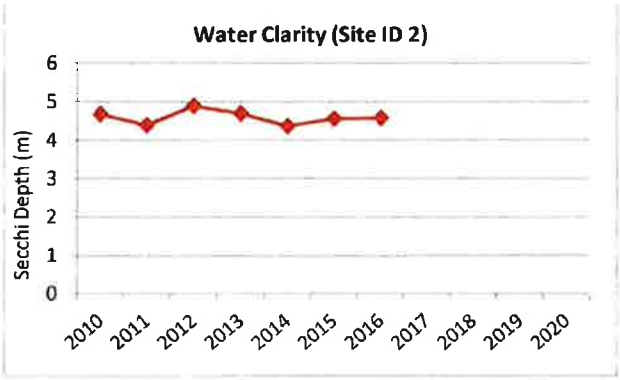


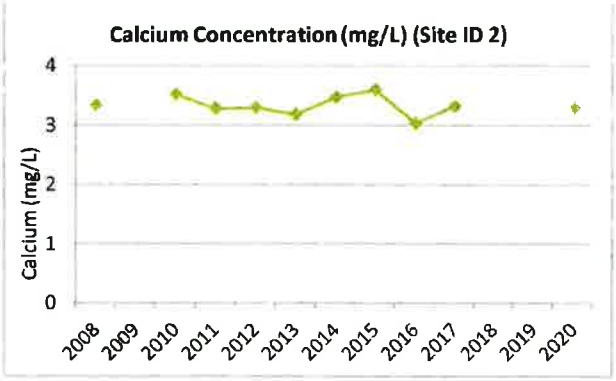


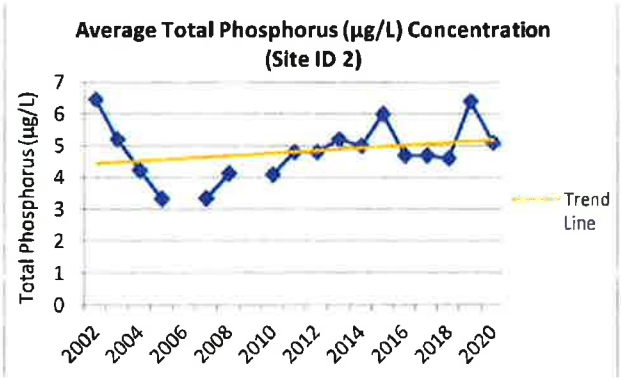
Crane Lake

• Station: 1014	• Trophic status: oligotrophic
• Site ID: 2	• Average TP: n/a
• Description: N end, off Marsh Is.	• Trend (Y/N): Y – increasing
• Data collector: LPP volunteer	• Average Secchi depth: 4.6 m
	• Visible outliers: none

Recommendation: continue with standard LPP monitoring at Site ID 2 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).







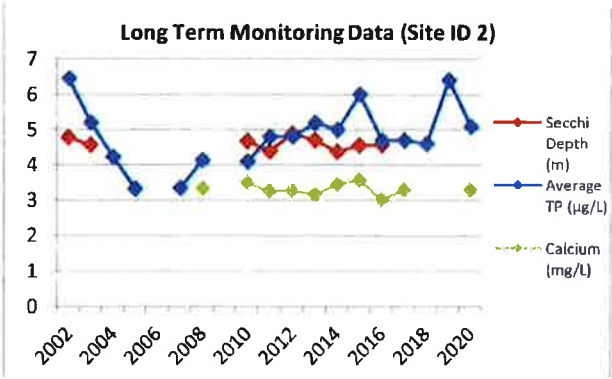


Table 4. Crane Lake benthic monitoring results (2018-2020). Listed in each row are the number of individuals counted from the lake segment (1-3) sub-samples.

		2018			2019			2020		
Common Name	**Scientific Name**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
Hydras	Coelenterata	0	0	0	0	0	0	0	0	0
Flatworms	Turbellaria	0	1	4	1	1	1	0	2	1
Roundworms	Nematoda	1	0	1	18	12	11	11	17	13
Aquatic Earthworms	Oligochaeta	5	2	5	0	1	0	4	2	0
Leeches	Hirudinaea	0	0	0	0	0	0	0	0	0
Sow bugs	Isopoda	0	3	4	0	5	1	0	13	20
Clams	Pelecypoda	0	0	0	1	1	1	1	1	0
Fairy Shrimp	Amphipoda	16	29	6	19	14	9	31	25	47
Crayfish	Decapoda	0	0	0	1	0	0	0	0	0
Mites	Hydracarina	24	18	31	22	46	20	7	18	11
Mayflies	Ephemeroptera	16	7	3	10	5	0	17	38	5
Dragonflies	Anisoptera	2	1	1	1	1	2	6	3	3
Damselflies	Zygoptera	1	1	0	1	0	0	0	1	0
Stoneflies	Plecoptera	0	0	0	0	0	0	0	0	0
True Bugs	Hemiptera	0	0	1	0	0	0	0	0	0
Fishflies and Alderflies	Megaloptera	0	0	0	0	0	0	0	0	0
Caddisflies	Trichoptera	2	0	1	2	1	3	4	3	3
Aquatic Moths	Lepidoptera	0	0	0	0	0	0	0	0	0
Beetles	Coleoptera	2	3	3	0	1	1	0	3	0
Snails and Limpets	Gastropoda	2	1	2	1	7	0	3	3	5
Midges	Chironomidae	19	30	42	46	26	53	13	17	14
Horse and Deer Flies	Tabanidae	0	0	0	0	0	0	0	0	0
Mosquitos	Culicidae	0	0	0	0	0	0	0	0	0
No-see-ums	Ceratopogonidae	11	4	5	6	4	6	4	4	4
Craneflies	Tipulidae	0	0	0	0	0	0	0	0	0
Blackflies	Simuliidae	0	0	0	0	0	0	0	0	0
Misc. True Flies	Misc. Diptera	0	0	0	0	0	0	0	0	0
Total Count		101	100	109	129	125	108	101	150	126
Number of Taxa		12	12	14	13	14	11	11	15	11
Average %EOT		14.4%								

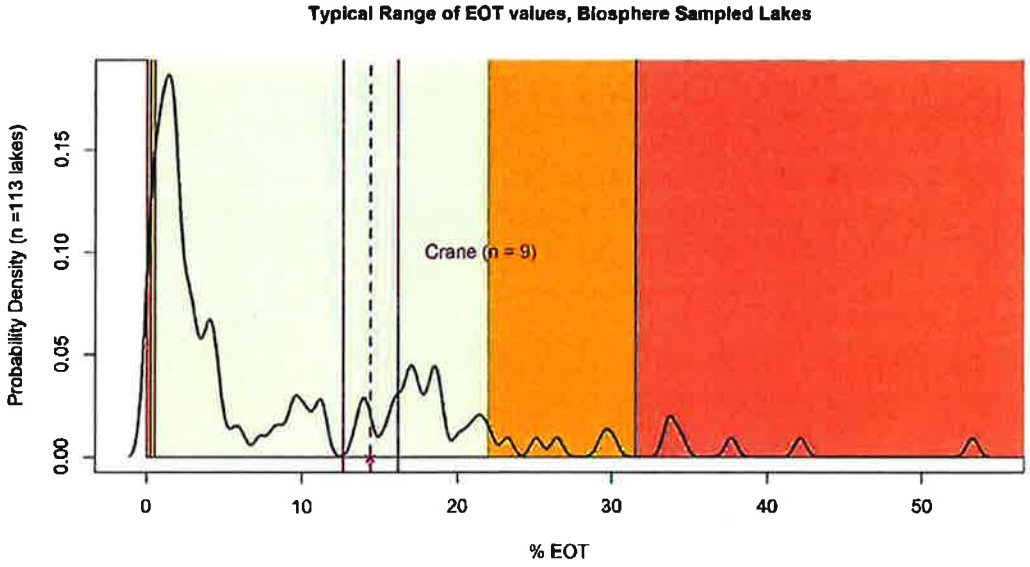


Figure 8. Crane Lake average %EOT (dashed purple line) and standard deviation (solid purple line) sampled from 3 lake segments over 3 years (n = 9) fall within the "typical" category (green area) on the typical %EOT range plot (based on 113 sampled lakes). This indicates that the Crane Lake benthic community is typical of what would be expected for a lake in this region.

Table 5. Summary of fish communities and their management in Crane Lake (see link)

Major fish species	Walleye, lake trout (stocked), muskellunge, smallmouth bass (introduced), largemouth bass (introduced 1977), black crappie (introduced), northern pike
Other fish species	Yellow perch, burbot, cisco, rainbow smelt (introduced), rock bass, mimic shiner, bluntnose minnow
Lake trout management	Designated; put-grow-take. Season open all year.
Current stocking	Lake trout; put-grow-take. No natural reproduction expected, stocked every second year with yearlings.
Historic stocking	Smallmouth bass (1939-1958), walleye (1939-1994), muskellunge (1954-1964)
Contaminants (species tested)	Walleye, smallmouth bass, largemouth bass, lake trout

Relative to most other inland lakes in the TOA, the fish community in Crane Lake has been fairly well studied in recent decades. Most recently, a trapnet survey was conducted in 2005 with the primary purpose being to ascertain the status of the walleye population. Similar surveys were conducted in 1993 and 1997. In 2005, overall fish productivity was described as "approximately average", relative to other Parry Sound area lakes. Productivity in 2005 was very similar to observations in 1997 and 1993. The catch was dominated by smallmouth bass (68.7% of total catch weight) and walleye (27.9%). All other species combined (largemouth bass, rock bass, black crappie, and brown bullhead) accounted for less than 4% of the total catch weight. These are similar results to past surveys, with the exception of 2005 being the first documentation of a black crappie in Crane Lake (presumably an unauthorized introduction). The survey report summary states that there have been notable changes for walleye,

smallmouth bass, and muskellunge in the catch between survey years. However, these changes are not discussed further in the summary.

Walleye biosampling data and indices of abundance in 2005 revealed a small population with several years of recent recruitment failure. Evidently, very restrictive catch and size regulations implemented in 1999 failed to rehabilitate the walleye population. The depressed state of the population is believed to be attributable to reproductive and recruitment failure, not excessive angler exploitation. Indices of abundance for smallmouth bass were extremely high and the population was considered to be in an exceptionally healthy state. Other fish species (largemouth bass, rock bass, black crappie and brown bullhead) were very scarce in the catch, as was observed in previous surveys on the lake. No pike were captured in this survey.

A 2001 Fall Walleye Index Netting (FWIN) survey, and 1998 and 1993 synoptic trapnet surveys all resulted in similar findings. Walleye abundance was found to be low with poor natural recruitment, northern pike abundance was also low, smallmouth bass abundance was high, and muskellunge abundance was very good.

Anecdotal interviews with knowledgeable long-time residents indicate Crane Lake never had a native lake trout population and the current population is maintained wholly by stocked fish. In 1976, 16 overnight gill-net sets resulted in the capture of 13 lake trout. The following year no lake trout were captured during 15 overnight gill-net sets. Despite poor results in 1977, stocking continued in the following years. In 1990, 17 overnight gill-net sets yielded 7 lake trout, all of which were stocked fish (6 from 1987 stocking, 1 from 1974 stocking). Stocking continues to this day.

2.3.5 Healey Lake Property Owners' Association

Figure 9. Recently active LPP sampling locations. Data collection at locations labelled in white is undertaken by LPP volunteers while data collection at locations labelled in orange is undertaken by the MOE Northern Region.

Healey Lake

• Station: 1924	• Trophic status: oligotrophic
• Site ID: 13	• Average TP: 8.3 µg/L
• Description: Pinebay, deep spot	• Trend (Y/N): n/a
• Data collector: LPP volunteer	• Average Secchi depth: 2.8 m
	• Visible outliers: TP of 10.4 µg/L in 2018

Recommendation: reinitiate standard LPP monitoring at Site ID 13 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).

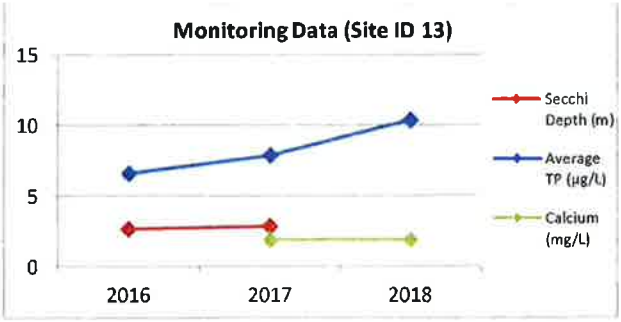


Table 6. Healey Lake benthic monitoring results (2018-2020). Listed in each row are the number of individuals counted from the lake segment (1-3) sub-samples.

		2018			2019			2020		
Common Name	**Scientific Name**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
Hydras	Coelenterata	0	0	0	0	0	0	0	0	0
Flatworms	Turbellaria	3	0	1	0	1	0	1	0	1
Roundworms	Nematoda	10	0	10	30	25	8	12	40	19
Aquatic Earthworms	Oligochaeta	11	2	11	13	20	13	4	2	3
Leeches	Hirudinaea	0	0	0	0	0	1	1	0	1
Sow bugs	Isopoda	9	70	17	26	3	4	2	17	3
Clams	Pelecypoda	0	0	0	1	0	0	0	0	0
Fairy Shrimp	Amphipoda	11	15	24	6	3	4	31	15	15
Crayfish	Decapoda	0	0	0	0	1	1	1	0	0
Mites	Hydracarina	23	7	18	7	9	8	23	10	25
Mayflies	Ephemeroptera	7	0	5	1	1	3	1	3	4
Dragonflies	Anisoptera	0	1	2	2	2	4	3	0	1
Damselflies	Zygoptera	2	0	1	3	2	2	1	4	1
Stoneflies	Plecoptera	0	0	0	0	0	0	0	0	0
True Bugs	Hemiptera	0	0	0	0	0	0	0	1	0
Fishflies and Alderflies	Megaloptera	0	0	0	0	1	0	0	0	0
Caddisflies	Trichoptera	0	0	0	10	3	2	2	1	1
Aquatic Moths	Lepidoptera	0	0	0	0	0	0	0	0	0
Beetles	Coleoptera	6	0	1	0	0	0	1	0	0
Snails and Limpets	Gastropoda	9	0	3	1	6	23	6	0	0
Midges	Chironomidae	1	2	2	6	27	35	11	10	23
Horse and Deer Flies	Tabanidae	0	0	0	0	0	0	0	0	0
Mosquitos	Culicidae	0	0	0	0	0	0	0	0	0
No-see-ums	Ceratopogonidae	7	5	5	6	6	3	3	0	3
Craneflies	Tipulidae	0	0	0	0	0	0	0	0	0
Blackflies	Simuliidae	0	0	0	0	0	0	0	0	0
Misc. True Flies	Misc. Diptera	1	0	0	0	0	0	0	0	0
Total Count		100	102	100	112	110	111	103	103	100
Number of Taxa		13	7	13	13	15	14	16	10	13
Average %EOT		11.9%								

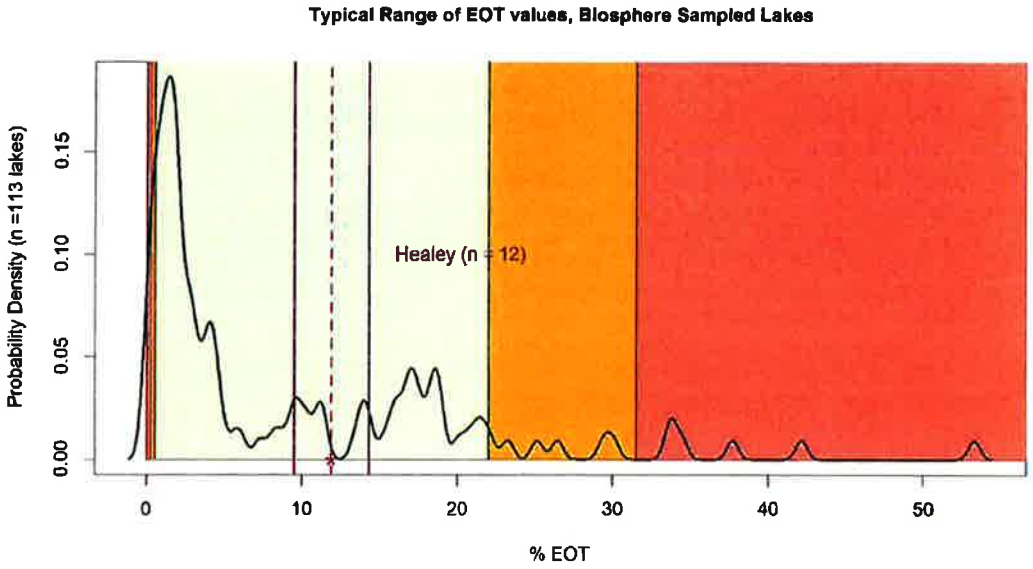


Figure 10. Healey Lake average %EOT (dashed purple line) and standard deviation (solid purple line) sampled from 3 lake segments over 4 years (n = 12) fall within the "typical" category (green area) on the typical %EOT range plot (based on 113 sampled lakes). This indicates that the Healey Lake benthic community is typical of what would be expected for a lake in this region. Note: data from sampling in 2012 were included in addition to the 2018-2020 data.

Table 7. Summary of fish communities and their management in Healey Lake (see link)

Major fish species	Largemouth bass, smallmouth bass, northern pike, black crappie (introduced 1997)
Other fish species	Johnny darter, yellow perch, white sucker, rock bass, cisco, brown bullhead, bluntnose minnow
Lake trout management	Not designated
Current stocking	None
Historic stocking	Walleye (1956-1959)
Contaminants (species tested)	Largemouth bass, yellow perch, rock bass, black crappie, pumpkinseed, brown bullhead

A 1973 report of the interpretation of limnological data collected on Healey Lake states that the lake can support both a warm and cold water fishery, but oxygen levels may limit cold water species. The report concluded that the lake cannot produce many pounds of fish annually and that fishing effort should be limited if a high quality fishery is desired. Winter and summer creel surveys in the same year found that 67.5 winter rod hours yielded 4 northern pike while 6.5 summer rod hours yielded no fish. A summer creel survey in 1974 found that 17.5 rod hours yielded 3 smallmouth bass and 1 northern pike, and 4 rod hours in 1977 yielded 1 rock bass.

In 1983, an intensive trap and gill netting program was performed on Healey Lake. This program was an attempt to gather information concerning fish species composition, age-class structure of the sport fish,

relative abundance of the various fish species and coarse fish removal. Coarse fish (rock bass, pumpkinseed) were most abundant. Northern pike and yellow perch were virtually absent from trap and gill net catches. The largemouth bass population appeared to be healthy although this population was localized in Dollar Bay which could lead to overexploitation. The 2+ and 4+ age-classes were the highest represented among the largemouth and smallmouth bass. Insufficient sample size did not permit any evaluation of the age-class structure of yellow perch, northern pike, cisco and white sucker.

Over a series of years starting in 1984, coarse fish (e.g., pumpkinseed, rock bass) removal was undertaken. In 1984, 556 fish were removed through trapnetting and 1,540 lbs of rock bass and pumpkinseed were removed during a fish derby. Another fish derby in 1985 removed 1,126 lbs of rock bass and pumpkinseed. The following year 200 suckers were removed via netting. A fish derby was held again in 1996 during which 79 lbs of fish was removed (70% rock bass, remainder pumpkinseed and one brown bullhead)

2.3.6 Iron City Fishing Club

Figure 11. Active LPP sampling location.

Iron City Bay

Station	Site ID	Description	Data Collector	2016 Average TP (µg/L)	2019 Average TP (µg/L)
7064	79	Iron City Bay, deep spot	LPP volunteer	10.3	10.2

Recommendation: continue with standard LPP monitoring at Site ID 79 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).

2.3.7 Kapikog Lake Cottagers' Association

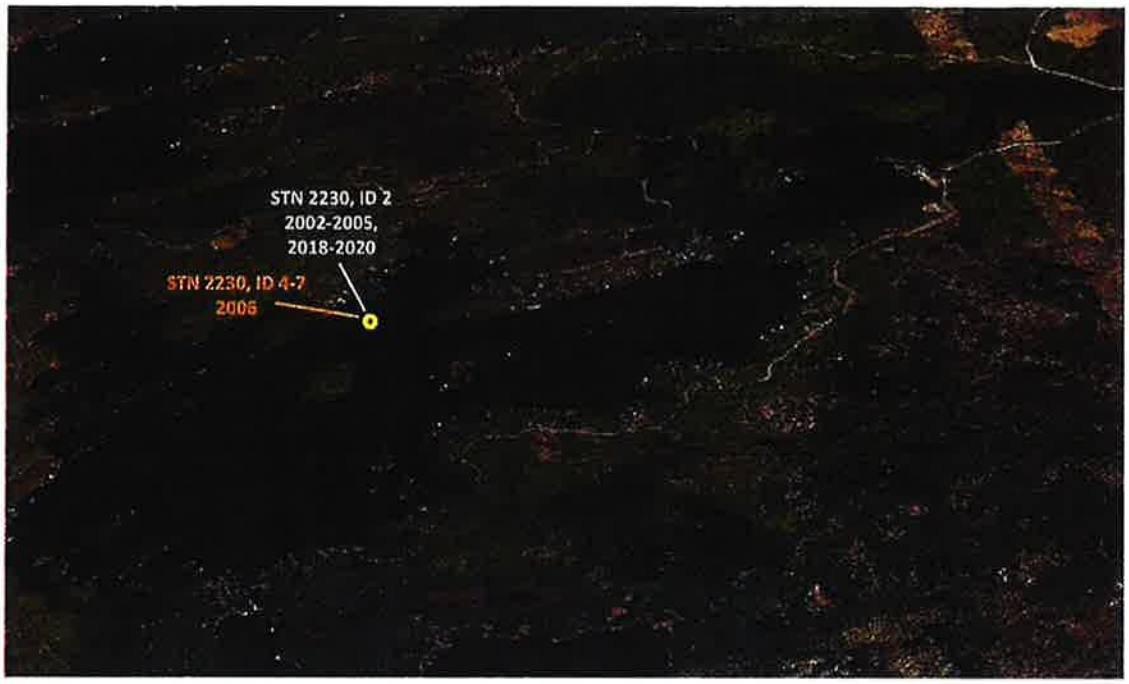


Figure 12. Active and past LPP sampling locations. Data collection at locations labelled in white is undertaken by LPP volunteers while data collection at locations labelled in orange is undertaken by the MOE Northern Region.

Kapikog Lake

• Station: 2230	• Trophic status: oligotrophic
• Site ID: 2	• Average TP: 6.1 µg/L
• Description: Stn 2, mid-lake	• Trend (Y/N): n/a
• Data collector: LPP volunteer	• Average Secchi depth: 4.4 m
	• Visible outliers: none

Recommendation: continue with standard LPP monitoring at Site ID 2 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).

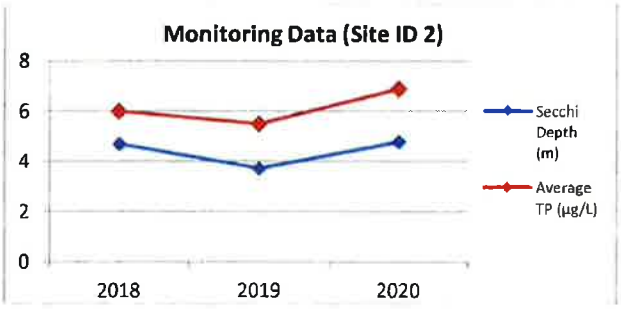


Table 8. Kapikog Lake benthic monitoring results (2018-2020). Listed in each row are the number of individuals counted from the lake segment (1-3) sub-samples.

		2018			2019			2020		
Common Name	**Scientific Name**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
Hydras	Coelenterata	0	0	0	0	0	0	0	0	0
Flatworms	Turbellaria	0	0	0	2	1	1	2	3	0
Roundworms	Nematoda	0	10	10	0	8	9	8	12	14
Aquatic Earthworms	Oligochaeta	4	16	3	4	2	2	5	2	1
Leeches	Hirudinaea	1	0	1	0	0	0	0	1	0
Sow bugs	Isopoda	1	3	1	0	4	0	4	1	0
Clams	Pelecypoda	0	0	1	0	0	0	0	1	0
Fairy Shrimp	Amphipoda	40	27	9	5	7	6	12	22	48
Crayfish	Decapoda	0	0	0	0	0	1	0	0	0
Mites	Hydracarina	5	2	10	7	3	14	16	8	5
Mayflies	Ephemeroptera	0	3	0	1	1	0	1	10	4
Dragonflies	Anisoptera	0	1	0	0	0	2	1	1	2
Damselflies	Zygoptera	1	0	0	2	1	3	0	1	0
Stoneflies	Plecoptera	0	0	0	0	0	0	0	0	0
True Bugs	Hemiptera	0	0	0	0	0	1	1	0	0
Fishflies and Alderflies	Megaloptera	0	0	0	0	0	0	0	0	0
Caddisflies	Trichoptera	5	4	12	2	1	2	5	11	5
Aquatic Moths	Lepidoptera	0	0	0	0	0	0	0	0	0
Beetles	Coleoptera	2	2	1	1	0	2	2	3	3
Snails and Limpets	Gastropoda	0	4	3	3	1	1	1	1	1
Midges	Chironomidae	63	21	41	70	73	52	40	28	24
Horse and Deer Flies	Tabanidae	0	0	0	0	0	0	0	0	0
Mosquitos	Culicidae	0	0	0	0	0	0	0	0	0
No-see-ums	Ceratopogonidae	8	10	11	8	10	10	6	1	1
Craneflies	Tipulidae	0	0	0	0	0	0	0	0	0
Blackflies	Simuliidae	0	0	0	0	0	0	0	0	0
Misc. True Flies	Misc. Diptera	0	0	0	0	0	0	0	0	0
Total Count		130	103	103	105	112	106	104	106	108
Number of Taxa		10	12	12	11	12	14	14	16	11
Average %EOT		11.6%								

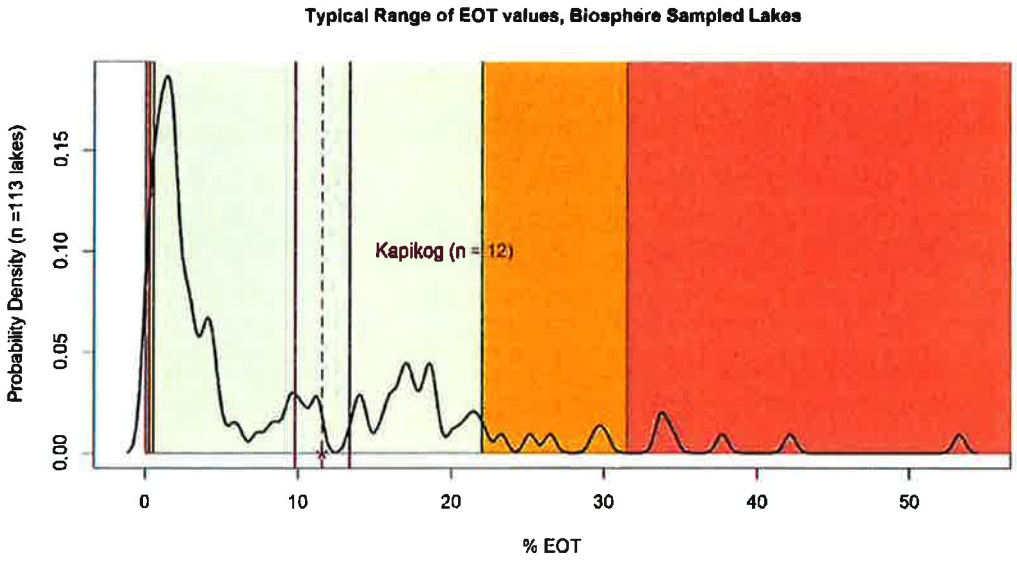


Figure 13. Kapikog Lake average %EOT (dashed purple line) and standard deviation (solid purple line) sampled from 3 lake segments over 4 years (n = 12) fall within the "typical" category (green area) on the typical %EOT range plot. This indicates that the Kapikog Lake benthic community is typical of what would be expected for a lake in this region. Note: data from sampling in 2012 were included in addition to the 2018-2020 data.

Table 9. Summary of fish communities and their management in Kapikog Lake (see link)

Major fish species	Smallmouth bass, largemouth bass, black crappie (introduced), northern pike
Other fish species	Cisco, golden shiner, yellow perch, rock bass, brown bullhead, pumpkinseed
Lake trout management	Not designated
Current stocking	None
Historic stocking	Rainbow trout (2005)
Contaminants (species tested)	Largemouth bass, pumpkinseed, brown bullhead, northern pike (2015)

The first available record for Kapikog Lake is a pre-stocking assessment from 1981. The report concludes that Kapikog Lake has a small population of largemouth bass and is not suitable as a donor lake for the bass transfer program. Two years later a trapnet survey was conducted. The summary report indicates that catch per unit effort was lower in 1983 than during similar surveys conducted in 1981 and 1982 (no reports available from these surveys). Largemouth bass were found to grow rapidly while growth rates for smallmouth bass were slow and very slow for yellow perch. Small and largemouth bass populations were considered to be heavily exploited by anglers.

2.3.8 Manitou Association

LPP monitoring has not previously been carried out in this area.

Recommendation: refer to the *Enclosed Bays and Inland Lakes Phosphorus Monitoring Guideline* for information on selecting an LPP sampling location and begin standard LPP monitoring (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).

2.3.9 Naiscoot Lake Association

LPP monitoring has not previously been carried out on Naiscoot Lake.

Recommendation: refer to the *Enclosed Bays and Inland Lakes Phosphorus Monitoring Guideline* for information on selecting an LPP sampling location and begin standard LPP monitoring (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).

Table 10. Summary of fish communities and their management in Naiscoot Lake (see link)

Major fish species	Lake whitefish, muskellunge, northern pike, smallmouth bass, walleye
Other fish species	Bluntnose minnow, brown bullhead, cisco, fathead minnow, trout-perch, yellow perch, golden shiner, Johnny darter, white sucker, pumpkinseed, bowfin
Lake trout management	Not designated
Current stocking	None
Historic stocking	Walleye (1939-1953), smallmouth bass (1942-1974), muskellunge (1953-1973), rainbow trout (1999)
Contaminants (species tested)	No testing done

Naiscoot Lake was surveyed originally in 1976 and found to support a diverse fish community. In 2006, a fall trapnet survey was done. The catch of smallmouth bass was high while that of walleye was moderate. Bowfin were caught, which had not been documented in the 1976 survey. More recently, an angler reported catching bluegill in 2016. The presence of an established population has not yet been verified.

2.3.10 Pointe au Baril Islanders' Association

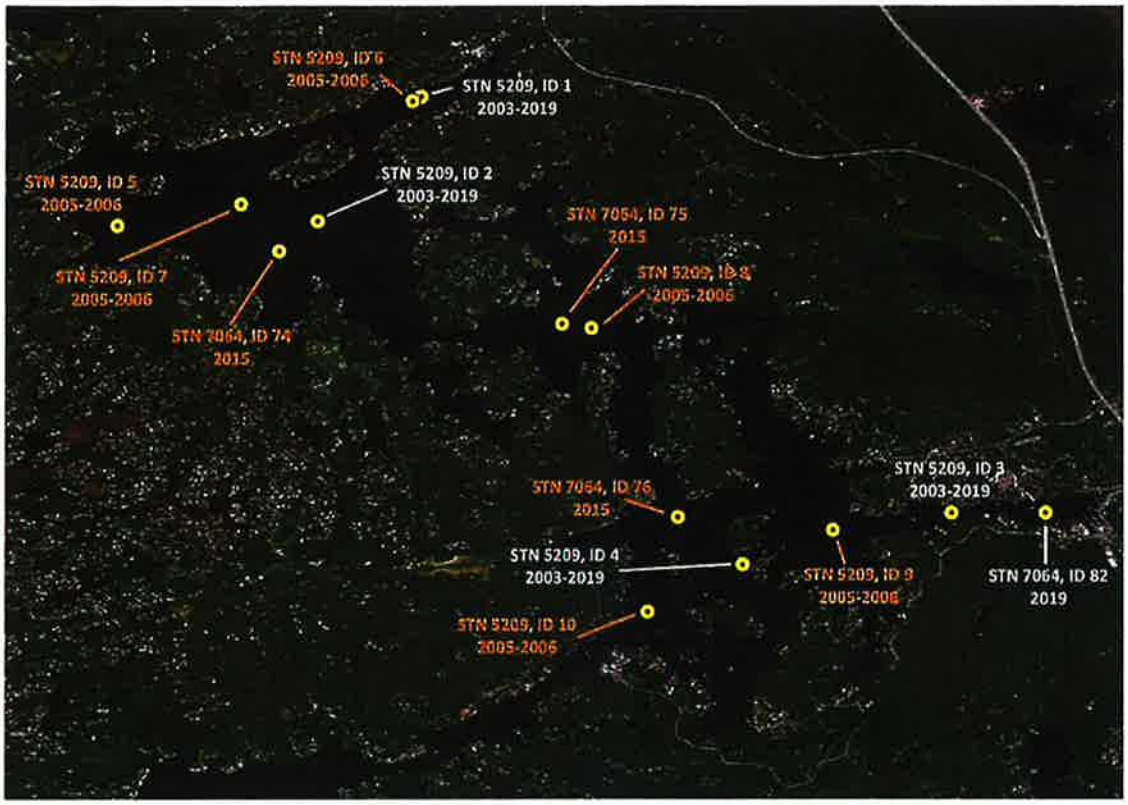
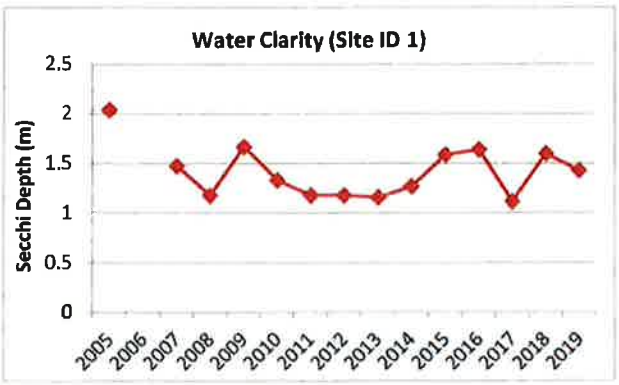


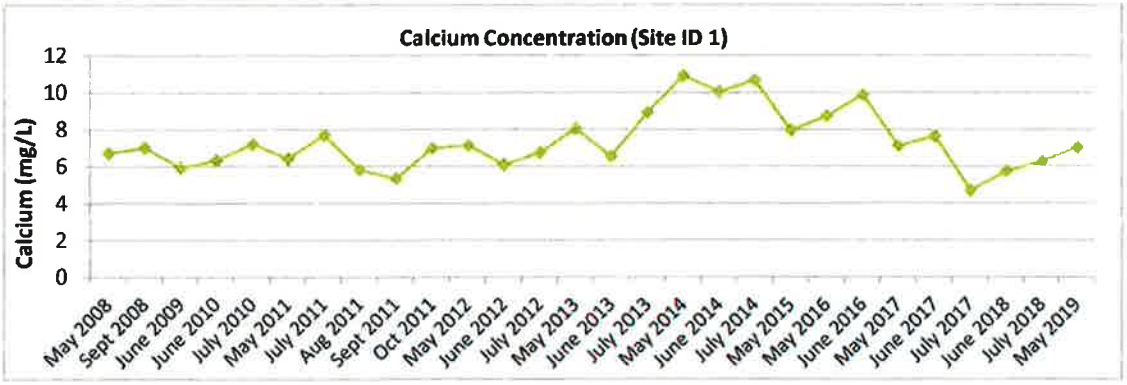
Figure 14. Past and active LPP sampling locations. Data collection at locations labelled in white is undertaken by LPP volunteers while data collection at locations labelled in orange was undertaken by the MOE Northern Region.

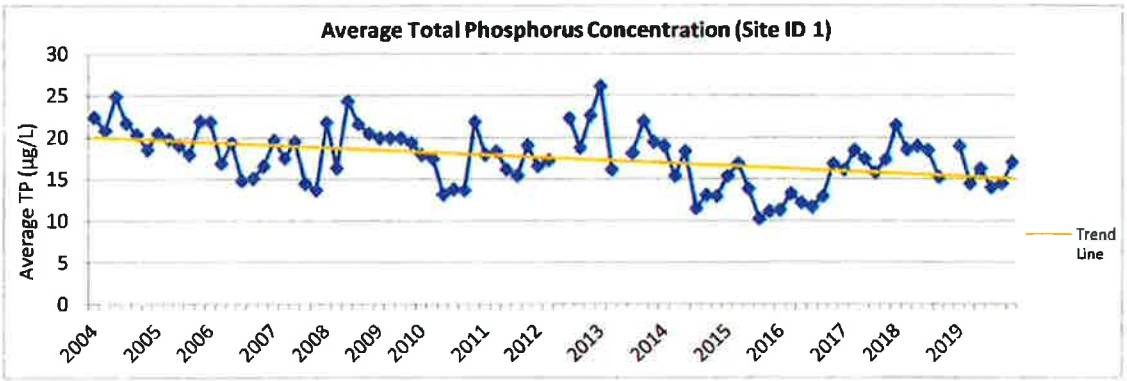
Sturgeon Bay

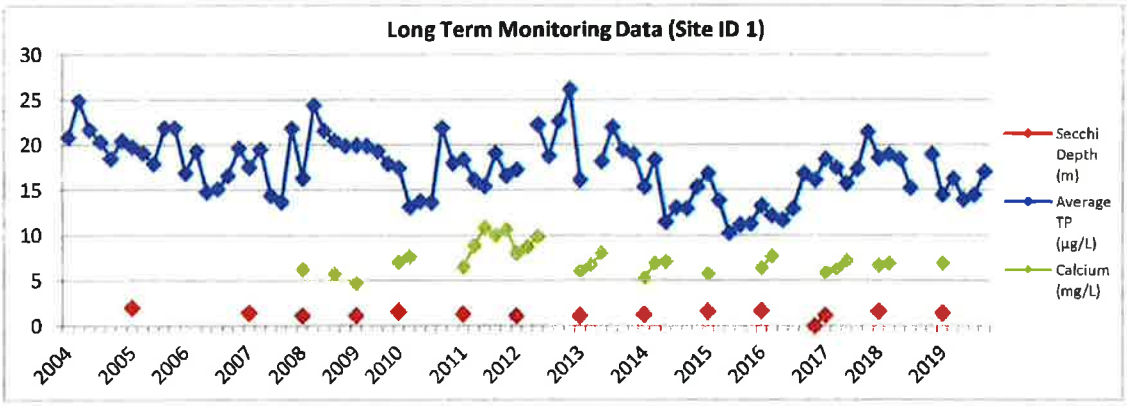
• Station: 5209	• Trophic status: mesotrophic
• Site ID: 1	• Average TP: n/a
• Description: W Sturgeon Bay Prov. Pk	• Trend (Y/N): Y – decreasing
• Data collector: LPP volunteer	• Average Secchi depth: 1.4 m
	• Visible outliers: TP of 31 µg/L in June 2013 and in October 2018

Recommendation: continue with standard LPP monitoring at Site ID 1 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).


Water Clarity (Site ID 1)
Secchi Depth (m)
2.5
2
1.5
1
0.5
0
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019


Calcium Concentration (Site ID 1)
Calcium (mg/L)
12
10
8
6
4
2
0
May 2008 Sept 2008 June 2009 June 2010 July 2010 May 2011 July 2011 Aug 2011 Sept 2011 Oct 2011 May 2012 June 2012 July 2012 May 2013 June 2013 July 2013 May 2014 June 2014 July 2014 May 2015 May 2016 June 2016 May 2017 June 2017 July 2017 June 2018 July 2018 May 2019

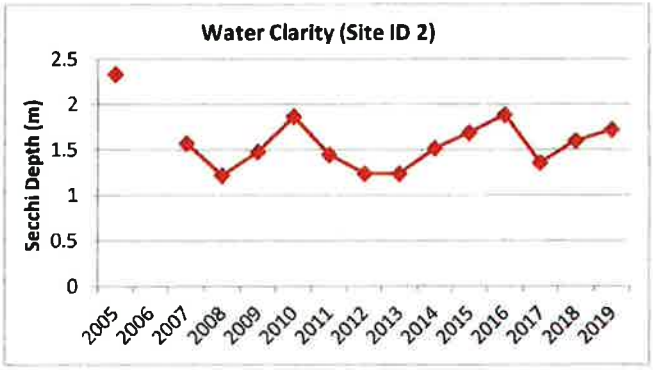

Average Total Phosphorus Concentration (Site ID 1)
Average TP (µg/L)
30
25
20
15
10
5
0
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
Trend Line

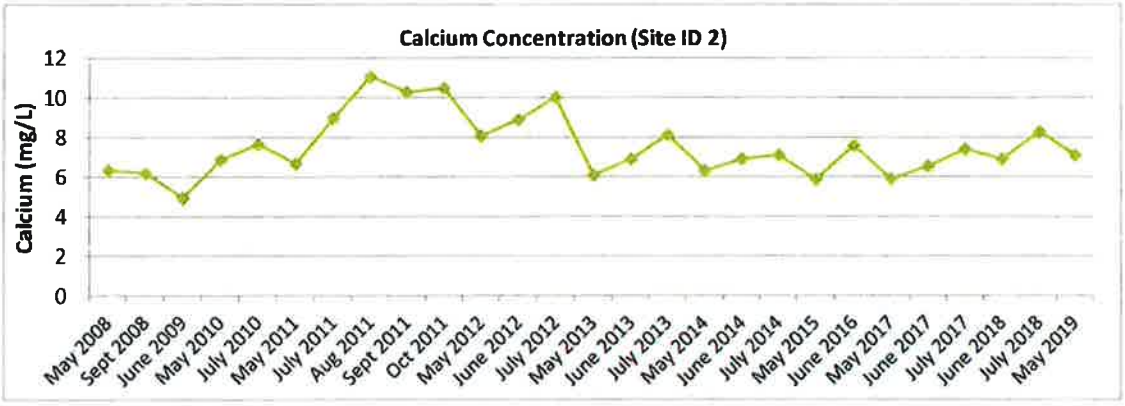

Long Term Monitoring Data (Site ID 1)
30
25
20
15
10
5
0
2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
Secchi Depth (m)
Average TP (µg/L)
Calcium (mg/L)

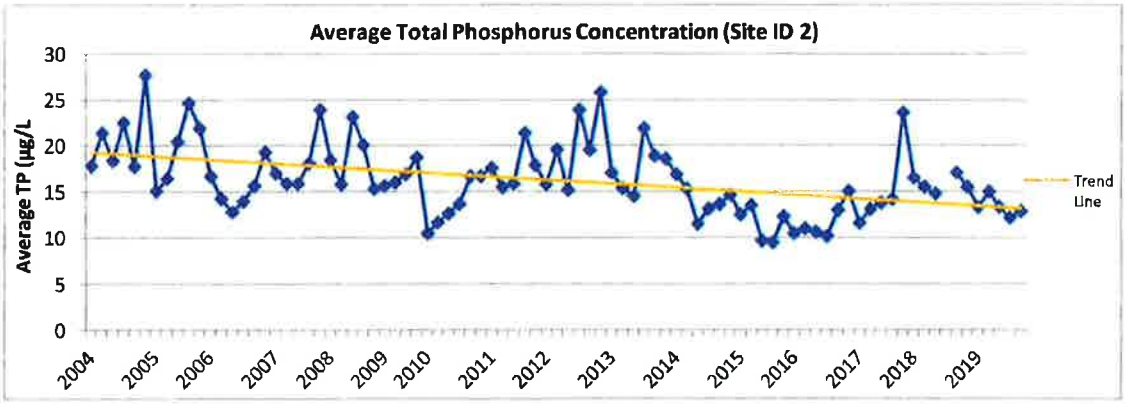
Sturgeon Bay

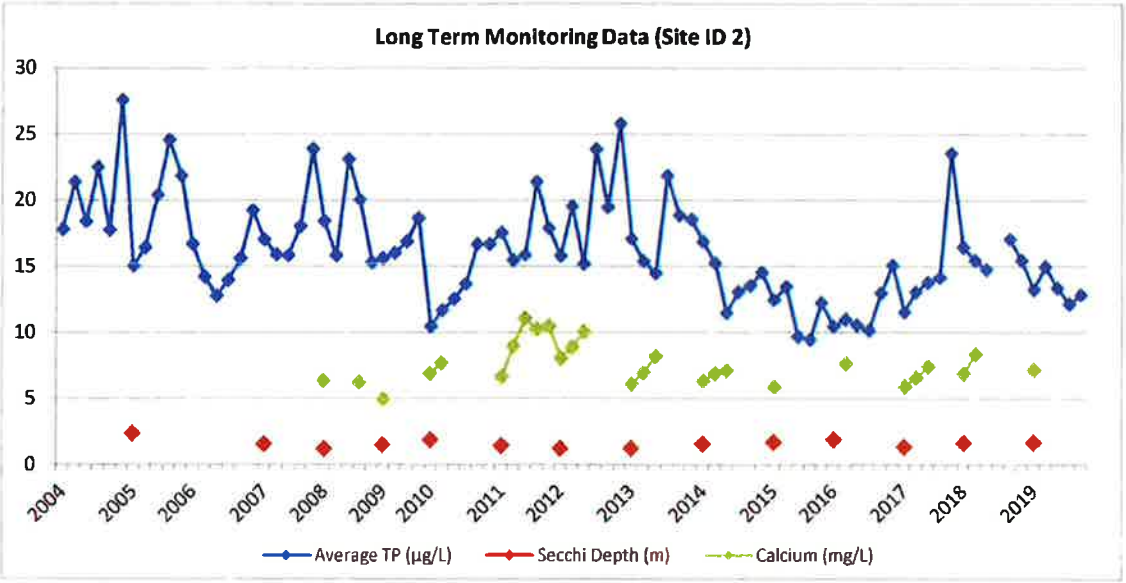
• Station: 5209	• Trophic status: mesotrophic
• Site ID: 2	• Average TP: n/a
• Description: Kenilworth & Skunk I	• Trend (Y/N): Y – decreasing
• Data collector: LPP volunteer	• Average Secchi depth: 1.6 m
	• Visible outliers: none

Recommendation: continue with standard LPP monitoring at Site ID 2 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).





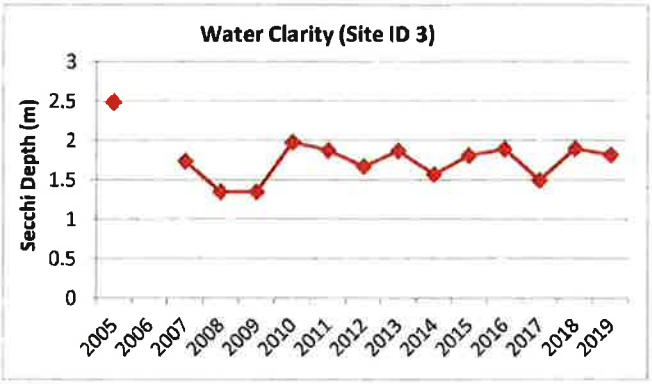


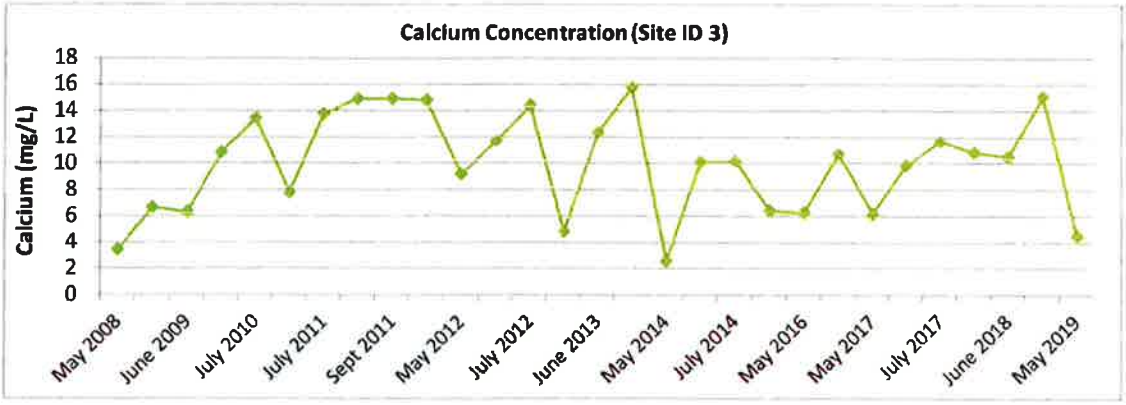


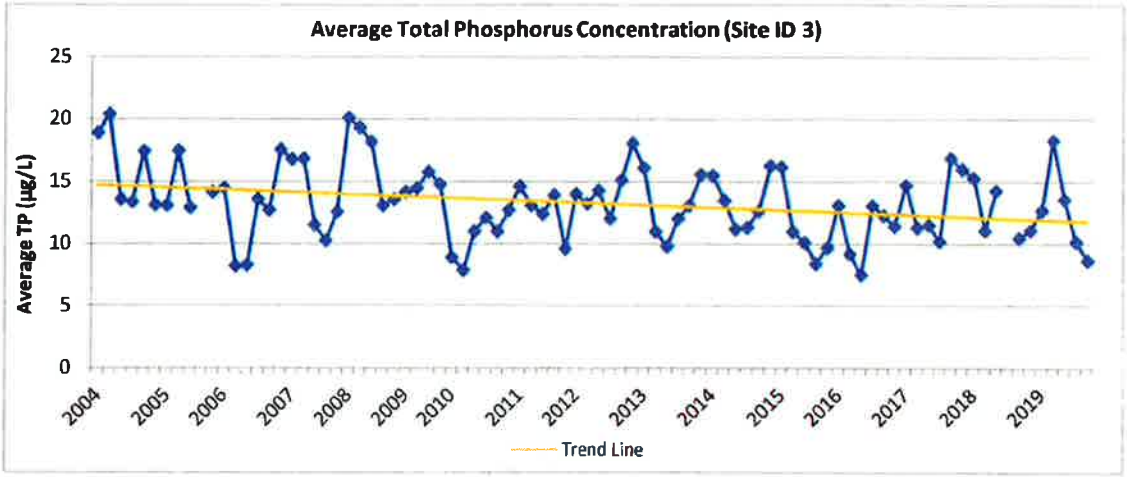
Sturgeon Bay

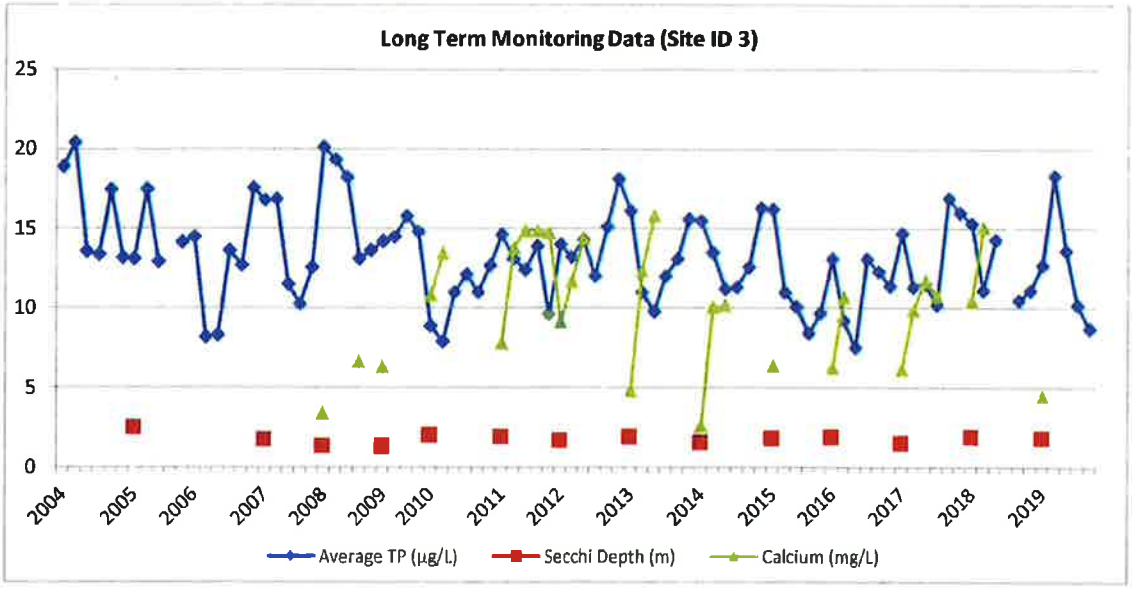
• Station: 5209	• Trophic status: mesotrophic
• Site ID: 3	• Average TP: n/a
• Description: Point au Baril chan	• Trend (Y/N): Y – decreasing
• Data collector: LPP volunteer	• Average Secchi depth: 1.8 m
	• Visible outliers: TP of 19 µg/L in August 2005 and 18 µg/L in September 2018

Recommendation: continue with standard LPP monitoring at Site ID 3 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).




Calcium Concentration (Site ID 3)
Calcium (mg/L)
18
16
14
12
10
8
6
4
2
0
May 2008
June 2009
July 2010
July 2011
Sept 2011
May 2012
July 2012
June 2013
May 2014
July 2014
May 2016
May 2017
July 2017
June 2018
May 2019

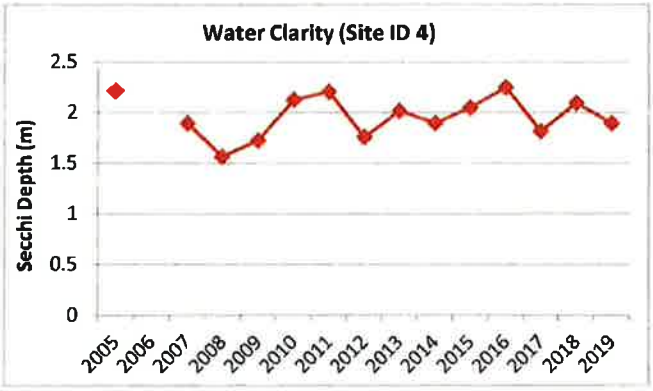

Average Total Phosphorus Concentration (Site ID 3)
Average TP (µg/L)
25
20
15
10
5
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Trend Line

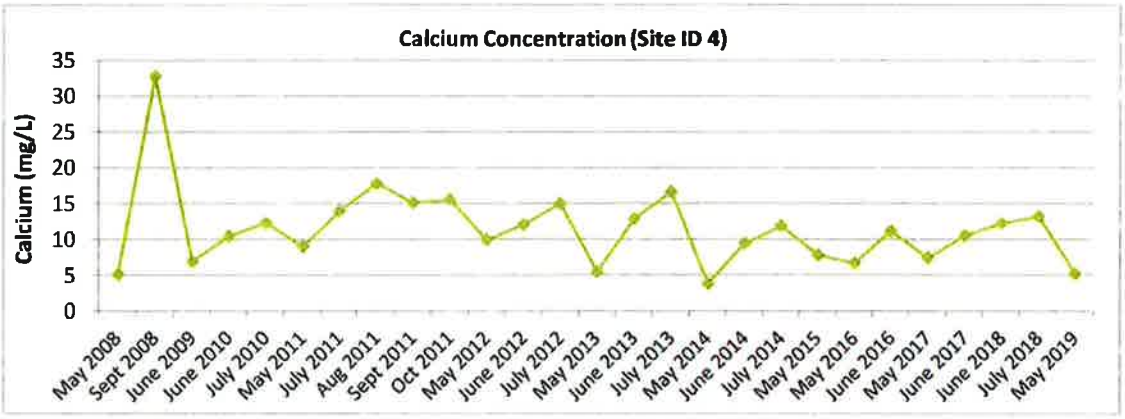

Long Term Monitoring Data (Site ID 3)
25
20
15
10
5
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Average TP (µg/L)
Secchi Depth (m)
Calcium (mg/L)

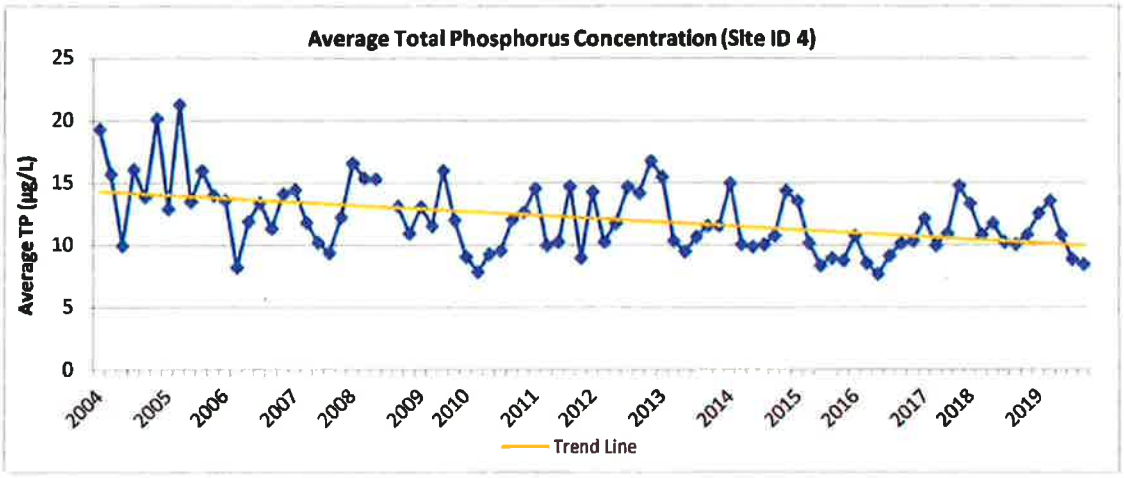
Sturgeon Bay

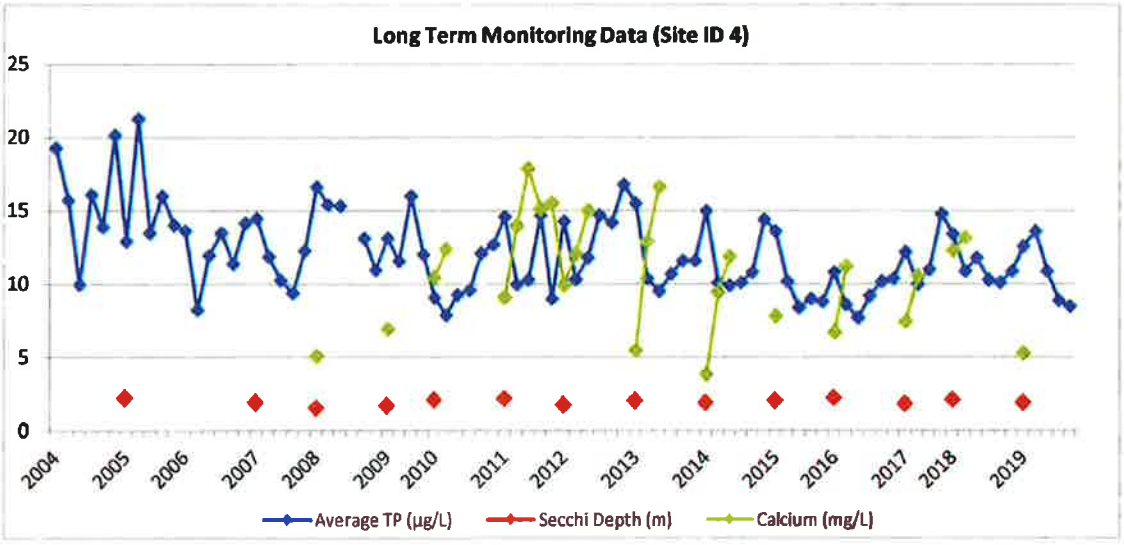
• Station: 5209	• Trophic status: mesotrophic
• Site ID: 4	• Average TP: n/a
• Description: W of School House Is.	• Trend (Y/N): Y – decreasing
• Data collector: LPP volunteer	• Average Secchi depth: 2.0 m
	• Visible outliers: TP of 26 µg/L in June 2005 and calcium concentration of 33 mg/L in September 2008

Recommendation: continue with standard LPP monitoring at Site ID 4 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).






Average Total Phosphorus Concentration (Site ID 4)
Average TP (µg/L)
25
20
15
10
5
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Trend Line


Long Term Monitoring Data (Site ID 4)
25
20
15
10
5
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Average TP (µg/L)
Secchi Depth (m)
Calcium (mg/L)

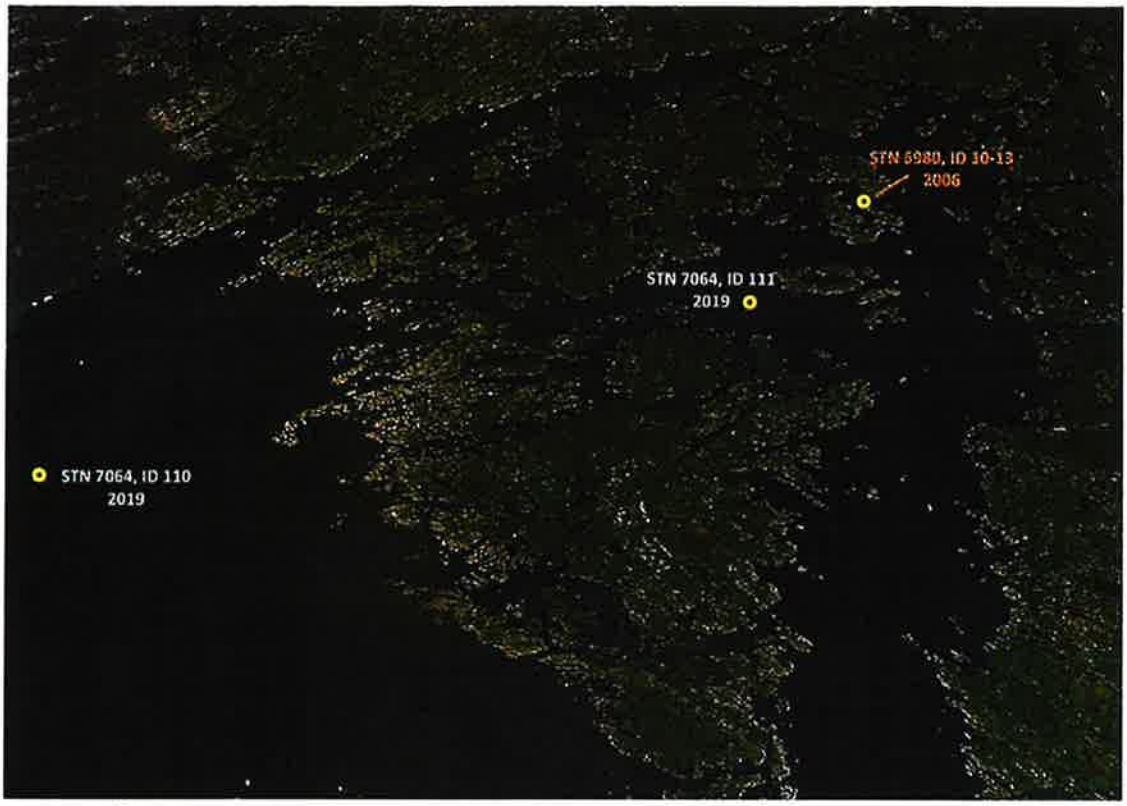


Figure 15. Past and active LPP sampling locations. Data collection at locations labelled in white is undertaken by LPP volunteers while data collection at locations labelled in orange was undertaken by the MOE Northern Region.

Station	Site ID	Description	Data Collector	2019 Average TP (µg/L)
7064	110	Open water S of Doran rock	LPP volunteer	3.3
7064	111	Off Pym Rock and Polland Is.	LPP volunteer	3.6

2.3.11 Rock Island Lake

LPP monitoring has not previously been carried out on Rock Island Lake.

Recommendation: refer to the *Enclosed Bays and Inland Lakes Phosphorus Monitoring Guideline* for information on selecting an LPP sampling location and begin standard LPP monitoring (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).

Table 11. Summary of fish communities and their management in Rock Island Lake (see link)

Major fish species	Northern pike, smallmouth bass, largemouth bass (introduced 2003), walleye
Other fish species	Bluntnose minnow, brown bullhead, cisco, Iowa darter, Johnny darter, mimic shiner, pumpkinseed, rock bass, white sucker
Lake trout management	Not designated
Current stocking	None
Historic stocking	Smallmouth bass (1950-1964), walleye (1949-1953)
Contaminants (species tested)	Cisco, northern pike, walleye

Rock Island Lake was first surveyed in 1964, followed by an inventory done in 1975. In 2001, a Fall Walleye Index Netting (FWIN) survey was completed with 12 net sets revealing walleye (18) and smallmouth bass (17) as the dominant sport fish. Other species caught included cisco (96), white sucker (29), brown bullhead (11), rock bass (11), yellow perch (8), pumpkinseed (3), and northern pike (2). Two years later, a trap net survey was completed in which three largemouth bass were captured, this was the first documented occurrence of the species in the lake. At this time, the walleye population was graded as being relatively high compared to other lakes in the area.

2.3.12 Sans Souci & Copperhead Association

Figure 16. Active LPP sampling locations.

Station	Site ID	Description	Data Collector	2018 Average TP (µg/L)	2019 Average TP (µg/L)
7064	81	Sans Souci, deep spot	LPP volunteer	4.4	3.9
7064	113	Ruddy Island in Clear Bay	LPP volunteer		8.7
7064	114	Rawson Bay	LPP volunteer		7.1

Recommendation: continue with standard LPP monitoring at Site ID 81, 113, and 114 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).

2.3.13 Skerryvore Ratepayers' Association

Figure 17. Past LPP sampling location with data collected by the MOE Northern Region and a recommended site for sampling in 2022.

Recommendation: establish an LPP sampling location at the recommended site (site 34 on page 17 of the *Enclosed Bays and Inland Lakes Phosphorus Monitoring Guideline*) and begin standard LPP monitoring at Site ID 10-13 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).

Table 12. Summary of fish communities and their management in Skerryvore Lake (see link)

Major fish species	Black crappie, northern pike, largemouth bass
Other fish species	Golden shiner, rock bass, brook silverside, yellow perch, brown bullhead, pumpkinseed
Lake trout management	Not designated
Current stocking	None
Historic stocking	None
Contaminants (species tested)	No testing done

Skerryvore Lake was partially surveyed in 1990. Largemouth bass, northern pike, and black crappie were the sport fish species caught. Given the proximity of the lake to Georgian Bay, it is likely that all species are native to the lake.

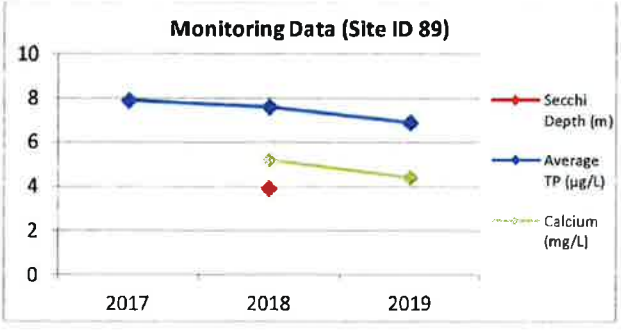
2.3.14 South Channel Association

Figure 18. Active and past LPP sampling locations with data collected by LPP volunteers.

South Channel

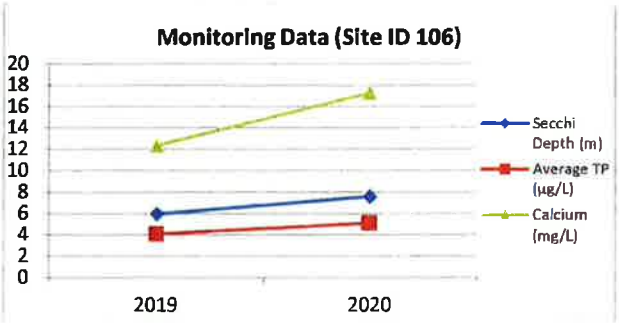
• Station: 7064	• Trophic status: oligotrophic
• Site ID: 89	• Average TP: 7.5 µg/L
• Description: Channel N of Isabella Island	• Trend (Y/N): n/a
• Data collector: LPP volunteer	• Average Secchi depth: 3.9 m
	• Visible outliers: none

Recommendation: continue with standard LPP monitoring at Site ID 2, 87, 89, 105, 106, and 109 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).



South Channel

• Station: 7064	• Trophic status: oligotrophic
• Site ID: 106	• Average TP: n/a
• Description: Redner Bay	• Trend (Y/N): n/a
• Data collector: LPP volunteer	• Average Secchi depth: 3.9 m
	• Visible outliers: none



Station	Site ID	Description	Data Collector	2019 Average TP (µg/L)
7064	2	South Chan-Nutter Bay	LPP volunteer	6.4
7064	87	South Channel	LPP volunteer	4.9
7064	105	Indian Dock Channel	LPP volunteer	7.1
7064	109	S channel basin	LPP volunteer	5.3

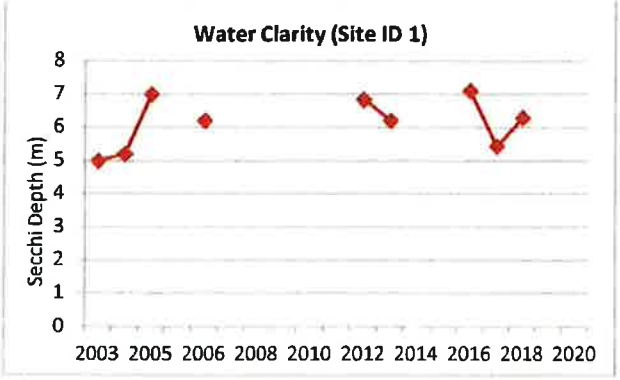
2.3.15 Three Legged Lake Association

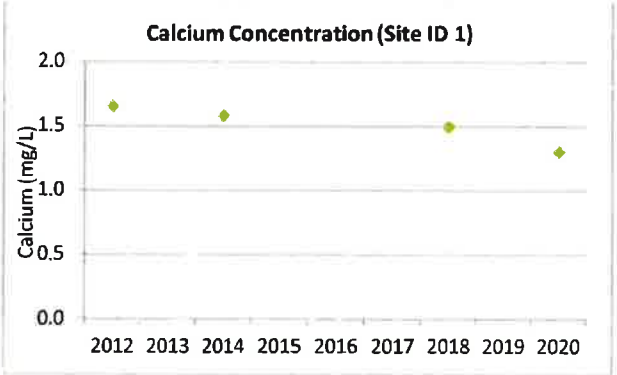
Figure 19. Active LPP sampling locations. Data collection at the location labelled in white was undertaken by LPP volunteers while data collection at the location labelled in orange was undertaken by Seguin Township.

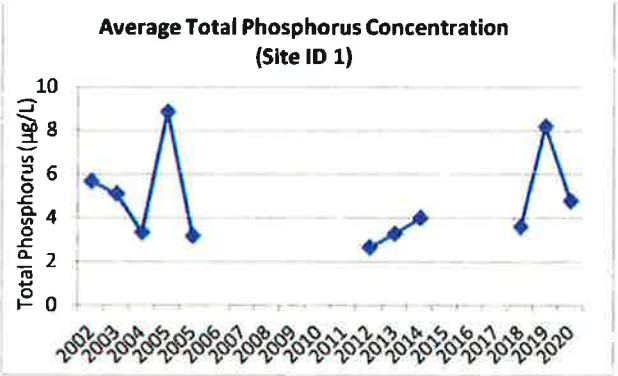
Three Legged Lake

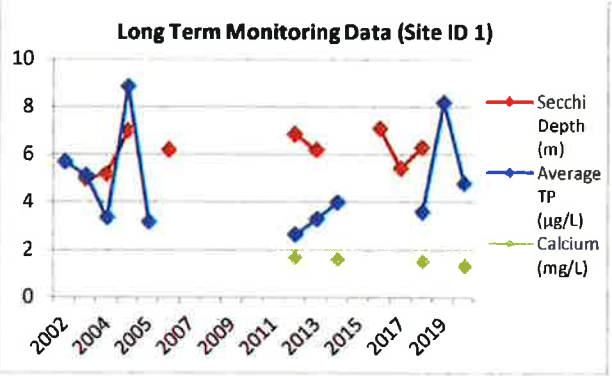
• Station: 5360	• Trophic status: oligotrophic
• Site ID: 1	• Average TP: 4.8 µg/L
• Description: mid lake, deep spot	• Trend (Y/N): n/a
• Data collector: LPP volunteer	• Average Secchi depth: 6.1 m
	• Visible outliers: none

Recommendation: continue with standard LPP monitoring at Site ID 1 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).





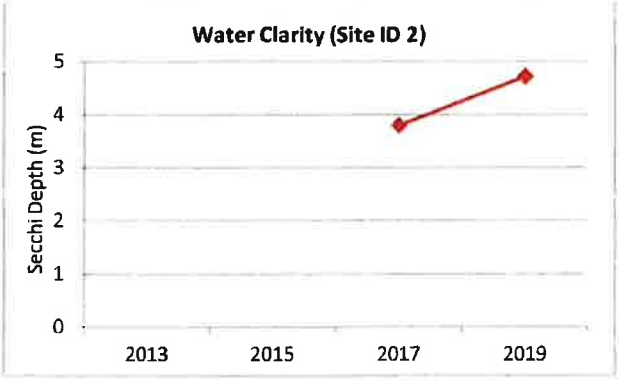


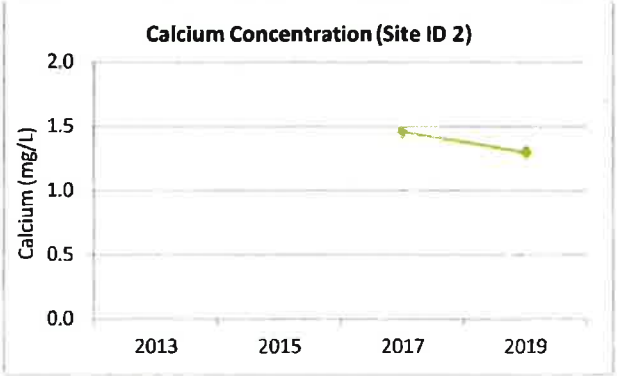


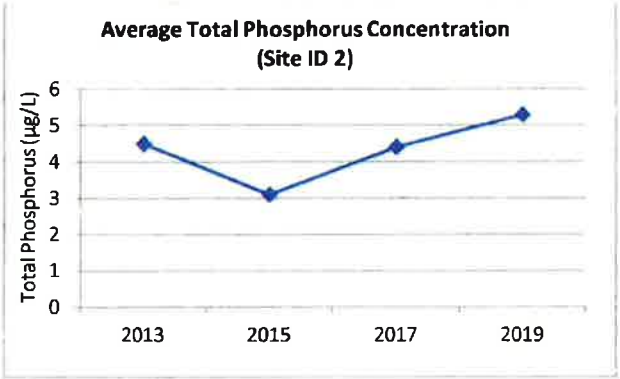
Three Legged Lake

• Station: 5360	• Trophic status: oligotrophic
• Site ID: 2	• Average TP: 4.3 µg/L
• Description: mid lake, deep spot	• Trend (Y/N): n/a
• Data collector: Seguin Township	• Average Secchi depth: 4.3 m
	• Visible outliers: none

Recommendation: continue with standard LPP monitoring at Site ID 2 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).







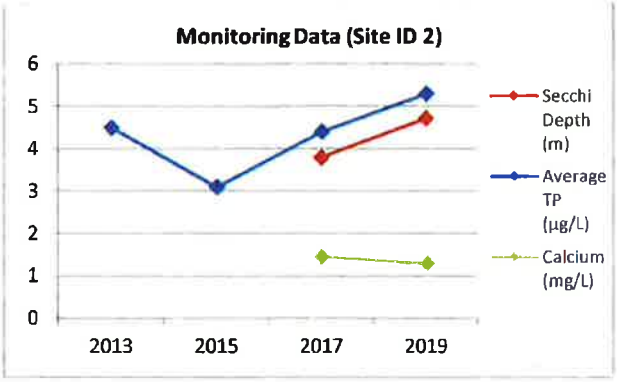


Table 13. Summary of fish communities and their management in Three Legged Lake (see link)

Major fish species	Lake trout, smallmouth bass, largemouth bass (introduced 2005)
Other fish species	White sucker, cisco, yellow perch
Lake trout management	Designated; natural. Season open from third Saturday in May to September 30, no lake trout between 40-55cm may be kept.
Current stocking	None
Historic stocking	Lake trout (1925-1988), rainbow trout (1999-2001), smallmouth bass (1947-1965)
Contaminants (species tested)	No testing done

In 1993, Three Legged Lake was assessed for bass and lake trout spawning habitat. Three sites were identified as 'promising' potential lake trout spawning sites. A more detailed assessment was completed in 1998. The spring littoral index netting (SLIN) revealed a very low catch per unit effort (0.36 ± 0.19) reflective of a low productivity level. Five of the 11 lake trout captured were naturals. The captured lake trout were found to have exceptionally slow growth rates and sexual maturation. Moreover, the condition (length-weight relationship) of the fish was poor, spawning habitat appeared to be limited, and the cisco population, a food source for lake trout, appeared to have crashed. It was concluded that significant rehabilitative efforts would be required if lake trout were to continue as a natural, self-sustaining population in the lake. The following year, winter creel surveys were conducted on seven occasions during February and March. On only one occasion a single person was interviewed, no lake trout had been caught indicating negligible winter angling pressure.

Over several years, optimal lake trout habitat as a percentage of lake volume (temp ≥10°C and dissolved oxygen ≥6 ppm) has been calculated. Optimal lake trout habitat percentages have fluctuated as follows: 55.8% (1980), 13.6% (1996), 42.4% (1999), 44% (2000), 37.4% (2002), and 41.1% (2003).

2.3.16 Woods Bay Community Association

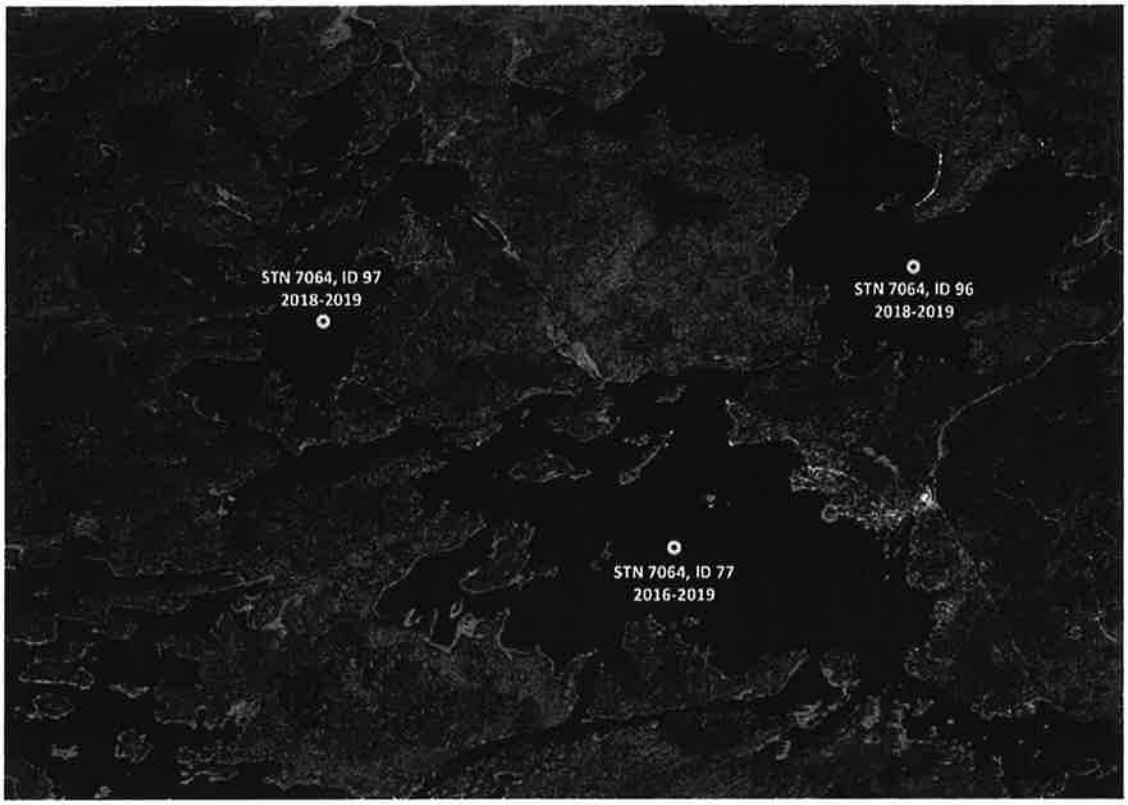
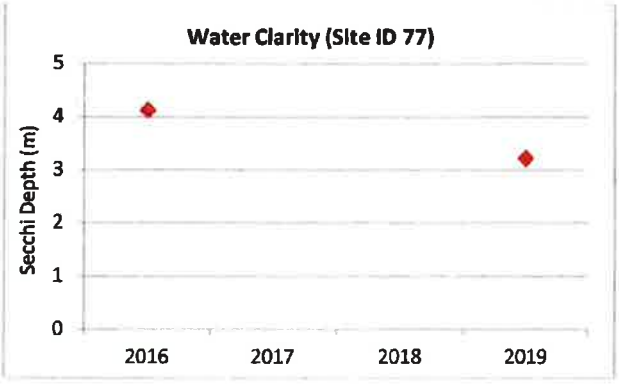


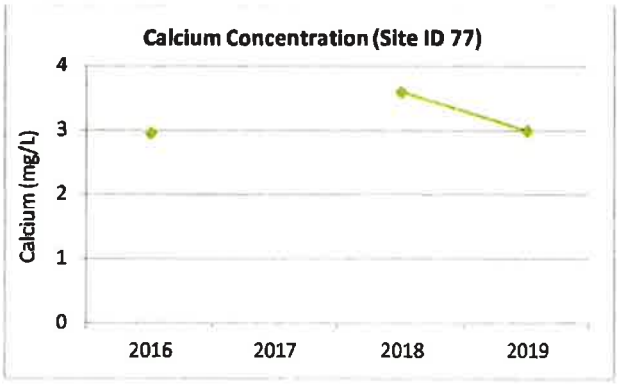
Figure 20. Active LPP sampling locations.

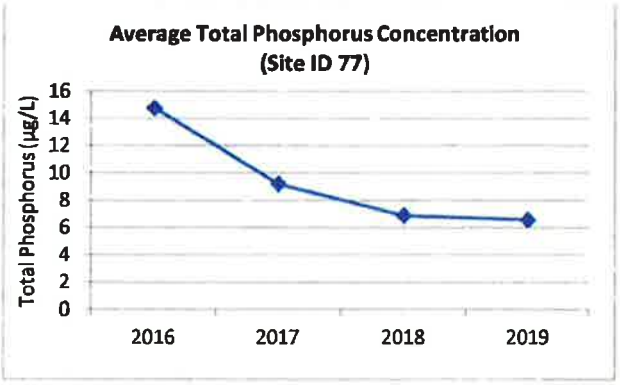
Woods Bay

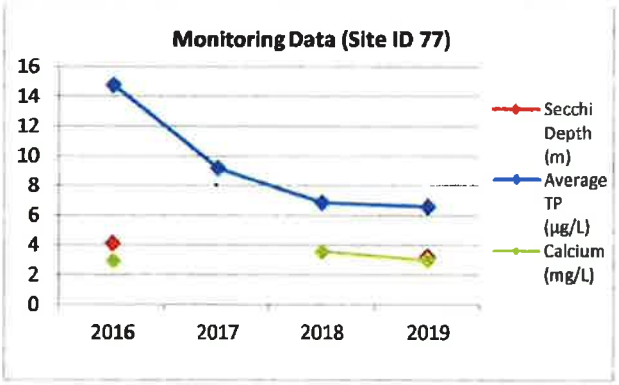
• Station: 7064	• Trophic status: oligotrophic
• Site ID: 77	• Average TP: 9.4 µg/L
• Description: Woods Bay, deep spot	• Trend (Y/N): n/a
• Data collector: LPP volunteer	• Average Secchi depth: 3.7 m
	• Visible outliers: none

Recommendation: continue with standard LPP monitoring at Site ID 77 (i.e., TP and calcium sampling once in May, water clarity measurements at least once every two weeks throughout the summer).









Station	Site ID	Description	Data Collector	2018 Average TP (µg/L)	2019 Average TP (µg/L)
7064	96	Blackstone Harbour	LPP volunteer	7.10	7.00
7064	97	North Channel	LPP volunteer	6.30	7.00

2.4 Results – Enhanced Monitoring Sites

Each summer, GBB and the TOA partner with the Pointe au Baril Islanders Association (PABIA) to conduct enhanced nutrient monitoring in order to better understand nutrient dynamics in Sturgeon Bay. Analysis of the 2020 data was not possible due to an issue with the data. The 2019 analysis is presented in this report instead.

In 2019, a partnership with the Blackstone Lake Cottagers' Association was started to investigate nutrient dynamics in Blackstone Lake and Crane Lake. These partnerships involved training and equipment loans (with funding from ECCC).

The objectives of enhanced nutrient monitoring are:

1) to identify areas that are thermally stratified;
2) to collect vertical dissolved oxygen and temperature profiles; and
3) to collect late summer total phosphorus samples near the bottom to confirm internal loads.

During summer months, many Ontario Shield lakes (that are deep enough) undergo thermal stratification (see Figure 21) whereby the surface water is mixed by wind down to a depth of ~4-7 m. This mixed layer is called the epilimnion. As the summer progresses the epilimnion will deepen to ~8-10 m. Below the epilimnion there is a zone where temperatures change very rapidly (getting colder) with depth, this is called the metalimnion. The metalimnion is usually several meters thick and the zone within it where temperature changes the most rapidly is called the thermocline. Below the thermocline is the hypolimnion where temperatures are colder and more stable with depth. During stratification these waters do not mix with surface water and cannot, therefore, be replenished if they are depleted of oxygen. If all the oxygen is used up (by bacteria) the hypolimnion is anoxic and these conditions can allow phosphorus from the sediments to enter the hypolimnion. This is called an internal load and these additional nutrients can stimulate late summer algal blooms. Therefore, it is important to assess oxygen and nutrient concentrations in the hypolimnion to help predict the onset of conditions which might lead to algal blooms.

Figure 21. Thermal stratification of a lake into three identifiable layers (source: http://cfpub.epa.gov/watertrain/pdf/limnology.pdf).

Individuals interested in learning more about thermal stratification and how it changes throughout the seasons are encouraged to read the *2013 State of the Bay Background Report* (available here).

2.4.1 Sturgeon Bay

Enhanced monitoring was initiated on Sturgeon Bay in 2016 as part of GBB's *Coordinated Nutrient Monitoring Program*. Sturgeon Bay suffers from intermittent late summer cyanobacteria blooms and although there have been several in-depth studies conducted in this area, there are no monitoring programs currently in place that regularly measure temperature and dissolved oxygen (DO) profiles. These measurements are necessary to evaluate the extent of hypolimnetic anoxia and the associated potential for the release of phosphorus from lake sediments into the water column (internal loading). PABIA summer staff collected temperature and oxygen profiles over the past three summers.

In 2018, an investigation began into the depths at which the bottom waters of Sturgeon Bay were anoxic (no oxygen) throughout different areas of the lake. Oxygen can be depleted at the bottom in those areas where the bottom waters (hypolimnion) cannot mix and be replenished with oxygen from surface water. These areas can release phosphorus from the sediments and contribute to algal blooms. This usually occurs in late summer when the oxygen depletion in bottom waters is at a maximum. Different areas of the lake were examined and it was discovered that anoxia can occur at shallower depths in protected areas closer to shore. This is an aspect of physical processes in the lake and not entirely surprising. What it means, however, is that the extent of anoxia throughout the lake cannot be assessed by examining an oxygen profile taken only at the deepest location. There may, for example, be sufficient oxygen at certain depths at the deepest location and these same depths elsewhere may be anoxic.

In 2019, an attempt was made to measure profiles at two locations (Site 1 and 2 in Figure 22) and then look at other profiles on a transect towards shallower water from those locations to see how oxygen was depleted at depths.

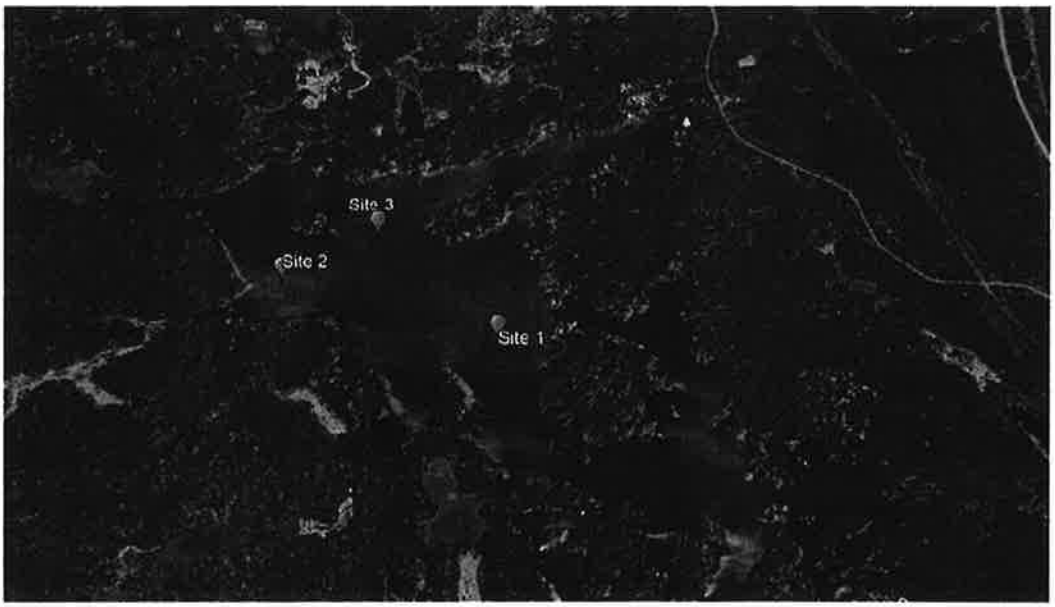


Figure 22. Locations of oxygen profiles taken in Sturgeon Bay in 2019

A summary of this profile data is shown in Table 14. The data are tricky to interpret but they show several things. First there was minimal anoxia by the first week in July, with a 2m anoxic layer at the deep hole (site 1) and another 1m layer at 10m near Site 2. By the end of July on the transects progressing shallower away from Site 1, there were several meters of anoxia near the bottom with the upper depth of the anoxic layer being the same at different depths (1B & 1C, 8m). It was anoxic a bit shallower (7m) at the most shallow location 1D (8m). This is similar to what was shown in 2018.

At transects from Site 2, the top of the anoxic layer was consistently around 7m regardless of depth at the beginning of August and a bit deeper (8-9m) in the deeper locations near the end of August. Anoxia did not develop at Site 2C (6m). The deepest location was never anoxic at 7m and most transect sites were anoxic starting at 8 or 9m. On the same date, Site 3 was anoxic at 7m indicating a situation where the lake has sufficient oxygen at deeper depths in deeper locations while other areas of the lake are anoxic at shallower depths.

At this point, it is known that the spatial extent of anoxia may not be associated with a fixed depth and the question remains whether the extent and duration of anoxia in a given year is a driver that can explain the severity of blooms in that year. This cannot be tested until a metric for bloom intensity is derived. There is some hope that satellite technology can help with this task in following years.

Table 14. Boundaries of the anoxic layer for three sites and two transects for different dates in 2019

Site	Depth	Jul 2-8	Jul 26	Aug 5-8	Aug 24
Site 1	14m	12-14m	8-14m		8-14m
1B	12m	none	8-12m		9-12m
1C	10m		8-10m		9-10m
1D	8m	none	7-8m		none
Site 2	12m	none		7-12m	9-12m
2A	10m	9-10m		7-10m	8-10m
2B	8m	none	7-8m	7-8m	
2C	6m	none		none	none
Site 3	8m	none		7-8m	7-8m

2.4.2 Blackstone Lake

Oxygen and TP measurements were taken on September 4, 2019 in Blackstone Lake. There was no indication of oxygen depletion at depth although the oxygen meter used did not have a long enough cable to reach bottom (

Table 15). There is no reason to believe that there will be oxygen problems or internal loading in Blackstone Lake considering the data provided by MNDMNRF which show excellent Mean Volume Weighted Hypolimnetic Dissolved Oxygen (MVWHDO) concentrations at two locations in Blackstone Lake in past years (Table 16). Concentrations above 7 are considered ideal for lake trout.

LPP data for Blackstone Lake show an average TP concentration of 5 ug/L indicating an oligotrophic lake. Considering these data, there is no need to continue enhanced monitoring on Blackstone Lake.

Table 15. Temperature and dissolved oxygen measurements for Blackstone Lake on September 4, 2019 (depth at location 206ft, 63m)

Depth (m)	Temperature (°C)	DO (mg/L)
5	20	9.2
7	16.7	10.2
8	12.7	10
12	5.9	8.6
15	5.6	8.5
19	5.1	8.8

Table 16. Mean Volume Weighted Hypolimnetic Dissolved Oxygen (MVWHDO) concentrations for two locations in Blackstone Lake (MNDMNRF)

Date	Basin 1 Blackrock (55m)	Basin 2 McRobert Bay (30m)
September 30, 2016	8.09	6.76
September 9, 2011	9.57	6.97
September 12, 2007	9.38	8.25
September 19, 2005	8.82	8.49
September 12, 2002	9.5	7.65

2.4.3 Crane Lake

Oxygen and TP measurements were taken on September 4, 2019 in Crane Lake. Crane Lake showed excellent oxygen concentrations in the hypolimnion with no measurements below 7 mg/L (Table 17). LPP TP results for Crane Lake show a mean concentration of 4.9 ug/L indicating an oligotrophic lake (Figure 23). It is unclear why there is a step in measured concentrations between 2010 and 2011. Measurements taken by government staff in 2006 and 2016 showed an average concentration of 3.9 ug/L. These results indicate excellent water quality and there is no need to continue with enhanced monitoring.

Table 17. Temperature and dissolved oxygen measurements for Crane Lake on September 4, 2019

Depth (m)	Temperature (°C)	DO (mg/L)
1	20.4	9.14
2	20.4	9.05
3	20.4	9.02
4	20.4	8.98
5	20.4	8.95
6	20.4	8.92
7	12.3	11.15
8	8.9	9.89
9	6.7	8.93
10	6	8.70
11	5.6	8.54
12	5.3	8.45
13	5.2	8.48
14	5.1	8.4
15	5	8.33

16	4.9	8.24
17	4.9	8.04
18	4.8	7.79
19	4.8	7.67

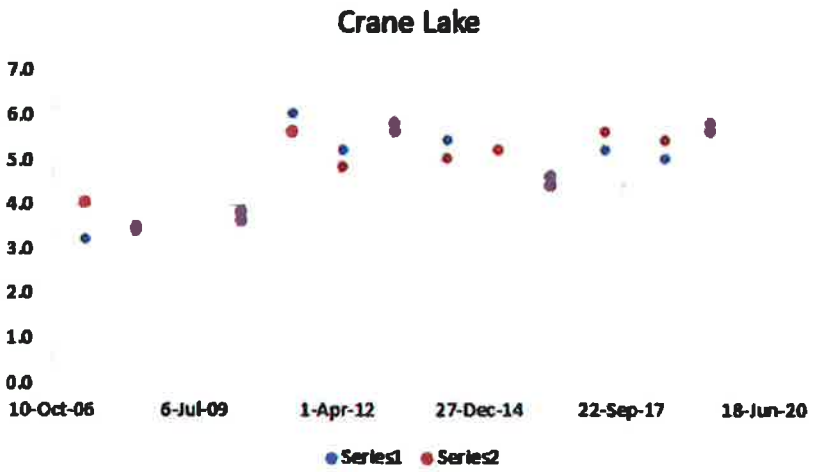


Figure 23. LPP volunteer sample concentrations for Crane Lake between 2007 and 2018. Series 1 and 2 are duplicate TP analysis.

3. Forest Health

3.1 Overview

There are many concerns over forest pests and diseases threatening our local forests. This report provides an overview of featured species which have been found in the Parry Sound-Muskoka area along with links to further information. Emerald ash borer, which was found in the area for the first time in 2018, was confirmed in Killbear Provincial Park in 2019. Steps were taken in 2020 to remove ash trees from the park that could pose a danger to people and property. LDD moth (previously referred to as gypsy moth) defoliation in the French-Severn Forest expanded considerably in 2020, especially along the Highway 400 corridor and near Georgian Bay. Spruce budworm defoliation in 2020 was concentrated in the northeast corner of the district.

This report also provides information on oak wilt and hemlock wooly adelgid which are not here yet, but oak wilt has been found very close to the southern Ontario border and two small populations of hemlock wooly adelgid were confirmed near Niagara Falls and Wainfleet in 2019.

3.2 Featured Forest Pests

3.2.1 Beech Bark Disease

Beech bark disease (BBD) is caused by an insect-fungus complex consisting of a scale insect (*Cryptococcus fagisuga*) and a canker fungus (*Neonectria faginata*). The scale insect feeds on the bark making the beech tree vulnerable to the fungus. BBD continues to have a devastating impact throughout the TOA, and greater eastern Georgian Bay and Muskoka regions. BBD was introduced from Europe to the Halifax area in 1890. It was officially confirmed in Ontario in 1999 and then confirmed in Muskoka in 2010 in the Baysville and Vankoughnet area. Its range is currently expanding. In the French-Severn Forest, BBD has been found as far north as South River in the east and Wallbridge township in the west.

The stages of spread for BBD are known as:

1) The advancing front – characterized by arrival and colonization of the scale insect alone. Scale insects normally do not inflict much harm to the tree.
2) The killing front – characterized by the rapid build-up of scale infestation, canker fungus infection, and canker development. This results in heavy levels of beech tree mortality.
3) The aftermath forest – after the first wave of mortality, remnant beech trees gradually decline. Younger trees become infected and decline over time. There are more understory beech trees growing from the roots of the diseased older trees.

Identification

Mature beech scale insects are 0.5-1.0 mm long. They are most easily recognized by the white, wooly wax covering their outer body (Figure 18).

In the fall, the red fruiting bodies of the canker fungus are visible on the bark (Figure 19).

Figure 24. Scale insects on the bark of a beech tree

Figure 25. Fungus fruiting bodies on the bark of a beech tree

Monitoring and control

Westwind Forest Stewardship continues to monitor the movement of the disease on Crown land. The management implication for Crown land is that trees with definite BBD or noticeable amounts of scale are removed. Even if they were left standing, the trees' ability to produce mast (fruit) would be short-lived.

In terms of identifying trees that might be resistant to BBD, it will not be possible to do so until the majority of trees have been impacted. In an aftermath forest, any remaining healthy beech might be considered resistant.

For more information on beech bark disease, please visit:
https://forestinvasives.ca/Meet-the-Species/Pathogens/Beech-Bark-Disease.

3.2.2 Emerald Ash Borer

Emerald ash borer (EAB) is an invasive species from Asia. It was first discovered in North America in 2002. It has since been spotted throughout southern Ontario and Quebec. EAB has also been confirmed in Thunder Bay and Sault Ste. Marie. EAB affects all types of ash trees, but scientists are discovering that blue ash shows the most resistance to this forest pest over time.

In 2015, Muskoka Conservancy launched an Emerald Ash Borer Early Detection Pilot Project. The 2018 project was funded by both the Town of Gravenhurst and the Town of Bracebridge with assistance from Bioforest. Captured beetles were analyzed and an EAB specimen was found in two locations: one near Gravenhurst and one in Bracebridge. In 2019, 27 beetles were found in the same Gravenhurst location as in 2018. An EAB beetle was also captured at another site near Gravenhurst. These results confirm the presence of EAB in Muskoka. The program was put on hold in 2020 due to the pandemic.

In 2019, the presence of EAB was also confirmed in Port Severn, Bala, Parry Island, and Parry Sound by the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF).

EAB was also confirmed at Killbear Provincial Park in 2019. The Park decided to remove all ash trees that could fall on a road or campsite. Two campgrounds 3 km apart were the main clusters of infection.

Around 7,000 trees were cut down in the spring of 2020. Many of these trees did not show signs of EAB but were cut pre-emptively for safety. There were about 70 campsites that were closed for the 2020 season as there were still ash trees that were not cut. This work was finished in October and November of 2020 and all the logs are being quarantined in the park.

Identification

The defining features of EAB larvae and adults are listed below and shown in Figure 26.

Larvae	Adults
• Creamy-white	• Dark metallic green
• 10 bell-shaped abdominal segments	• Elongated bullet-shaped bodies
• Four instars (stages of larvae)	• 8.5mm long and 1.6mm wide
• Fully-mature larvae are 26-32mm long	• Flat head with black eyes

Monitoring and control

The Canada Food Inspection Agency (CFIA) establishes regulated areas to maintain and enforce restrictions against moving potentially infested wood items from areas where EAB has been found. Generally, restrictions or prohibitions are placed on areas where the pest is present or suspected to occur and where there is merit in trying to slow or prevent the spread of the pest. Items restricted from leaving the regulated areas are:

- Ash nursery stock
- Ash trees
- Ash logs
- Ash wood
- Rough lumber (including pallets and other wood packaging materials containing ash, wood, bark, wood chips or bark chips from ash trees)
- Firewood of all tree species

In areas with an established EAB infection, insecticide treatment or removing trees are the main options for ash trees. Treeazin insecticide can be injected into the base of the tree between May and August by a licensed pesticide applicator. It can be effective for up to two years although in some areas it is recommended that ash trees be treated every year during the first few years of the infection. Alternatively, trees can be removed particularly if the tree is declining and poses a risk to people or property. Check with your local municipality about tree cutting bylaws before removing trees. Once a tree is cut, ensure the wood is not moved to a new location where it can further spread EAB.

For more information on EAB in Muskoka, please read:
https://muskokaconservancy.org/wp-content/uploads/2019/11/EAB-Report-2019-final.pdf

For more information on identifying EAB, please read:
http://arnprior.ca/wp-system/uploads/2014/04/eab-identify.pdf
http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/26856.pdf

Figure 26. EAB adult and larvae (edrrontario.ca)

3.2.3 Forest Tent Caterpillar

The cycle of defoliation caused by forest tent caterpillar outbreaks have occurred on average in Ontario every ten to twelve years with each outbreak lasting about three to five years. In 2017, moderate to severe defoliation was seen in the Parry Sound district as a result of a new infestation, this was repeated in 2018. In 2019, there were far fewer areas of moderate to severe defoliation as seen on the map below (Figure 27). In 2020, forest tent caterpillar defoliation was not mapped in the Parry Sound district.

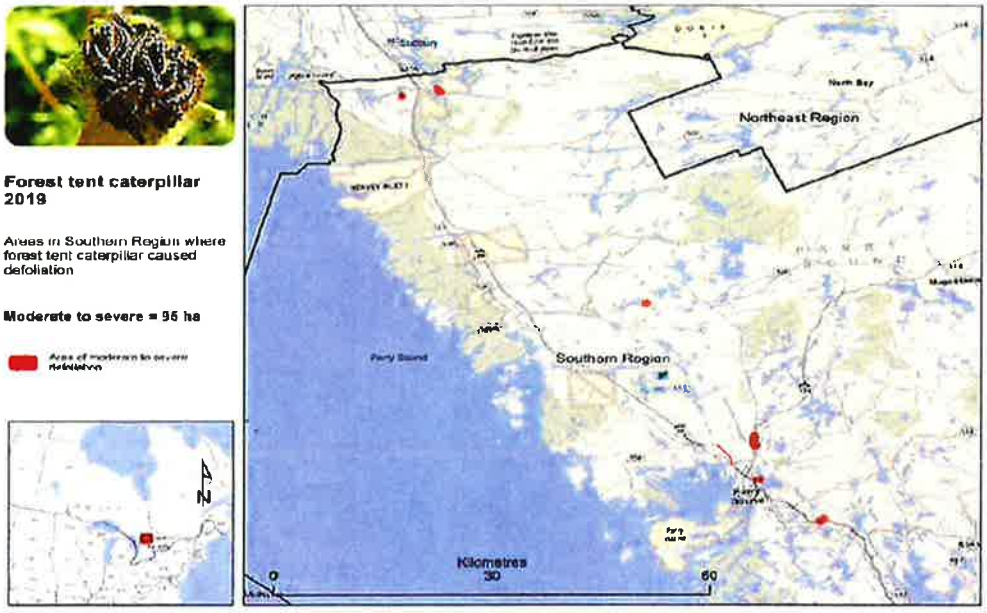


Figure 27. Isolated areas of moderate to severe defoliation along the Highway 400 corridor (MNDMNRF)

Identification

Mature caterpillars are 50mm long, hairy, dark brown with a blue stripe along each side, and have a row of white keyhole-shaped spots along the centre of the back (Figure 28).

Figure 28. Forest tent caterpillar (ontario.ca)

3.2.4 LDD Moth

LDD moth (previously referred to as gypsy moth) is an invasive pest that defoliates trees. It was first introduced to North America in the 1860s and first detected in Ontario in 1969. LDD moth caterpillars defoliate most hardwood tree species including oak, birch, poplar, willow, and maple. Despite being an invasive species, LDD moth has reached a state of naturalization. As a result, the population may have periodic predictable outbreaks occurring every 7-10 years.

In the Parry Sound district, also called the French-Severn Forest, 2,046 ha of defoliation was mapped in 2020 compared to 177 ha in 2019. The majority of the 2020 defoliated area was south of Parry Sound along the Highway 400 corridor or near Georgian Bay as seen in Figure 29. During ground surveys, defoliation and egg masses were observed in Port Carling, Lake Muskoka, Tobin Island, Lake Rosseau, and Go Home Lake. LDD moth does have natural predators including a fungus and virus which help to reduce the population back to lower densities 1-3 years following an outbreak.

Identification

The defining features of larvae and adult female and male moths are listed below and shown in Figure 24.

Larvae	Adult female moth	Adult male moth
• Full-grown larvae are hairy • 35-90 mm long • Pairs of five blue and six red dots along their backs • Chew holes in leaves or devour entire leaves	• Winged but too heavily bodied for flight • Mostly white • Wingspan 60-70 mm • Prominent dark wavy lines cross the forewings	• Dark brown to beige • Erratic flier • Dark wavy lines cross the forewings • Wingspan 35-40 mm

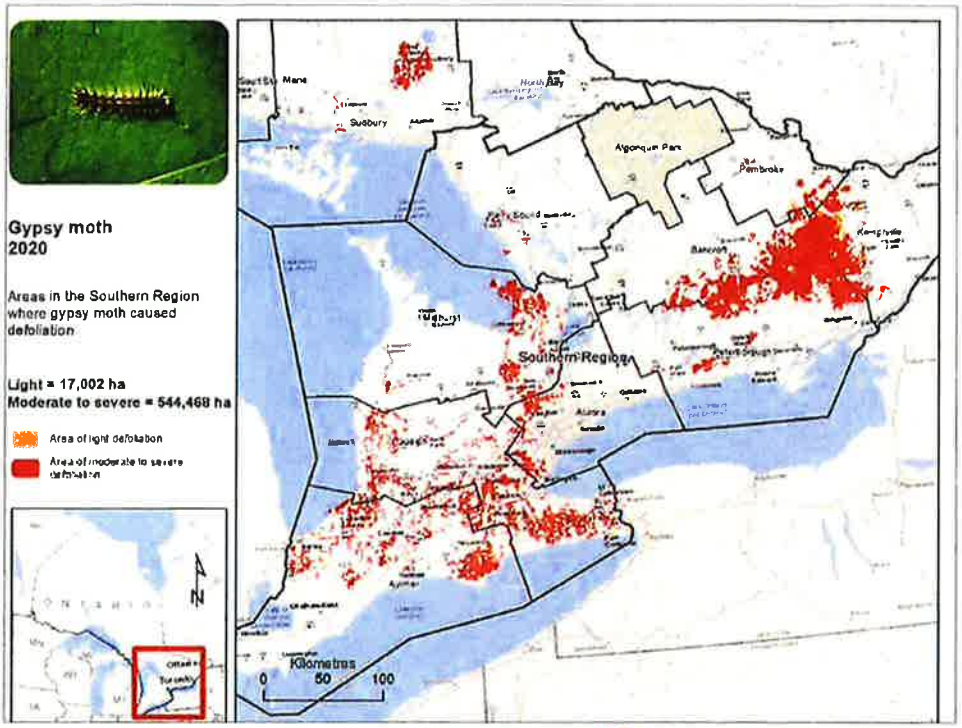


Figure 29. Areas in the region where LDD moth caused defoliation in 2020 (MNDMNRF)

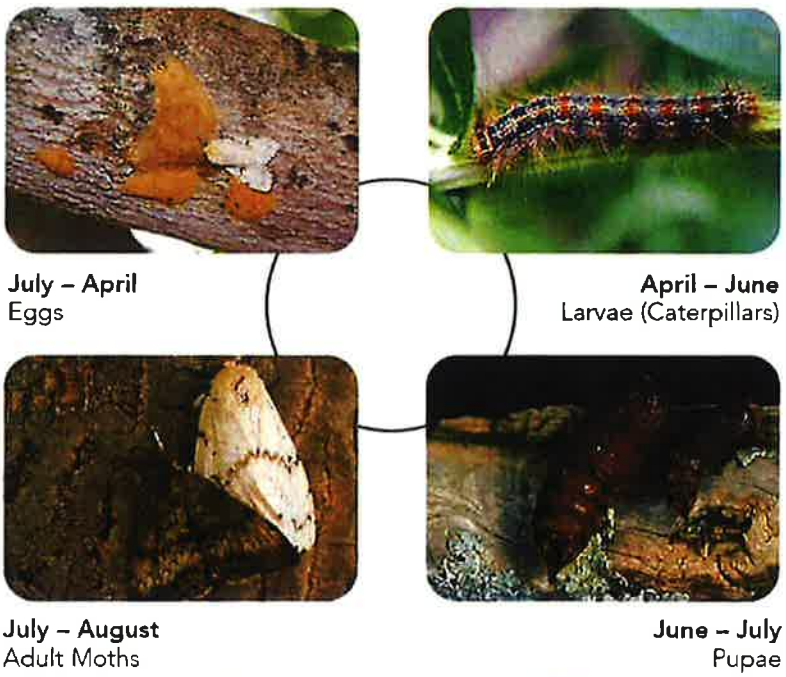


Figure 30. LDD moth lifecycle (invadingspecies.com/Gypsy-Moth/)

Monitoring and control

What you can do:

- Become familiar with, and learn to identify, the different life stages of LDD moth
- Place a band of burlap around the trunk of the host tree at chest height. Check under the bands mid-day and destroy any LDD moth caterpillars, pupae, adult moths, or egg masses found. Caterpillars, egg masses, and adult moths can be killed by placing them in a container with soapy water.
- Report sightings to the toll-free Invading Species Hotline at 1-800-563-7711 or email info@invadingspecies.com

For more information on LDD moth, please read:
https://www.gbbr.ca/wp-content/uploads/2021/03/GBB_Gypsy-moth-info-package_March-2021.pdf
http://www.invadingspecies.com/invaders/forest/ldd-moth/
https://www.canada.ca/en/health-canada/services/pest-control-tips/gypsy-moths.html

3.2.5 Spruce Budworm

Spruce budworm (*Choristoneura fumiferana*) is a pest native to North America that defoliates primarily balsam fir and spruce trees.

In the Parry Sound district, 6,869 ha of moderate to severe spruce budworm defoliation was mapped in 2020, more than double the area recorded in 2019 (2,753 ha). Most of the defoliation was concentrated in the northeast corner of the district, along Highway 11 from Trout Creek to the southwest side of Bernard Lake near Sundridge, as can be seen in Figure 31.

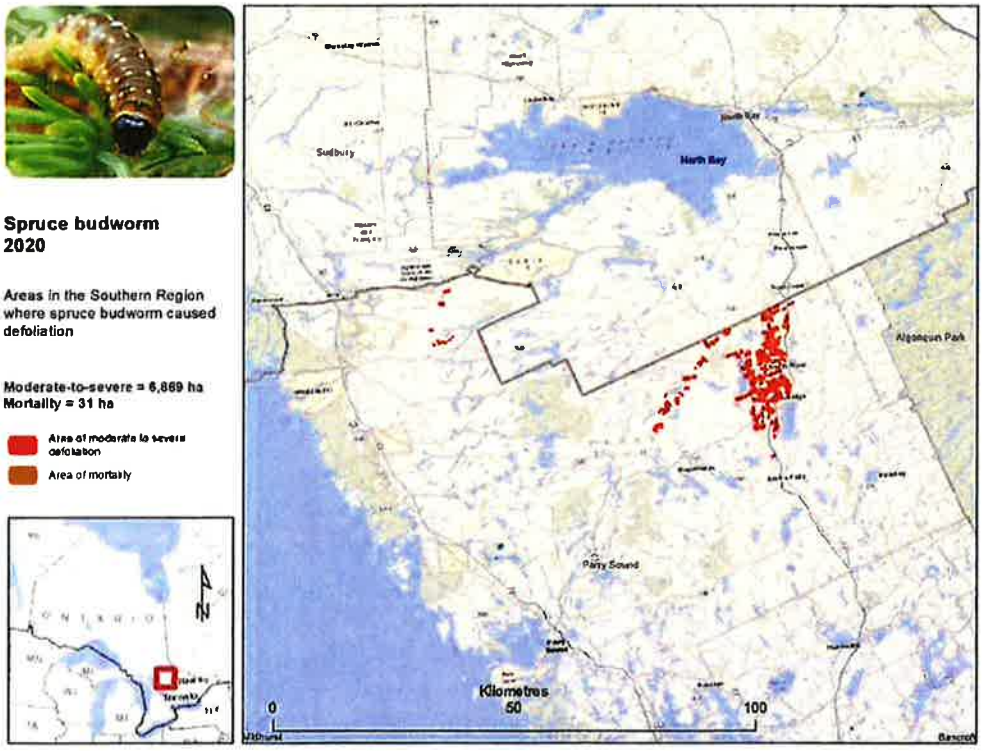


Figure 31. Areas in the region where spruce budworm caused defoliation in 2020 (MNDMNRF)

Identification

The defining features of spruce budworm larvae and adult moths are listed below and shown in Figure 32.

Larvae	Adults
• Black head • Reddish brown body • Two rows of white spots along the back	• Dull grey forewings with brown bands and spots • Light grey hind wings

Spruce budworm larvae emerge in the spring and feed on needles, buds, flowers, and new shoots. Adult moths emerge in late June to early August. Defoliation progresses from the top of the tree downwards. Stands severely impacted by spruce budworm turn a rust colour due to dried out needles. Trees can usually withstand one year of defoliation; however, when combined with other stresses or when defoliation lasts multiple years, growth loss or mortality can result.

Figure 32. Spruce budworm larva and adult moth (www.ontario.ca/page/spruce-budworm)

For more information on spruce budworm, please read:
https://www.ontario.ca/page/spruce-budworm
https://www.nrcan.gc.ca/our-natural-resources/forests/wildland-fires-insects-disturbances/top-forest-insects-and-diseases-canada/spruce-budworm/13383

3.2.6 Introduced Pine Sawfly

Introduced pine sawfly (IPS) is an invasive species that was first found in Ontario in 1931. In 2015, introduced pine sawfly caused light defoliation between French River and Pointe au Baril. In 2019, MNDMNRF ground surveys identified light to moderate defoliation caused by IPS on a few white pine trees in Conger Township. Forestry experts believe that the TOA will likely continue to experience small IPS outbreaks, as Crown land will not likely be treated for IPS infestations.

Identification

IPS larvae have a black head, yellow-green body with yellow or black spots on sides, and a double black stripe along the centre of the back (Figure 33).

Figure 33. IPS larva (Steven Katovich, USDA Forest Service) and IPS cocoon after emergence (Gyorgy Csoka, Hungary Forest Research Institute)

Monitoring and control

Practices for control should be applied during both IPS generations/hatchings. Typically, the first generation hatches in June and a second in September. Best practices include:

- **Killing confirmed larvae**
- **On smaller trees, picking off and destroying larvae and unhatched pupal cases**
- **On larger trees, using a water hose to knock larvae from branches to help curtail defoliation**

The application of TreeAzin is another option to control IPS. TreeAzin is a botanical insecticide licensed to BioForest Technologies. Using a hand drill, a hole is drilled in the tree and the insecticide is injected into the tree using a small plunger under low pressure. The tree absorbs the insecticide and distributes it throughout the tree, thus protecting it from IPS larvae.

For more information on IPS, please read:
https://archipelago.municipalwebsites.ca/Editor/images/DOCUMENTS/ENVIRONMENT/Forests/Pine_Sawfly_Spring2016.pdf

3.2.7 Oak Wilt

Oak wilt is a vascular disease that affects oak trees caused by the fungus *Bretziella fagacearum*. Oak wilt restricts the flow of water and nutrients through the tree and can kill a tree within months of exposure. It is spread through underground roots and beetles. Oak wilt affects all species of oak; however, the red oak group including red, black, and pin oak is the most susceptible while the white oak group including white and bur oak is more resistant.

Oak wilt is known to occur in 24 states within the United States including Michigan, but has not been detected in Canada. In 2016, it was confirmed on Belle Isle which is 579 m from the shores of Windsor, Ontario. In 2019, insect traps were placed in Ontario near the US border. In 2020, oak wilt fungal eDNA was found in these samples. This does not confirm the presence of oak wilt in Ontario which would

require a symptomatic tree to be confirmed positive for the infection. Instead, it acts as an early warning system for the oak wilt in Ontario.

Identification

There are several ways to identify oak wilt, these include:

- Discolouration of leaves progressing from the edge to the middle (Figure 35)
- Wilting and bronzing of leaves starting at the top of the crown and progressing downwards
- Premature leaf fall
- Fungal mats just under the bark that emit a fruity smell (Figure 34)
- Vertical bark cracks in trunk and large branches

Figure 35. Oak wilt disease symptoms on a leaf (D.W. French, University of Minnesota, Bugwood.org)

Figure 34. Fungal growth on the sapwood of an infected oak (forestinvasives.ca)

Monitoring and control

As there is no cure for oak wilt infected trees, avoiding or reducing infection in areas where disease occurs is the best approach. To avoid or reduce infection:

- Do not move firewood
- Do not prune or damage oak trees between April to July as this is the most vulnerable time for spore spread by insects
- Identify and remove diseased trees
- Disrupt root connections between diseased and healthy trees

For more information on oak wilt, please read:
https://forestinvasives.ca/Meet-the-Species/Pathogens/Oak-Wilt#70333-signs--symptoms

3.2.8 Hemlock Wooly Adelgid

Hemlock wooly adelgid (HWA) is an invasive species from Japan that attacks and kills hemlock trees. It is an aphid-like insect that feeds on nutrient and water storage cells at the base of needles. It was first discovered in North America in Virginia, USA in the 1950s. It was detected in Ontario for the first time in 2012 in Etobicoke and then in 2013/2014 in the Niagara Glen Nature Reserve near Niagara Falls. These populations were all eradicated. In 2019, two small populations of HWA were confirmed near Niagara Falls, Ontario and Wainfleet, Ontario (Figure 36). Official control measures were applied to prevent the spread of HWA into non-infested areas.

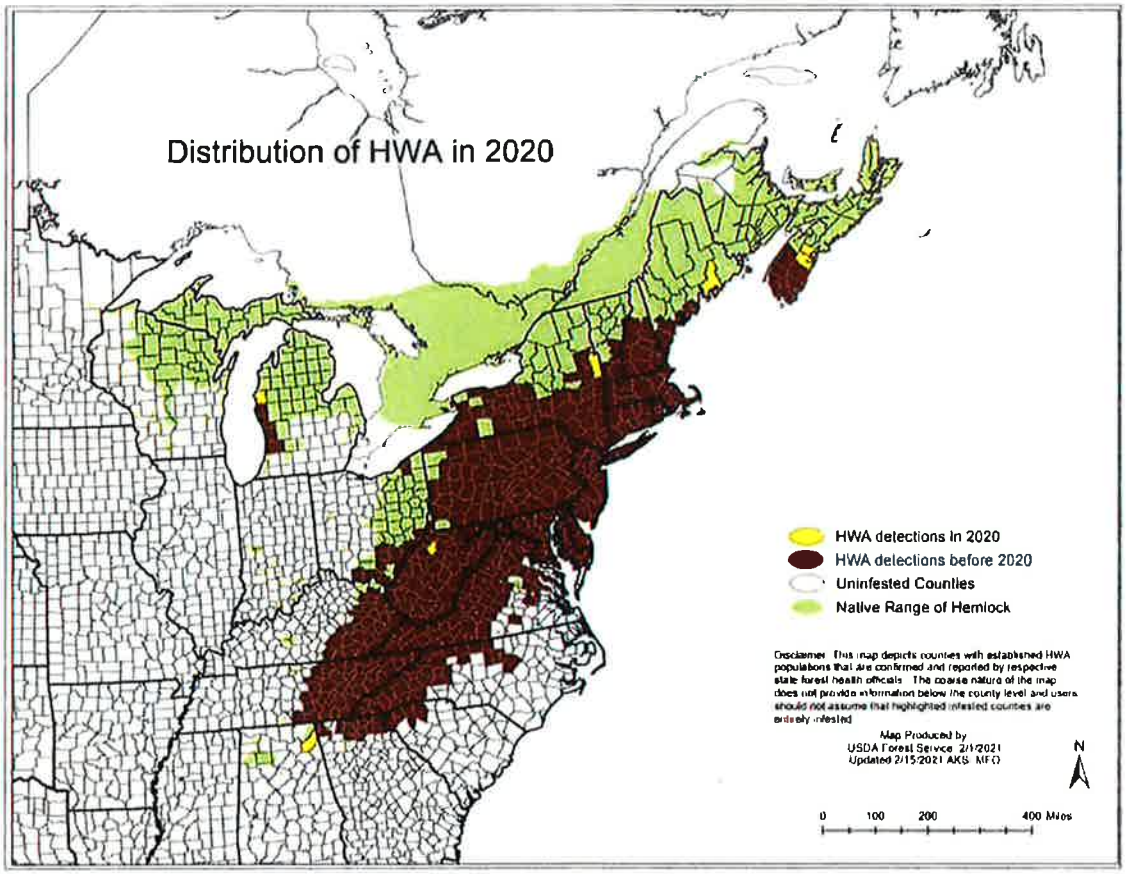


Figure 36. Distribution of HWA in the USA in 2020 including HWA detections in Canada (USDA)

Identification

Signs and symptoms for identifying HWA include:

- White, wooly eggs sacs at base of needles (most obvious in spring) (Figure 37)
- Premature bud and shoot dieback
- Premature needle loss
- Thinner, greyish-green crown
- Dieback of twigs and branches
- Discoloured foliage

- Tree death (within 4-15 years)

Figure 37. Hemlock wooly adelgid egg sacs at the base of hemlock needles (Margaret Scott)

Monitoring and control

CFIA establishes regulated areas to maintain and enforce restrictions against moving potentially infested wood items from areas where HWA has been found. When HWA was detected at the two sites in Ontario in 2019, both sites were put under Notice of Prohibition of Movement. HWA survey activities are ongoing.

For more information on HWA, please read:
https://www.inspection.gc.ca/plant-health/plant-pests-invasive-species/insects/hemlock-woolly-adelgid/eng/1325610383502/1325610993895

3.3 French-Severn Harvest Areas 2020-2021

Each year, Westwind Forest Stewardship creates an annual work schedule which shows areas which may be harvested in that year. This schedule is posted on the Natural Resources Information Portal website. Although this aims to show most areas that will be harvested, some areas are added throughout the year depending on several factors including weather, markets, and logistics. These areas are added by revisions that are also posted on the website. In order to have the most up to date information, please look at both the annual work schedule and any revisions that have been added.

To view areas planned for harvest in the French-Severn Forest, please visit https://nrip.mnr.gov.on.ca/.

- Under "Please make a selection", below Forestry, click "Forest Management Plans Online".
- Under "FIND A PLAN", select French-Severn Forest from the drop-down menu.

- Below the map, under "Forest Management Unit: French-Severn Forest – 360", click on "Annual Work Schedule".
- Click on "Annual Work Schedule Maps".
- Click "Preview" or "Download" beside Index Map 00. This will open the index map which shows all areas in the French-Severn Forest by Map number.
- Find the area you are interested in and the corresponding map number.
- Exit the Index Map.
- Scroll through the list of Operations maps and click on the one with your map number. This will open the map.

Areas with a colour corresponding to those shown under PLAN FOREST UNIT – SGR in the Map Legend are areas that may be harvested this year. The table below explains what each colour/legend code represents.

Table 18. Description of map legend codes

Legend Code	Forest Unit Name	Silviculture System
HDSEL	Tolerant hardwood selection	Selection
HDUS3	Tolerant hardwood shelterwood	Uniform shelterwood
HESEL	Hemlock selection	Selection
ORUS2	Oak shelterwood	Uniform shelterwood
INTCC	Intolerant hardwood clearcut	Clearcut
MWCC	Mixedwood clearcut	Clearcut
PJCC	Jack pine clearcut	Clearcut
SFCC	Spruce fir clearcut	Clearcut
PWST	White pine seed tree	Clearcut – seed tree
PWUS2	2-cut white pine shelterwood	Uniform shelterwood - 2 cut
PWUS3	3-cut white pine shelterwood	Uniform shelterwood - 3 cut

Silviculture maps showing planting, tending, and site preparation are shown below the operations maps under "Annual Work Schedule Additional Maps". To view Revision maps, start at the beginning of the steps below, but at the fourth step, click on any of the listed "Annual Work Schedule Changes" to see the individual revision.

References

Jones, C., Somers, K.M., Craig, B., & Reynoldson, T.B. (2007). *Ontario Benthos Biomonitoring Network: Protocol Manual.* Environment Canada. Retrieved from https://desc.ca/sites/default/files/OBBN2007finalapril18c.pdf

Muskoka Watershed Council (MWC). (2018). *2018 Muskoka Watershed Report Card Background Report.* Retrieved from: www.muskokawaterweb.ca/lake-data/mnr-data/reports

Appendix A – LPP monitoring data for all sampling locations

All Lake Partner Program monitoring data for Township of The Archipelago sampling locations, active and historical, are provided in the tables below, organized by ratepayer association.

Bayfield Nares Islanders' Association

Lake	Georgian Bay
Station	7064
Site ID	11
Description	Nares Inlet, deep spot
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
May 2013	5.30	4.20	5.40	4.80	21.98
July 2013		4.40	5.00	4.70	22.79
Sept 2013		4.80	4.80	4.80	
Oct 2013		6.60	5.40	6.00	
May 2014	3.88	5.80	4.80	5.30	17.90
Aug 2014		4.20	4.40	4.30	
Sept 2014		15.80	6.20	11.00	
Oct 2014		5.20	10.80	8.00	
May 2015	5.30	4.60	5.80	5.20	19.30
June 2015		5.20	4.40	4.80	21.00
July 2015		5.20	5.20	5.20	20.50
Aug 2015		5.20	5.60	5.40	
May 2016	4.75	4.80	7.20	6.00	15.80
Aug 2016		5.20	5.80	5.50	
Sept 2016		6.00	5.40	5.70	
May 2017	5.11	5.60	9.00	7.30	
June 2018		6.00	3.00	4.50	23.00
2019	6.25	4.20	4.20	4.20	

*Data have been 'flagged' in yellow when there are major differences between TP1 and TP2. When there are major differences between TP1 and TP2, it is probable that one of the two samples was contaminated (usually the higher value). Contamination can occur when the sample water contains zooplankton or other debris. Use caution when interpreting TP data that has been flagged.

Blackstone Lake Cottagers' Association

Lake	Blackstone Lake
Station	461
Site ID	1
Description	Mid lake, deep spot
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2000	6.00				
2001	5.00				

2002	4.67	24.40	19.20	21.80	
2003	4.80	6.40	6.30	6.35	
2004	4.32	7.09	7.81	7.45	
2005	4.44	7.20	9.10	8.15	
2006	3.86	7.35	6.88	7.12	
2009	3.70	7.26	10.26	8.76	3.50
2010	5.33	7.20	5.00	6.10	3.70
2011	5.23	6.20	6.60	6.40	3.73
2012	5.23	5.40	5.60	5.50	3.77
2013	4.75	6.80	6.40	6.60	
2014	3.60	8.40	5.40	6.90	3.98
2015		6.20	5.80	6.00	3.80
2016	5.50	5.00	6.40	5.70	3.79
2017	4.33	12.00	11.60	11.80	3.72
2018	3.50	5.20	5.60	5.40	3.96

Lake	**Blackstone Lake**
Station	461

Year	Site ID	Description	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Data Collector
2006	2	Driscoll 1	5.0	4.6	4.84	MOE Northern Region
2006	3	Driscoll 2	4.4	4.7	4.54	MOE Northern Region
2006	4	Driscoll 3	4.2	4.9	4.52	MOE Northern Region
2006	5	Driscoll 4	3.3	6.5	4.91	MOE Northern Region
2016	6	BL02	5.2	5.4	5.30	MOE Northern Region
2016	7	BL03	5.2	5.4	5.30	MOE Northern Region
2016	8	BL04	5.2	4.8	5.00	MOE Northern Region
2016	9	BL01	5.8	5.8	5.80	MOE Northern Region

Cranberry Lake

Lake	**Georgian Bay**
Station	1013
Site ID	1
Description	Mid lake, deep spot
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2017		11.80	12.40	12.10	2.98
2019		17.40	18.40	17.90	

Crane Lake Association

Lake	Crane Lake
Station	1014
Site ID	1
Description	Mid-bay, deep spot
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2004	4.67				
2007		3.21	4.02	3.61	
2008		3.40	3.47	3.44	3.80
2009					
2010	4.98	3.60	3.80	3.70	3.12
2011	4.76	6.00	5.60	5.80	3.69
2012	5.54	5.20	4.80	5.00	3.59
2013	4.84	5.60	5.80	5.70	3.46
2014	4.60	5.40	5.00	5.20	3.84
2015	4.84	5.20	5.20	5.20	3.70
2016	4.80	4.60	4.40	4.50	3.48
2017		5.20	5.60	5.40	3.52
2018		5.00	5.40	5.20	
2019		5.80	5.60	5.70	3.20
2020		5.20	4.60	4.90	3.30

Lake	Crane Lake
Station	1014
Site ID	2
Description	N end, off Marsh Is.
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2002	4.78	6.90	6.00	6.45	
2003	4.57	4.50	5.90	5.20	
2004		3.95	4.50	4.23	
2005		3.06	3.60	3.33	
2006					
2007		3.31	3.38	3.35	
2008		4.00	4.25	4.13	3.34
2009					
2010	4.68	4.20	4.00	4.10	3.53
2011	4.40	4.80	4.80	4.80	3.28
2012	4.89	4.40	5.20	4.80	3.30
2013	4.70	5.00	5.40	5.20	3.19
2014	4.37	5.00	5.00	5.00	3.48
2015	4.56	5.80	6.20	6.00	3.60

2016	4.58	5.40	4.00	4.70	3.04
2017		4.80	4.60	4.70	3.32
2018		4.60	4.60	4.60	
2019		5.40	7.40	6.40	
2020		4.60	5.60	5.10	3.30

Lake	Crane Lake
Station	1014

Year	Site ID	Description	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Data Collector
2006	3	Driscoll-1	2.80	3.14	2.97	MOE Northern Region
2006	4	Driscoll-2	3.02	2.81	2.92	MOE Northern Region
2006	5	Driscoll-3	6.09		6.09	MOE Northern Region
2006	6	Driscoll-4	2.82	3.94	3.38	MOE Northern Region
2016	7	CR01	3.80	3.80	3.80	MOE Northern Region
2016	8	CR02	4.20	4.40	4.30	MOE Northern Region
2016	9	CR03	4.40	4.40	4.40	MOE Northern Region
2016	10	CR04	4.60	4.60	4.60	MOE Northern Region

Healey Lake Property Owners' Association

Lake	Healey Lake
Station	1924
Site ID	13
Description	Pinebay, Deep spot
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2016	2.67	6.6	6.6	6.60	
2017	2.86	8.20	7.60	7.90	1.90
2018		7.60	13.20	10.40	1.90

*Data have been 'flagged' in yellow when there are major differences between TP1 and TP2. When there are major differences between TP1 and TP2, it is probable that one of the two samples was contaminated (usually the higher value). Contamination can occur when the sample water contains zooplankton or other debris. Use caution when interpreting TP data that has been flagged.

Lake	Healey Lake
Station	1924

Year	Site ID	Description	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Data Collector
2006	4	Driscoll-1		5.85	6.55	6.20	MOE Northern Region
2006	5	Driscoll-2		6.54	7.29	6.92	MOE Northern Region
2006	6	Driscoll-3		10.25	9.50	9.88	MOE Northern Region
2006	7	Driscoll-4		5.62	4.86	5.24	MOE Northern Region
2016	8	HE01		5.2	5.0	5.10	MOE Northern Region
2016	9	HE02		5.2	5.2	5.20	MOE Northern Region

2016	10	HE03		4.8	4.6	4.70	MOE Northern Region
2016	11	HE04		5.6	5.6	5.60	MOE Northern Region
2016	12	HE05		5.4	5.2	5.30	MOE Northern Region

Iron City Fishing Club

Lake	**Georgian Bay**
Station	7064
Site ID	79
Description	Iron City Bay, deep spot
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2016		10.20	10.40	10.30	
2019		10.00	10.40	10.20	

Kapikog Lake Cottagers' Association

Lake	**Kapikog Lake**
Station	2230
Site ID	1
Description	Stn 1, W end
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
1991	3.45				
1992	4.29				
1993	3.94				
1994	4.31				
1995	4.08				
1996	3.96				

Lake	**Kapikog Lake**
Station	2230
Site ID	2
Description	Stn 2, mid-lake
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
1991	3.50				
1992	3.96				
1993	3.84				
1994	4.36				
1995	3.88				
1996	4.53				
1997	4.38				

1998	4.38				
1999	4.51				
2000	4.36				
2001	4.25				
2002	4.44	6.61	7.44	7.03	
2003	4.50	4.53	4.86	4.70	
2004	4.00	11.01	7.24	9.13	
2005		5.21	5.48	5.35	
2018	4.67	6.00	6.00	6.00	
2019	3.73	5.40	5.60	5.50	
2020	4.79	6.60	7.20	6.90	1.70

Lake	**Kapikog Lake**
Station	2230
Site ID	3
Description	Stn 3, E end
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
1991	3.44				
1992	3.71				
1993	3.47				
1994	4.04				
1995	3.64				
1996	4.24				

Lake	**Kapikog Lake**
Station	2230

Year	Site ID	Description	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Data Collector
2006	4	Driscoll-1	4.56	5.53	5.04	MOE Northern Region
2006	5	Driscoll-2	3.94	4.23	4.08	MOE Northern Region
2006	6	Driscoll-3	4.41	4.38	4.39	MOE Northern Region
2006	7	Driscoll-4	4.71	5.18	4.95	MOE Northern Region

Pointe au Baril Islanders' Association

Lake	**Sturgeon Bay**
Station	5209
Site ID	1
Description	WSturgeonBay Prov.Pk
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
May 2003		23.45	21.65	22.50	
May 2004		19.24	22.59	20.91	

June 2004		25.15	24.74	24.95	
July 2004		22.46	21.03	21.75	
Aug 2004		20.87	19.95	20.41	
Sept 2004		18.46	18.67	18.57	
Oct 2004		20.17	20.92	20.55	
May 2005	2.04	20.00	19.70	19.85	
June 2005		18.80	19.40	19.10	
Aug 2005		17.40	18.50	17.95	
Aug 2005		20.40	23.50	21.95	
Oct 2005		22.40	21.40	21.90	
May 2006		17.10	16.78	16.94	
June 2006		18.77	19.90	19.34	
July 2006		15.31	14.32	14.82	
Aug 2006		15.28	15.02	15.15	
Sept 2006		17.01	16.20	16.61	
Oct 2006		19.60	19.79	19.70	
June 2007	1.48	17.87	17.25	17.56	
July 2007		19.75	19.42	19.59	
July 2007		14.13	14.84	14.48	
Aug 2007		13.71	13.76	13.73	
Oct 2007		20.85	22.87	21.86	
May 2008	1.18	15.86	16.89	16.38	6.26
June 2008		23.19	25.61	24.40	
Aug 2008		21.44	21.79	21.62	
Sept 2008		20.71	20.38	20.55	5.76
Nov 2008		18.93	21.01	19.97	
June 2009	1.18	20.25	19.74	19.99	4.72
July 2009		19.64	20.28	19.96	
Aug 2009		19.47	19.31	19.39	
Sept 2009		16.95	18.99	17.97	
June 2010	1.67	17.80	17.20	17.50	7.11
July 2010		13.40	13.00	13.20	7.65
July 2010		13.60	14.00	13.80	
Aug 2010		13.80	13.60	13.70	
Sept 2010		22.00	21.80	21.90	
Oct 2010		19.00	17.00	18.00	
May 2011	1.33	18.60	18.20	18.40	6.55
July 2011		16.40	16.00	16.20	8.90
Aug 2011		16.00	15.00	15.50	10.92
Sept 2011		19.80	18.40	19.10	10.06
Oct 2011		17.40	15.80	16.60	10.66
May 2012	1.18	17.60	17.00	17.30	7.96
June 2012		63.60	52.80	58.20	8.75
July 2012		22.20	22.40	22.30	9.89
Aug 2012		19.20	18.40	18.80	
Sept 2012		23.40	22.00	22.70	

Oct 2012		25.20	27.20	26.20	
May 2013	1.16	15.80	16.60	16.20	6.09
June 2013		19.80	31.00	25.40	6.75
July 2013		18.80	17.60	18.20	8.04
Aug 2013		20.40	23.60	22.00	
Sept 2013		19.40	19.60	19.50	
Oct 2013		19.20	18.80	19.00	
May 2014	1.27	15.60	15.20	15.40	5.34
June 2014		18.40	18.40	18.40	6.98
July 2014		11.60	11.40	11.50	7.14
Aug 2014		12.60	13.60	13.10	
Sept 2014		12.80	13.20	13.00	
Oct 2014		15.40	15.40	15.40	
May 2015	1.59	17.20	16.60	16.90	5.80
Aug 2015		13.80	14.00	13.90	
Sept 2015		10.20	10.40	10.30	
Sept 2015		11.20	11.20	11.20	
Oct 2015		10.80	11.80	11.30	
May 2016	1.64	13.00	13.60	13.30	6.44
June 2016		11.80	12.60	12.20	7.72
Aug 2016		12.40	11.00	11.70	
Aug 2016		12.80	13.20	13.00	
Sept 2016		17.00	16.80	16.90	
Oct 2016		15.60	16.80	16.20	
May 2017	1.12	19.20	17.80	18.50	5.94
June 2017		16.60	18.40	17.50	6.34
July 2017		15.60	16.00	15.80	7.22
Aug 2017		17.60	17.20	17.40	
Oct 2017		20.80	22.20	21.50	
June 2018	1.60	18.20	19.00	18.60	6.70
July 2018		18.20	19.80	19.00	6.98
Aug 2018		18.60	18.40	18.50	
Sept 2018		15.00	15.60	15.30	
Oct 2018		31.20	15.20	23.20	
Nov 2018		18.20	19.80	19.00	
May 2019	1.43	14.00	15.00	14.50	7.00
June 2019		16.60	16.00	16.30	
July 2019		13.80	14.20	14.00	
Aug 2019		14.80	14.20	14.50	
Sept 2019		17.20	17.00	17.10	
Oct 2019		16.20	15.40	15.80	

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Lake	Sturgeon Bay
Station	5209
Site ID	2
Description	Kenilworth & Skunk I
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
May 2003		22.57	26.72	24.65	
May 2004		17.00	18.63	17.82	
June 2004		20.25	22.56	21.41	
July 2004		19.01	17.82	18.42	
Aug 2004		22.22	22.89	22.56	
Sept 2004		17.36	18.19	17.78	
Oct 2004		28.33	26.99	27.66	
May 2005	2.34	15.00	15.10	15.05	
June 2005		16.50	16.40	16.45	
Aug 2005		19.60	21.30	20.45	
Aug 2005		26.00	23.30	24.65	
Oct 2005		21.90		21.90	
May 2006		16.14	17.26	16.70	
June 2006		14.82	13.64	14.23	
July 2006		13.44	12.16	12.80	
Aug 2006		13.64	14.29	13.97	
Sept 2006		15.32	15.90	15.61	
Oct 2006		19.32	19.16	19.24	
June 2007	1.58	15.51	18.52	17.02	
July 2007		15.97	15.78	15.88	
July 2007		15.75	15.97	15.86	
Aug 2007		18.84	17.32	18.08	
Oct 2007		23.23	24.63	23.93	
May 2008	1.22	17.89	19.00	18.45	6.34
June 2008		17.92	13.77	15.85	
Aug 2008		22.43	23.93	23.18	
Sept 2008		19.78	20.40	20.09	6.22
Nov 2008		14.80	15.82	15.31	
June 2009	1.48	15.95	15.33	15.64	4.96
July 2009		16.33	15.68	16.01	
Aug 2009		17.18	16.62	16.90	
Sept 2009		19.92	17.47	18.70	
May 2010	1.87	10.40	10.60	10.50	6.89
July 2010		12.00	11.40	11.70	7.67
July 2010		12.40	12.80	12.60	
Aug 2010		14.20	13.20	13.70	
Sept 2010		17.40	16.00	16.70	
Oct 2010		16.60	16.80	16.70	
May 2011	1.45	17.00	18.20	17.60	6.67

July 2011		15.40	15.60	15.50	8.97
Aug 2011		15.80	16.00	15.90	11.09
Sept 2011		22.40	20.40	21.40	10.29
Oct 2011		18.00	17.80	17.90	10.48
May 2012	1.24	15.40	16.20	15.80	8.07
June 2012		18.00	21.20	19.60	8.90
July 2012		15.60	14.80	15.20	10.04
Aug 2012		23.00	24.80	23.90	
Sept 2012		20.20	18.80	19.50	
Oct 2012		25.40	26.20	25.80	
May 2013	1.24	18.00	16.20	17.10	6.09
June 2013		15.60	15.20	15.40	6.91
July 2013		14.80	14.20	14.50	8.14
Aug 2013		21.60	22.20	21.90	
Sept 2013		18.80	19.00	18.90	
Oct 2013		17.20	20.00	18.60	
May 2014	1.52	16.40	17.40	16.90	6.32
June 2014		15.60	15.00	15.30	6.90
July 2014		11.20	11.80	11.50	7.12
Aug 2014		13.80	12.40	13.10	
Sept 2014		13.20	14.00	13.60	
Oct 2014		14.80	14.40	14.60	
May 2015	1.69	12.40	12.60	12.50	5.88
Aug 2015		13.40	13.60	13.50	
Sept 2015		9.80	9.60	9.70	
Sept 2015		9.60	9.40	9.50	
Oct 2015		12.40	12.20	12.30	
May 2016	1.89	10.60	10.40	10.50	
June 2016		10.80	11.20	11.00	7.60
Aug 2016		10.80	10.40	10.60	
Aug 2016		10.40	10.00	10.20	
Sept 2016		13.40	12.60	13.00	
Oct 2016		15.00	15.20	15.10	
May 2017	1.36	11.60	11.60	11.60	5.92
June 2017		13.60	12.60	13.10	6.56
July 2017		13.40	14.20	13.80	7.40
Aug 2017		14.00	14.40	14.20	
Oct 2017		23.40	23.80	23.60	
June 2018	1.62	16.20	16.80	16.50	6.90
July 2018		13.80	17.20	15.50	8.28
Aug 2018		14.80	14.80	14.80	
Sept 2018		12.40	17.80	15.10	
Oct 2018		17.20	17.00	17.10	
Nov 2018		13.80	17.20	15.50	
May 2019	1.72	13.00	13.60	13.30	7.10
June 2019		16.20	13.80	15.00	

July 2019		12.40	14.40	13.40	
Aug 2019		12.00	12.40	12.20	
Sept 2019		12.80	13.00	12.90	
Oct 2019		15.40	15.60	15.50	

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Lake	**Sturgeon Bay**
Station	5209
Site ID	3
Description	Pointe au Baril chan
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2003		24.40	18.86	21.63	
May 2004		17.61	20.19	18.90	
June 2004		18.02	22.80	20.41	
July 2004		13.74	13.41	13.58	
Aug 2004		13.53	13.16	13.35	
Sept 2004		16.22	18.66	17.44	
Oct 2004		12.91	13.39	13.15	
May 2005	2.5	12.90	13.30	13.10	
June 2005		19.20	15.80	17.50	
Aug 2005		12.30	13.50	12.90	
Aug 2005		13.70	19.20	16.45	
Oct 2005		14.00	14.30	14.15	
May 2006		13.88	15.04	14.46	
June 2006		8.38	8.01	8.20	
July 2006		7.59	9.02	8.31	
Aug 2006		13.30	13.91	13.61	
Sept 2006		12.56	12.82	12.69	
Oct 2006		17.06	18.07	17.57	
June 2007	1.74	16.92	16.66	16.79	
July 2007		16.34	17.38	16.86	
July 2007		12.14	10.86	11.50	
Aug 2007		10.82	9.70	10.26	
Oct 2007		12.58	12.53	12.56	
May 2008	1.35	18.84	21.41	20.13	3.40
June 2008		18.89	19.78	19.34	
Aug 2008		17.14	19.24	18.19	
Sept 2008		13.35	12.85	13.10	6.64
Nov 2008		13.00	14.21	13.61	
June 2009	1.35	14.50	13.84	14.17	6.32
July 2009		15.18	13.78	14.48	
Aug 2009		16.06	15.49	15.78	

Sept 2009		14.98	14.62	14.80	
June 2010	1.98	9.00	8.80	8.90	10.81
July 2010		8.00	7.80	7.90	13.47
July 2010		10.60	11.40	11.00	
Aug 2010		12.00	12.20	12.10	
Sept 2010		11.40	10.60	11.00	
Oct 2010		12.20	13.20	12.70	
May 2011	1.88	14.60	14.60	14.60	7.80
July 2011		14.40	11.80	13.10	13.80
Aug 2011		13.60	11.20	12.40	14.87
Sept 2011		13.40	14.40	13.90	14.86
Oct 2011		10.20	9.00	9.60	14.78
May 2012	1.67	14.20	13.80	14.00	9.15
June 2012		12.60	13.80	13.20	11.67
July 2012		14.60	14.00	14.30	14.40
Aug 2012		11.80	12.20	12.00	
Sept 2012		15.00	15.20	15.10	
Oct 2012		17.80	18.40	18.10	
May 2013	1.87	16.00	16.20	16.10	4.82
June 2013		10.80	11.20	11.00	12.36
July 2013		9.60	10.00	9.80	15.80
Aug 2013		12.20	11.80	12.00	
Sept 2013		13.40	12.80	13.10	
Oct 2013		15.40	15.80	15.60	
May 2014	1.57	15.60	15.40	15.50	2.60
June 2014		13.40	13.60	13.50	10.10
July 2014		11.40	11.00	11.20	10.20
Aug 2014		11.40	11.20	11.30	
Sept 2014		12.60	12.60	12.60	
Oct 2014		15.80	16.80	16.30	
May 2015	1.81	16.20	16.20	16.20	6.40
Aug 2015		11.00	11.00	11.00	
Sept 2015		9.80	10.40	10.10	
Sept 2015		8.40	8.40	8.40	
Oct 2015		10.00	9.40	9.70	
May 2016	1.89	12.80	13.40	13.10	6.26
June 2016		9.00	9.40	9.20	10.70
Aug 2016		7.40	7.60	7.50	
Aug 2016		13.20	13.00	13.10	
Sept 2016		12.40	12.20	12.30	
Oct 2016		11.40	11.40	11.40	
May 2017	1.50	14.60	14.80	14.70	6.16
June 2017		11.20	11.40	11.30	9.86
July 2017		11.80	11.20	11.50	11.70
July 2017		10.20	10.20	10.20	10.80
Aug 2017		17.20	16.60	16.90	

Oct 2017		16.00	16.00	16.00	
June 2018	1.86	16.20	14.40	15.30	10.50
July 2018		10.80	11.40	11.10	15.10
Aug 2018		14.80	13.80	14.30	
Sept 2018		18.40	11.80	15.10	
Oct 2018		10.60	10.40	10.50	
Nov 2018		10.80	11.40	11.10	
May 2019	1.82	12.80	12.60	12.70	4.50
June 2019		18.00	18.60	18.30	
July 2019		13.00	14.20	13.60	
Aug 2019		10.40	10.00	10.20	
Sept 2019		8.60	8.80	8.70	
Oct 2019		14.40	13.80	14.10	

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Lake	**Sturgeon Bay**
Station	5209
Site ID	4
Description	W of School House Is
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
May 2003		21.33	17.90	19.62	
May 2004		20.48	18.17	19.33	
June 2004		16.33	15.13	15.73	
July 2004		10.75	9.24	10.00	
Aug 2004		15.30	16.95	16.13	
Sept 2004		13.96	13.89	13.93	
Oct 2004		21.26	19.12	20.19	
May 2005	2.22	13.00	12.90	12.95	
June 2005		17.10	25.50	21.30	
Aug 2005		14.10	12.90	13.50	
Aug 2005		16.40	15.60	16.00	
Oct 2005		13.40	14.70	14.05	
May 2006		13.32	14.02	13.67	
June 2006		7.80	8.73	8.27	
July 2006		10.88	13.03	11.96	
Aug 2006		12.51	14.46	13.49	
Sept 2006		12.13	10.69	11.41	
Oct 2006		13.86	14.46	14.16	
June 2007	1.9	14.46	14.52	14.49	
July 2007		11.89	11.87	11.88	
July 2007		10.52	10.00	10.26	
Aug 2007		9.69	9.10	9.40	

Oct 2007		11.90	12.61	12.26	
May 2008	1.57	17.09	16.17	16.63	5.12
June 2008		16.39	14.45	15.42	
Aug 2008		14.61	16.08	15.35	
Sept 2008					32.80
Sept 2008		13.38	12.92	13.15	
Nov 2008		11.17	10.79	10.98	
June 2009	1.73	13.05	13.20	13.13	6.94
July 2009		11.62	11.54	11.58	
Aug 2009		16.31	15.71	16.01	
Sept 2009		12.58	11.47	12.03	
June 2010	2.13	9.20	9.00	9.10	10.47
July 2010		8.00	7.80	7.90	12.39
July 2010		9.60	9.00	9.30	
Aug 2010		10.60	8.60	9.60	
Sept 2010		12.00	12.20	12.10	
Oct 2010		12.80	12.60	12.70	
May 2011	2.21	14.20	15.00	14.60	9.07
July 2011		10.00	10.00	10.00	13.98
Aug 2011		10.00	10.60	10.30	17.86
Sept 2011		12.40	17.00	14.70	15.15
Oct 2011		9.40	8.60	9.00	15.56
May 2012	1.76	14.60	14.00	14.30	9.90
June 2012		10.40	10.20	10.30	12.07
July 2012		11.60	12.00	11.80	15.02
Aug 2012		14.20	15.20	14.70	
Sept 2012		14.20	14.20	14.20	
Oct 2012		16.40	17.20	16.80	
May 2013	2.02	14.80	16.20	15.50	5.49
June 2013		10.60	10.20	10.40	12.91
July 2013		9.60	9.40	9.50	16.66
Aug 2013		10.60	10.80	10.70	
Sept 2013		12.20	11.00	11.60	
Oct 2013		12.20	11.00	11.60	
May 2014	1.90	15.20	14.80	15.00	3.84
June 2014		10.20	10.00	10.10	9.44
July 2014		9.60	10.20	9.90	11.90
Aug 2014		10.20	10.00	10.10	
Sept 2014		10.60	11.00	10.80	
Oct 2014		14.20	14.60	14.40	
May 2015	2.05	13.20	14.00	13.60	7.82
Aug 2015		10.20	10.20	10.20	
Sept 2015		8.40	8.40	8.40	
Sept 2015		9.00	9.00	9.00	
Oct 2015		9.00	8.60	8.80	
May 2016	2.25	11.20	10.40	10.80	6.74

June 2016		9.00	8.20	8.60	11.20
Aug 2016		7.60	7.80	7.70	
Aug 2016		9.00	9.40	9.20	
Sept 2016		10.80	9.60	10.20	
Oct 2016		10.20	10.60	10.40	
May 2017	1.82	12.20	12.20	12.20	7.46
June 2017		10.00	10.00	10.00	10.60
Aug 2017		11.20	10.80	11.00	
Oct 2017		15.20	14.40	14.80	
June 2018	2.10	13.60	13.20	13.40	12.30
July 2018		10.60	11.20	10.90	13.20
Aug 2018		11.60	12.00	11.80	
Sept 2018		10.40	10.20	10.30	
Oct 2018		9.80	10.40	10.10	
Nov 2018		10.60	11.20	10.90	
May 2019	1.90	12.20	13.00	12.60	5.30
June 2019		13.60	13.60	13.60	
July 2019		10.00	11.80	10.90	
Aug 2019		8.60	9.20	8.90	
Sept 2019		8.80	8.20	8.50	
Oct 2019		10.20	11.00	10.60	

Lake	**Sturgeon Bay**
Station	5209
Site ID	5
Description	N basin W-Sein/Driscoll 1
Data Collector	MOE Northern Region

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2005	2.20	14.44	13.82	14.13	
2006		11.96	12.61	12.29	

Lake	**Sturgeon Bay**
Station	5209
Site ID	6
Description	N basin E-Sein/Driscoll 2
Data Collector	MOE Northern Region

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2005	2.30	13.94	14.54	14.24	
2006		13.21	14.44	13.82	

Lake	Sturgeon Bay
Station	5209
Site ID	7
Description	N basin Mid-Sein/Driscoll 3
Data Collector	MOE Northern Region

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2005	2.40	16.22	14.79	15.50	
2006		13.22	13.24	13.23	

Lake	Sturgeon Bay
Station	5209
Site ID	8
Description	Mid bay narrows-Sein/Dris4
Data Collector	MOE Northern Region

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2005	2.20	15.32	15.78	15.55	
2006		13.30	15.93	14.62	

Lake	Sturgeon Bay
Station	5209
Site ID	9
Description	S basin E -Sein/Driscoll 5
Data Collector	MOE Northern Region

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2005	2.10	14.95	14.43	14.69	
2006		13.33	13.99	13.66	

Lake	Sturgeon Bay
Station	5209
Site ID	10
Description	S basin W -Sein/Driscoll 6
Data Collector	MOE Northern Region

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2005	1.60	14.67	13.96	14.32	
2006		11.86	11.80	11.83	

Lake	Georgian Bay
Station	7064

Year	Site ID	Description	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Data Collector
2015	74	Sturgeon Bay SB1	12.40	13.40	12.90	MOE Northern Region
2015	75	Sturgeon Bay SB2	14.20	13.60	13.90	MOE Northern Region

2015	76	Sturgeon Bay SB3	13.20	13.40	13.30	MOE Northern Region
2019	110	Open water S of Doran rock	2.00	4.60	3.30	LPP volunteer
2019	111	Off Pym Rock and Polland Is.	4.80	2.40	3.60	LPP volunteer

Sans Souci & Copperhead Association

Lake	**Georgian Bay**
Station	7064
Site ID	81
Description	Sans Souci, deep spot
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2018		4.40	4.40	4.40	12.70
2019		3.80	4.00	3.90	9.20

Lake	**Georgian Bay**
Station	7064
Site ID	113
Description	Ruddy Island in Clear Bay
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2019		8.00	9.40	8.70	2.90

Lake	**Georgian Bay**
Station	7064
Site ID	114
Description	Rawson Bay
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2019		7.00	7.20	7.10	2.80

Skerryvore Ratepayers' Association

Lake	**Lake Huron**
Station	6980

Year	Site ID	Description	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Data Collector
2006	10	Sein-Rathlyn Is	4.69	3.81	4.25	MOE Northern Region
2006	11	Sein-Rathlyn Is	3.76	3.95	3.86	MOE Northern Region
2006	12	Sein-Rathlyn Is	2.77	3.64	3.21	MOE Northern Region
2006	13	Sein-Rathlyn Is	3.44	3.32	3.38	MOE Northern Region

South Channel Association

Lake	Georgian Bay
Station	7064
Site ID	2
Description	South Chan-Nutter Bay
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2002	6.00	6.40	5.40	5.90	
2003	5.20				
2004		6.35	5.92	6.13	
2005		7.66	4.53	6.10	
2006	8.50	6.99	4.60	5.79	
2019	4.28	6.00	6.80	6.40	5.90

Lake	Georgian Bay
Station	7064
Site ID	16
Description	Rose Pt.-Glen Burnie Mar
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2004		10.61	11.13	10.87	

Lake	Georgian Bay
Station	7064
Site ID	87
Description	South Channel
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2019		4.80	5.00	4.90	6.90

Lake	Georgian Bay
Station	7064
Site ID	89
Description	Channel N of Isabella Island
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2017		6.80	7.20	7.00	
2017		8.40	9.20	8.80	
2018	3.90	7.40	7.80	7.60	5.18
2019		6.60	7.20	6.90	4.40

Lake	Georgian Bay
Station	7064
Site ID	105
Description	Indian Dock Channel
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2019		7.60	6.60	7.10	7.50

Lake	Georgian Bay
Station	7064
Site ID	106
Description	Redner Bay
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2019	5.98	4.00	4.20	4.10	12.40
2020	7.60	5.20	5.00	5.10	17.30

Lake	Georgian Bay
Station	7064
Site ID	109
Description	S channel basin
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2019	3.90	5.60	5.00	5.30	5.50
2020	4.50				

Three Legged Lake Association

Lake	Three Legged Lake
Station	5360
Site ID	1
Description	Mid lake, deep spot
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2001	5.80				
2002		7.11	4.28	5.70	
2003	5.00	4.67	5.56	5.12	
2004	5.20	3.50	3.20	3.35	
2005	7.00	9.28	8.46	8.87	
2005		3.11	3.22	3.17	
2006	6.20				
2012	6.85	2.70	2.60	2.65	1.65
2013	6.20	3.20	3.40	3.30	

2014		4.00	4.00	4.00	1.58
2016	7.10				
2017	5.44				
2018	6.30	3.60	3.60	3.60	1.50
2019		10.60	5.80	8.20	
2020		4.80	4.80	4.80	1.30

Lake	Three Legged Lake
Station	5360
Site ID	2
Description	Mid lake, deep spot
Data Collector	Seguin Township

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2013		5.20	3.80	4.50	
2015		3.20	3.00	3.10	
2017	3.80	4.20	4.60	4.40	1.46
2019	4.72	6.00	4.60	5.30	1.30

Woods Bay Community Association

Lake	Georgian Bay
Station	7064
Site ID	77
Description	Woods Bay, deep spot
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2016	4.13	15.40	14.20	14.80	2.96
2017		9.60	8.80	9.20	
2018		6.80	7.00	6.90	3.62
2019	3.23	6.60	6.60	6.60	3.00

Lake	Georgian Bay
Station	7064
Site ID	96
Description	Blackstone Harbour
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2018		7.00	7.20	7.10	3.26
2019	3.13	7.00	7.00	7.00	3.10

Lake	Georgian Bay
Station	7064
Site ID	97
Description	North Channel
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2018		6.20	6.40	6.30	3.58
2019	3.41	7.00	7.00	7.00	3.00

Other

Lake	Conger Lake (pine)
Station	963
Site ID	1
Description	Mid lake, deep spot
Data Collector	LPP volunteer

Year	Secchi Depth (m)	TP1 (µg/L)	TP2 (µg/L)	Average TP (µg/L)	Calcium (mg/L)
2002		7.63	7.28	7.46	
2003	4.25	5.70	5.70	5.70	
2004	4.30	7.17	5.69	6.43	

Township of The Archipelago
2021 Environment Program Report

Prepared by the Georgian Bay Mnidoo Gamii Biosphere, October 2021

GEORGIAN BAY BIOSPHERE MNIDOO GAMII

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1. EXECUTIVE SUMMARY

Since 2014, the Georgian Bay Biosphere (GBB) and Township of The Archipelago (TOA) have partnered to provide environmental services and environmental programming to ratepayers. The goal of the partnership is to provide high quality, accessible environmental information and programming. This specifically means working to increase environmental literacy and awareness among ratepayers within the TOA and increasing the capacity to address/respond to environmental issues, challenges, and opportunities.

In our eighth year of formal partnership, highlights included:

1. Reinstatement of the Lake Partner Program after a 2020 hiatus.
2. Development of a comprehensive LDD Moth Information Package & free webinar in partnership with Westwind Forest Stewardship.
3. Two webinars with high attendance: March LDD Moth & Emerald Ash Borer and June Septic Health & You.
4. Over 100 youth participated in the Kids in the Biosphere program.
5. Learning with Oshkinigig was offered with the Pointe au Baril Islanders' Association. This cultural learning event featured Oshkinigig, a birch bark canoe handcrafted in Parry Sound by the Georgian Bay Anishinaabek Youth.
6. Extensive work on septic best practice communications including a mailout to all ratepayers and a new webpage.
7. Continuation of the Skerryvore Community Road mitigation projects with Public Works. The project received accolades for this work in the Good Roads magazine and won the Peter J. Marshall Innovation Award from the Association of Municipalities Ontario.
8. Continued Climate Action through the Integrated Community Energy and Climate Action Plans (ICECAP) partnership. Three "Climate Action Groups" (CAGs) have been established to inform the Local Action Plans and emissions reduction targets.

All goals and deliverables identified in this report are taken directly from the 2021 Work Plan.

2. WATER QUALITY

2.1. Goals: Look for opportunities to broaden the program. Better differentiate bay/lake monitoring as needed. Integrate township approaches with provincial/federal/NGOs.

2.2. Deliverable Status

	Key Deliverables:	**Status**
I.	Coordinate WQ monitoring program: compile and report on results; conduct benthic monitoring; recruit and train volunteers; be point of contact year-round; and ensure accuracy.	Complete
II.	Enhanced monitoring - continue protocol at Sturgeon Bay, and introduce Kapikog and Healey lakes.	Part Complete
III.	Continue to work with Environment and Climate Change Canada with regards to algal bloom predictive modelling for Sturgeon Bay.	Complete
IV.	Benthic monitoring to be continued on inland lakes (Healey, Kapikog, Blackstone, and Crane). We may add a site on Georgian Bay - contingent on capacity and volunteer support.	Part Complete
V.	Continue with engagement and education (e.g. State of the Bay).	Complete
VI.	Engage ratepayers in the why/what and best practices (make the link between data and 'actions').	Complete

2.3. Water Quality Notes

- 2021 - no benthic site on GB has been added yet. Possible in 2022.
- Kapikog and Healey Lakes enhanced monitoring did not start this year, planned for 2022.
- For water quality and fish communities monitoring program results, please see the 2020 Environment Report.
- The Lake Partner Program (LPP) was reinstated for the 2021 season.
- Enhanced monitoring in Sturgeon Bay was limited to temperature / dissolved oxygen profiles recorded by PABIA Marine Patrol. No total phosphorus samples were taken.

Katrina Krievins samples for benthic macroinvertebrates.

- Four benthic monitoring sites were sampled (Blackstone, Crane, Healey, Kapikog). No effort was made to encourage volunteer involvement due to ongoing COVID-19 physical distancing measures.

3. FOREST HEALTH

3.1. Goal: Be point of contact for ratepayers with forest health concerns. Track forest health concerns provincially and for eastern Georgian Bay.

3.2. Deliverable Status

	Key Deliverables:	Status
I.	Partner with Westwind Forest Stewardship on programs, to investigate concerns, and as a resource.	Ongoing
II.	Develop a position paper to assess status, provide background, and draft policy response to ongoing Gypsy Moth outbreaks.	Complete
III.	Host webinar specific to Gypsy Moth best management.	Complete

3.3. Forest Health Notes

- For forest health program results and highlights, please see the 2020 Environment Report.
- LDD moth - the Parry Sound area experienced moderate to severe outbreaks in 2021. After receiving many questions about LDD moth in 2020, an information package was developed in 2021 with answers to common questions from the public (identification, best practices/management). View the information package here.
- "LDD Moths & Emerald Ash Borer" webinar was offered with Westwind Forest Stewardship in March, 2021. This webinar was recorded and is available on GBB's YouTube channel. See notes in Section 5 for participation details.
- GBB continues to be a point of contact for ratepayers. Several associations were in touch by phone and email over the past year with concerns.

Webinar images show LDD moth and Emerald Ash Borer

4. YOUTH EDUCATION

4.1. Goal: Provide youth with a fun, nature education opportunity.

4.2. Deliverable Status

Key Deliverables		Status
I.	Advertise & facilitate registration TOA wide, first come, first served.	Complete
II.	Create 250 activity kits, provide to registered families.	Part Complete
III.	Explore requests for donations for activity kits through registration.	Complete
IV.	Engage volunteers in the program wherever possible.	Complete
V.	'Piggyback' attendance at events.	N.A
VI.	Update the webpage, regular communication with families, and be available on an ad hoc basis.	Complete
VII.	Update the distribution map to show program reach.	Scheduled
VIII.	Offer large prizes for the end of summer promotion.	Complete
IX.	Continue monthly fall/winter seasonal communications.	Ongoing

4.3. Kids in the Biosphere Notes

- The Kids in the Biosphere program was advertised through all TOA associations as well as other platforms.
    - **150 Activity Kits** were prepared. Ordering took place during the February lockdown, as such fewer materials were ordered.
    - **60 families (124 youth)** registered for Activity Kits which were mailed through Canada Post to the families' primary addresses.
    - **40 Activity Kits** were distributed in mid-late summer by volunteer marinas (Mariner's Cove Marina, Healey Lake, and Desmasdons, Pointe au Baril).
    - **50 Activity Kits will be donated to Harvest Share** to distribute to families who receive food packages there.
    - **$255 was donated** by registered families to support the cost of shipping Activity Kits. This amount has been credited to the TOA.
    - Several volunteers were approached about helping with the program in March. In accordance with Covid-19 protocols, no volunteer help was required in 2020.
- The blog had weekly posts and continues to see relatively good readership.
- All registered families were emailed weekly about events, the blog, and photo sharing.
    - *We will be reducing all communications and blog posts from weekly to monthly.*
- This year saw very low responses/communication from families, both in survey responses and prize uptake. We will strongly consider eliminating the prize option.

5. BIOSPHERE WALKS

5.1. Goal: Inform and engage residents.

5.2. Deliverable Status

	Key Deliverables	Status
I.	Host hike/presentation/workshop with three targeted cottage associations per year). As in 2020, this can be adapted to webinar based programming as needed.	Complete
II.	Work with associations on volunteers, venues, etc.	Complete
III.	Advertise through several communications channels.	Complete
IV.	Work with cottage associations for volunteers, venues, etc.	Complete
V.	Include best management practices resources.	Complete
VI.	Seek partner organizations to present when applicable or requested.	Complete

5.3. Notes

- Pointe au Baril Islanders' (PABIA), Woods Bay Community (WBCA), and Kapikog Lake Cottagers' (KLCA) Associations were contacted to host a virtual OR in-person event.
    - PABIA & GBB developed an in-person cultural learning experience.
    - WBCA was unable to partake in an event this year.
    - KLCA held a guided Biosphere Walk after their AGM.
- Two webinars were also offered to supplement educational events. Webinars meet many of the same deliverables: advertised extensively, open to a wide audience, and included partner organizations, stewardship actions, and best management practices.
- Webinar recordings are on YouTube, links are also on the TOA Environment webpage.

Date	Event	Description	# Attended
March 24	WEBINAR: LDD Moth & Emerald Ash Borer	Westwind Forest Stewardship shared: what their presence could mean for property owners and strategies to manage the impacts.	113
June 23	WEBINAR: Septic Health & You	Danielle Ward from Adams Brothers Co. shared information on grey water pits, composting toilets, septic inspections, and more!	94
July 14	GUIDED EVENT: Learning with Oshkinigig	Oshkinigig is a birch bark canoe handcrafted in Parry Sound. Participants learned about the harvest, construction, significance, and future opportunities.	30
Aug. 14	GUIDED EVENT: Biosphere Walk	Explored the ATV trail: plant and animal species, LDD moth, climate change, and more.	12

6. STEWARDSHIP

6.1 Goal: Engage ratepayers in hands-on stewardship activities.

6.2 Deliverable Status

	Key Deliverables:	Status
I.	Point of contact for stewardship questions and resources.	Ongoing
II.	Promote stewardship when/where applicable and during events.	Complete
III.	Support residents to protect/enhance shoreline and water quality.	Ongoing
IV.	Facilitate shoreline stewardship workshops as requested.	N.A
V.	Complete the Pointe au Baril Monarch garden, partnering with the Community Garden group.	Complete

6.3. Notes

- The Pointe au Baril Monarch Garden was completed in June. Following Covid-19 safety protocols, the garden was planted by Biosphere staff without the help of volunteers. In total, 16 wildflower species (over 100 plants) and 5 trees were added to the site. The garden is mulched and signage is on site.
- Development of a Bioblitz was postponed.
- No shoreline stewardship workshops were requested in 2020.
- Grant writing support was offered to several TOA associations to apply for a shoreline naturalization microgrant. Crane Lake and South Channel Associations worked with Biosphere staff and were successful in receiving $500 each to put towards native shoreline plants. Plants were distributed by the associations to ratepayers.

The completed Monarch Garden in Pointe au Baril, June 2021.

7. CLIMATE CHANGE

7.1. Goal: Continue to work with municipal and First Nation partners on a collaborative regional approach; ICECAP (Integrated Community Energy and Climate Action Plans).

7.2 Deliverable Status

Key Deliverables:	Status
I. Using the FCM's Partners for Climate Protection (PCP) framework, work on milestones 2 and 3; setting emission reduction targets; and developing corporate and communication actions.	Ongoing
II. Work with community partners to identify, explore, and host climate and energy related workshops and projects.	Ongoing
III. Explore ways to incorporate climate change adaptation work into ICECAP.	Ongoing

7.3 Notes

- TOA staff have and will continue to receive ICECAP program communications.
- The collection of emissions data fulfilled the requirements of Milestone 1 for the PCP program, the report was presented to Councils and results submitted to FCMI.
- The results: community outweighs emissions produced by municipal operations.
    - There are high on-road transportation needs in the GBB region.
    - Waterborne travel is a significant contributor to transportation emissions.
- Three "Climate Action Groups" (CAGs) have been established. These groups will meet regularly to inform the Local Action Plans and emission reduction targets.
- For more information, refer to the Township of The Archipelago Milestone 1 report or visit www.gbbr.ca/climate-action.

8. SEPTICS

8.1. Goal: Working to ensure that septic pollution is minimized.

8.2. Deliverable Status

Key Deliverables:	Status
I. Publish, promote, and disseminate communication tools for septic Best Practices.	Complete
II. Work with Township staff to actively track and report on the status of septic systems in Township.	Ongoing
III. Work with partners on research and monitoring options to assess impacts of septic systems to the environment.	Ongoing
IV. Rehost septic webinar, include feedback and suggestions from 2020 webinar, invite guest speakers on alternative systems.	Complete
V. Pilot a septic best practices and management approach with PABIA.	N.A

8.3. Septic Notes

- A new webpage was created specific to septic health information and resources: www.thearchipelago.on.ca/p/septics
- A new email was created to direct ratepayers' concerns, questions, and comments: septics@thearchipelago.on.ca.
- Several Septic Best Practice communications pieces were designed in early 2021. The items listed below in addition to a letter from the Reeve were mailed to all ratepayers (based on tax package information). The items included:
    - 1. A bathroom door hanger
    - 2. A kitchen fridge magnet
    - 3. A file folder for storage
- The return rate on mailed items was very low (less than 1%). Feedback has been positive overall. The documents are available for free download on the new septic webpage.
- Septic System Health & You webinar was held in June. The recording is available on GBB's YouTube channel.

A fridge magnet custom designed for TOA ratepayers.

9. COMMUNICATION

9.1. Goal: Engage in regular and clear communication with TOA, residents, and other parties.

9.2. Deliverable Status

Key Deliverables:	Status
I. Be present at AGMs, events, advertise on social media and newsletters.	Complete
II. Explore communications and review increased effectiveness.	Ongoing
III. Coastal initiatives that might be of interest to the TOA will be shared as additional opportunities for collaboration.	Ongoing
IV. Environment Report: Continue Environment Report.	Complete
V. Environment Report: Develop Environment Report infographics for each ratepayer association.	Complete
VI. Environment Report: Articulate and promote TOA's environment strategy.	Complete

9.3. Communication Notes

- TOA content was posted on GBB's social media accounts, on gbbr.ca/events, and included in GBB's e-newsletter to 2,000 people.
- The Environment web page continues to be updated as needed.
- TOA communication strategies will be reviewed and updated for 2022.

10. COORDINATION

10.1. Goal: Ensure that TOA is meeting its strategic plan goals with respect to the environment through planning, action, monitoring, and partnerships.

10.2. Deliverable Status

Key Deliverables:	Status
I. Engage the Environment Committee regularly and in the event of barriers/challenges.	Complete
II. Continue to explore ways to bridge "ideas and interest" with program uptake and participation.	Complete
III. Continue regular reporting of results.	Complete
IV. Be conduit of news/issues on environment and the Bay to Council.	Complete
V. Partner with other NGOs, cottage associations, etc. where it meets the goals of the TOA.	Ongoing
VI. Explore means of evaluating overall outcomes and measures of success related to the TOA's environmental programming.	Ongoing
VII. Provide support/advice to staff and Council on an ad hoc basis.	Ongoing
VIII. TOA/GBB partnership contract review and renewal for 2022-2026.	Complete

11. INVASIVE SPECIES

11.1. Goal: Continue to be a point of contact for ratepayers regarding invasive species. Liaise with other organizations to address concerns, highlight best practices, and share resources.

11.2. Deliverable Status

Key Deliverables:	Status
I. Educate through resource sharing at events and in communications.	Ongoing
II. Promote monitoring and engagement on behalf of ratepayers as part of hands-on stewardship action.	Ongoing
III. Continue to work with partners on Phragmites education/engagement.	Ongoing
IV. Liaise with partners to address concerns.	Ongoing

11.3. Invasive Species Notes

- GBB staff continued to map and monitor Phragmites patches on Skerryvore Road during road ecology surveys.
- GBB supported GBLT's Phragmites removal team via the CNPP/MA project.
- Invasive species outreach and education part of GBB's programming - communications (SotB blog, social media, etc.), at workshops/events, and as point of contact for ratepayers (emails, phone calls, in-person).

12. PUBLIC WORKS

12.1. Goal: Support Public Works' environmental topics and concerns as needed.

12.2. Deliverable Status

	Key Deliverables:	Status
I.	Consult with PW on their needs to budget/formalize training/support.	Complete
II.	Provide ad-hoc support to PW staff on environmental topics/issues.	Ongoing
III.	Better utilize grants to complete PW projects.	Complete
IV.	Train PW staff on safe movement and monitoring of species at risk.	Postponed
V.	Provide support to PW to interpret and meet obligations under ESA.	Ongoing
VI.	Work with municipality in implementation of beneficial management practices for species at risk.	Ongoing
VII.	Provide staff with training and information they can then relay to the public.	Ongoing
VIII.	Explore the scope of what GBB could offer to PW.	Ongoing

12.3. Public Works Notes

- GBB is partnering with the TOA Public Works department on the Skerryvore Community Road improvement project. GBB has leveraged federal species at risk funds to conduct road ecology surveys, turtle egg surveys and incubation, and install mitigation features.
- Key highlights of the Skerryvore Community Road Reptile Surveys:
    - ~117 surveys completed (May-October)
    - 102 turtle nests rescued from construction area on Skerryvore Road.
    - 2,577 turtle eggs were collected and incubated.
    - 2,364 hatchling turtles were released, a 92% success rate.
    - Held over 18 hatchery tours and over 15 public releases.
- The study will continue in 2022 via Jenna Kental's M.Sc work out of Laurentian University. This includes installation this fall of nesting mounds.
- Nest surveys will be continued next year to determine the success of keeping turtles from nesting on the roadway. There is no egg collection planned.
- Accolades for this work were noted through presenting at the Good Roads Conference, in the Good Roads magazine.
- Project won the Peter J. Marshall Innovation Award from the Association of Municipalities Ontario: https://www.amo.on.ca/about-us/news-releases/township-archipelago-wins-municipal-innovation-award-saving-local-turtles

13. NEXT STEPS

1. Continue communications with the Environment Committee per the agreement.
2. Approve or amend the proposed 2022 Work Pan.

TOWNSHIP OF THE ARCHIPELAGO & GEORGIAN BAY BIOSPHERE

Proposed 2022 Work Plan

The goal of the partnership between the Georgian Bay Mnidoo Gamii Biosphere (GBB) and the Township of The Archipelago (TOA) is to provide for high quality and accessible, environmental information sharing and programming;

This specifically means working to increase environmental literacy and awareness among ratepayers within the Township of The Archipelago and increasing the capacity to address/respond to environmental issues, challenges, and opportunities;

Furthermore, this programming helps to meet the mandate of a UNESCO designated world Biosphere and more specifically, the strategic objectives of Georgian Bay Mnidoo Gamii Biosphere.

1. AQUATIC ECOSYSTEM HEALTH **Four Year Goal:** Understand, educate, and communicate the condition of aquatic ecosystem health in eastern Georgian Bay and inland lakes.	**2021** $18,512	**2022** $19,438
Four Year Objectives: A. Track conditions and trends. B. Build public awareness through outreach and education. C. Understand climate change impacts, adapt policy and programs accordingly. D. Support TOA partnerships with other organizations.		
2022 Deliverables 1. Coordinate water quality monitoring program: compile and report on results; conduct benthic monitoring; recruit and train volunteers; and be the point of contact year-round. 2. Broaden the program when opportunities are available; differentiate bay/lake monitoring as needed, and integrate township approaches with provincial/ federal/ NGOs.		

3. Conduct enhanced monitoring at existing and/or new locations as needed.
4. Continue to work with Environment and Climate Change Canada with regards to algal bloom predictive modelling for Sturgeon Bay.
5. Continue benthic monitoring on inland lakes (Healey, Kapikog, Blackstone and Crane).
6. Continue with engagement and education.
    - Engage ratepayers into the why/what and best practices.
    - Educate through resource sharing at events and in communications.
7. Liaise with partners to address concerns.

2. TERRESTRIAL ECOSYSTEM HEALTH **Four Year Goal:** Understand, educate, and communicate the condition of terrestrial ecosystem health in eastern Georgian Bay and inland regions.	**2021** $4,930	**2022** $6,157

Four Year Objectives:

A. Track conditions and trends.
B. Build public awareness through outreach and education.
C. Understand climate change impacts and adapt policies and programs accordingly.
D. Support TOA partnerships with other organizations.
E. Evaluate landscape connectivity to better understand high priority areas and actions (e.g. road ecology 'hot spots' and mitigation options).

2022 Deliverables

1. Partner with Westwind Forest Stewardship on forest health to respond to ratepayer concerns.
2. Continue with engagement and education.
    a. Engage ratepayers into the why/what and best practices.
    b. Educate through resource sharing at events and in communications.
    c. Host webinars and/or events on best management practices.
3. Liaise with partners to address concerns.
4. Collaborate on a regional species at risk (SAR) conservation project called *Maamwi Anjiakiziwin* - a federally designated '*Community Nominated Priority Place*'. One of the key purposes of this project is to engage in cross-cultural learning and apply a 'Two Eyed Seeing' approach to our SAR work; when we improve our understanding, respect and relationships with each other, our understanding and relationships with the land will also benefit.

3. EDUCATION **Four Year Goal:** Provide youth and general audiences with outdoor, environmental opportunities.	**2021** $31,000	**2022** $22,180

Four Year Objectives:

A. Foster environmental literacy and ecological knowledge.
B. Create unique opportunities for audiences of all ages.
C. Build public awareness through outreach and education.
D. Support TOA partnerships with other organizations.

2022 Deliverables

Youth (Kids in the Biosphere)

1. Facilitate a TOA wide Kids in the Biosphere program.
2. Create 50 activity kits for registered families, first come first serve.
3. Pilot a subsidized "Kids in the Biosphere Visitor" option featuring a selection of Biosphere programs delivered on-site for families, up to 15 visits.
4. Include donation a request and/or shipping support through registration.
5. Engage volunteers in the program wherever possible.
6. Update the webpage as needed, provide monthly communication with families, and be available on an ad hoc basis.
7. Update the distribution map to show reach.
8. Offer large prizes for the end of summer promotion.

General Audience

1. Host a hike/presentation/workshop with three targeted cottage associations.
2. Work with associations on volunteers, venues, etc.
3. Advertise through several communications channels.
4. Include best management practices resources.
5. Seek partner organizations to present/speak when applicable or requested.
6. Adapted to webinar-based programming as needed.

4. STEWARDSHIP **Four Year Goal:** Engage people in hands-on stewardship activities.	**2021** $1,000	**2022** $2,980

Four Year Objectives:

A. Leverage stewardship opportunities for other grants, events, and programs.
B. Build public awareness through outreach and education.
C. Support TOA partnerships with other organizations.
D. Increase understanding of what hands on action is needed and can be done.

2022 Deliverables

1. Be a point of contact for questions and resources.
2. Promote stewardship when/where applicable and during events.
3. Promote monitoring and engagement as part of hands-on stewardship action.
4. Support residents to protect/enhance shoreline and water quality.
5. Investigate stewardship action planning with ratepayer associations.
6. Facilitate shoreline stewardship workshops as requested.
7. Steward the PaB Monarch Garden as needed.

5. CLIMATE CHANGE **Four Year Goal:** Continue to work with partners on a collaborative regional approach; ICECAP (Integrated Community Energy and Climate Action Plans).	**2021** **$14,500**	**2022** **$15,000**

Four Year Objectives:

A. Encourage the reduction of greenhouse gas emissions.
B. Improve energy efficiency.
C. Reduce the use of fossil fuels.
D. Adapt to a changing climate by building greater resilience.

2022 Deliverables

1. Use FCM's Partners for Climate Protection (PCP) framework to work on milestones 2, 3 and 4; setting emission reduction targets; and developing and implementing corporate and communication actions.
2. Work with community partners to identify, explore and host climate and energy related workshops and projects.
3. Participate in ICECAP's climate change adaptation project to develop a vulnerability and risk assessment report.

6. SEPTICS **Four Year Goal:** Work to ensure that septic pollution is minimized.	**2021** **$10,340**	**2022** **$5,495**

Four Year Objectives:

A. Increase education and understanding of septic system health.
B. Support ratepayer compliance with Ontario Building Code.
C. Increase understanding of what hands on action is needed and can be done.
D. Assess re-inspection needs and opportunities.

2022 Deliverables

1. Continue to promote and disseminate communication tools for best practices.
2. Work with Township staff to track and report the status of septic systems.
3. Work with partners on research and monitoring options for impact assessment.
4. Host a NEW webinar which links water quality, septic systems, and BMPs.
5. Explore a septic pump out and inspection subsidy program.

7. PUBLIC WORKS (PW) **Four Year Goal:** Support Public Works as needed pertaining to environmental topics and concerns (i.e. species at risk).	**2021** $0 Subsidised by CNPP	**2022** $0 Subsidised by CNPP

Four Year Objectives:

A. Leverage stewardship opportunities for other grants, events, and programs.
B. Build public awareness through outreach and education.
C. Support TOA partnerships with other organizations.

2022 Deliverables

1. Consult with PW on their needs to budget and formalize training and support.
2. Provide ad-hoc support and advice on environmental topics.
3. Better utilize grants to complete PW projects.
4. Train PW staff on safe movement and monitoring of species at risk.
5. Provide support to PW to interpret and meet obligations under ESA.
6. Work together to implement best management practices for species at risk.
7. Provide staff with training and information they can relay to the public.
8. Explore the scope of what GBB could offer to PW.

8. COMMUNICATION **Goal:** Engage in regular and clear communication with TOA, residents, and other parties.	**2021** $3,920	**2022** $8,205

Four Year Objectives:

A. Improve communication systems with the TOA and ratepayer associations.
B. Build public awareness through outreach and education.
C. Support TOA partnerships with other organizations.

2022 Deliverables

1. Be present at events, advertise on social media, and through newsletters.
2. Explore environmental communications and review increased effectiveness.
3. Distribute a bi-annual newsletter specific to partnership activities and regional environmental information.

TOA Environment Report

4. Continue Environment Report.
5. Develop Environment Report infographics for ratepayer associations.
6. Articulate and promote TOA's environment strategy.
7. Host an annual webinar specific to results of the Environment Report, include partner organizations and TOA council/staff.

9. COORDINATION **Four Year Goal:** Ensure that TOA is meeting its strategic plan goals with respect to the environment through planning, action, monitoring, and partnerships.	**2021** $8,745	**2022** $12,243

Four Year Objectives:

A. Ensure TOA's environmental programs are delivered effectively.
B. Support TOA partnerships with other organizations.
C. Respond to TOA staff and ratepayers' concerns and questions.

2022 Deliverables

1. Engage the Environment Committee regularly.
2. Report results regularly.
3. Evaluate outcomes related to the TOA's environmental programs.
4. Provide support and advice to staff and Council on an ad hoc basis.
5. Share coastal initiatives and opportunities for collaboration of interest.

Total Budget 2021:	$94,303
Draft Budget 2022:	$91,697

OPTIONAL ADD-ON PROJECTS

Subject to separate quotes

1. In field fish community monitoring & assessment.
2. Coordinate a community Bioblitz using iNaturalist.
3. Water Quality Communications specific to summary information on Great Lakes Ecology work by the Environmental Monitoring and Reporting Branch.
4. Develop/deliver invasive species staff training and/or public education programs.

Seguin Township
5 Humphrey Drive,
Seguin, Ontario P2A 2W8

Tel: (705) 732-4300
Toll Free: (877) 473-4846
Fax: (705) 732-6347
www.seguin.ca

SENT VIA EMAIL: bert@colishcreations.com
jflor@thearchipelago.on.ca

November 4, 2021

Reeve Bert Liverance
John Flor, Chief Administrative Officer
Township of Archipelago
9 James Street
Parry Sound, ON P2A 1T4

Dear Reeve Liverance and Mr. Flor:

RE: Township of Seguin
Proposed Application for Minister's Zoning Order
MHBC File No. 12141N

At the Seguin Township meeting of Council on November 1, 2021, Seguin Township announced that they will be seeking a Minister's Zoning order (MZO) to establish the principle of residential development on lands in the northwest portion of the Municipality. The intent of the MZO is to fulfil a need in Seguin and the surrounding West Parry Sound Area for the provision of housing that is both diverse in unit type, and at a price point that is attainable.

Technical studies are currently underway for the study area identified in Figure 1 in order to determine the feasibility of servicing the lands and to ensure that any potential constraints to development from a natural heritage perspective are identified early on in the process.

It is the intention of the Township to bring a recommendation report from Staff back to the Council meeting of December 6, 2021, and pending support from Council, a formal application for a Minister's Zoning Order will be made to the Ministry of Municipal Affairs and Housing later in December.

At this time, the Township of Seguin is seeking any comments and feedback from our neighbouring Municipal and First Nations partners, and would appreciate letters of support to share with the Minister as part of the application for the Minister's Zoning Order. Should you have any questions regarding the proposal, please contact Jason Inwood, Chief Administrative Officer at 705 732-4300.

Please direct any correspondence to the clerk, Craig Jeffery at cjeffery@seguin.ca by December 3, 2021.

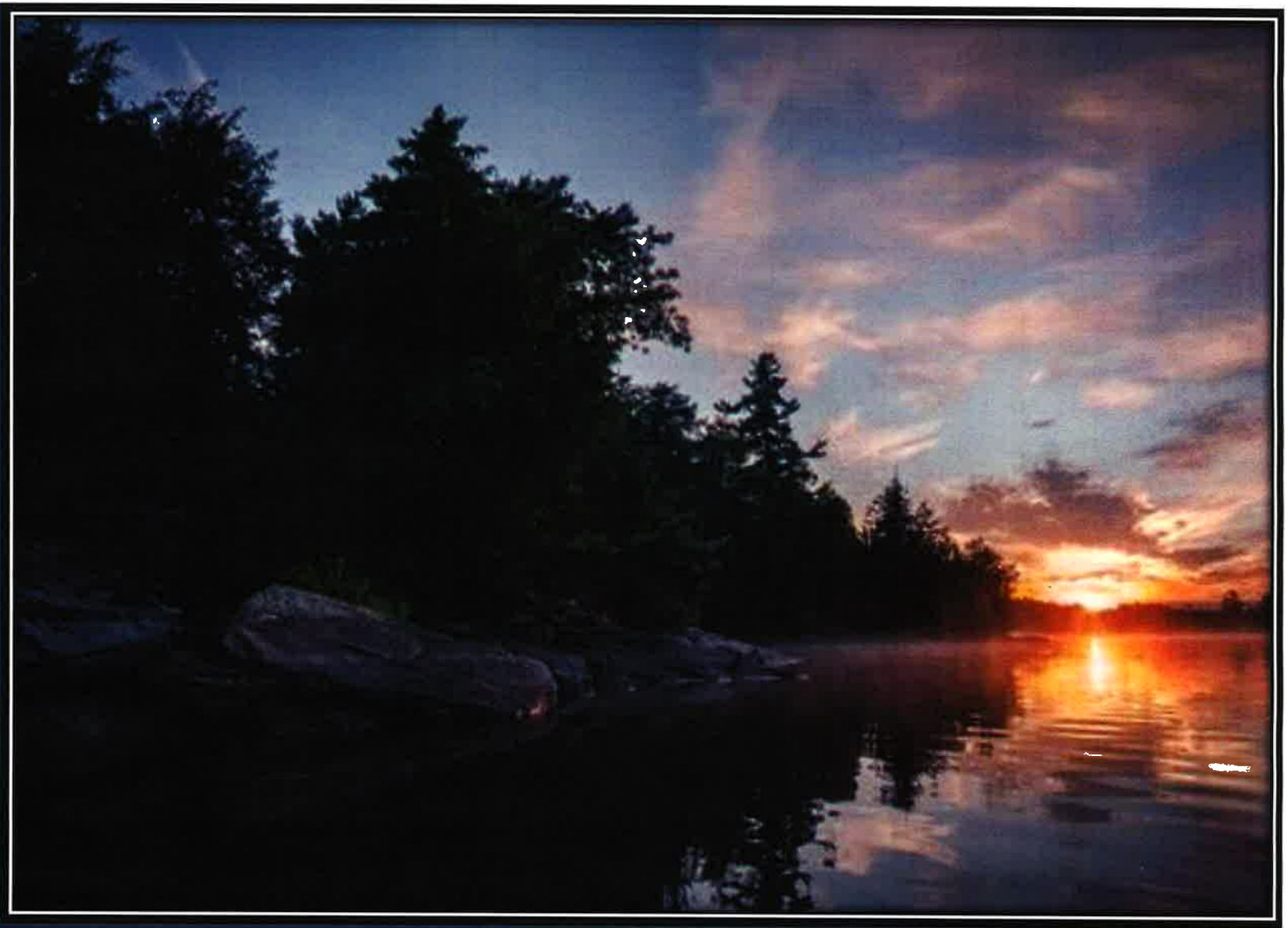
Yours truly,

Mayor Ann MacDiarmid
Township of Seguin

Jason Inwood
Chief Administrative Officer
Township of Seguin

cc MP Scott Aitchison
MPP Norm Miller
MHBC Planning & Urban Design

Figure 1: Study Area



SEGUIN TOWNSHIP

MINISTER's ZONING ORDER

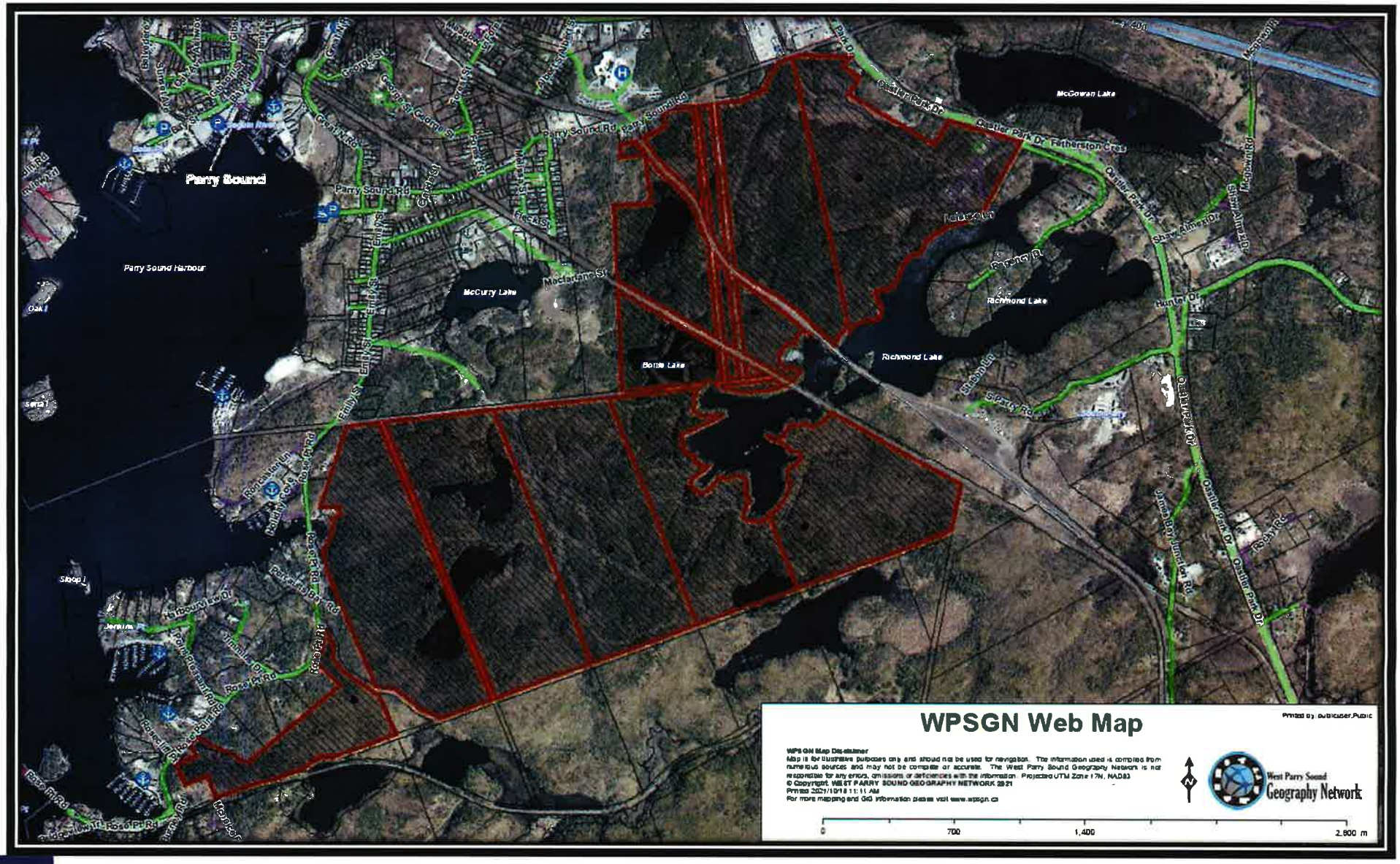
November 1, 2021 Presenter: Lee Bull RPP, MCIP

Minister's Zoning Order (MZO)

- Establishes the principle of development on the lands

Ontario
Ministry of Municipal Affairs and Housing

Study Area


Parry Sound
Parry Sound Harbour
McCurry Lake
Bonita Lake
Richmond Lake
McGowan Lake
WPSGN Web Map
West Parry Sound Geography Network
0
700
1,400
2,800 m

The Opportunity

- Provide a supply and diversity of housing types
- Provide housing at an attainable price

Technical Studies

- Environmental Impact Study
- Functional Servicing Report
- Planning Justification Report

Communication

- Public council meeting presentation
- Letter released outlining MZO proposal
- Staff report to Council meeting in December

Timeline

Questions?

Seguin Development Plans- November 2021

- 700 acres in the whole study area - we expect to develop approximately 60% of it to ensure the environmental areas are protected and preserved

- Located behind RONA and Canadian Tire – was once talked about as "Georgian Green"

- Anticipate 500 new housing units within the short term – next 5 years

- Ultimate build out – could be 3500 units over the next 10 – 15 years

- Mixed types of residential – for the middle to low income group – starter homes, some single family and some multi unit

- Will insist on opportunities for attainable and affordable units – possibly some Geared to Income units (GTI)

- The ownership of these lands is 100% private – the owners are highly motivated to sell

- Some have received offers now from developers that we have introduced them to

- Technical studies are all underway now

- Servicing of these lands – our preferred/first choice alternative is to work with Parry Sound – but we are prepared to explore alternative options – new technologies

- We are in the process now of exploring development charges to help build the infrastructure – likely will be in the range of $30 - $45 K per home

- Timing – we want this to go to Minister Clark in December with a decision to be made by March

- We have done our pre-consultation with the Ministry – we are addressing a "housing crisis" in West Parry Sound

- WE WOULD APPRECIATE A LETTER OF SUPPORT FROM _____, acknowledging the importance of new residential building in the region

9 James Street, Parry Sound, Ontario P2A 1T4
Telephone: (705) 746-4243 Fax: (705) 746-7301

TO: Chair Frost and Members of the Planning & Building Committee
Township of The Archipelago

FROM: Cale Henderson, MCIP, RPP
Manager of Development & Environmental Services

DATE: November 18, 2021

RE: Zoning By-law Amendment Z09-21
Island B8 (Omar Island), being Parcel 13599 PSSS, Conger

NEIGHBOURHOOD: Sans Souci - Copperhead

OWNER: Omar Island Inc. (McNALLY, Chris)

AGENT: McNALLY, Graham

RECOMMENDATION:

It is recommended that the Council receive the application, deem it to be complete and direct staff to complete a full review, circulate notice to the surrounding neighbourhood, and schedule a public meeting.

PROPOSAL:

The purpose of the proposed Zoning By-law Amendment is to rezone the subject island from the 'Coastal/Island Residential (CR)' Zone to a site specific 'Coastal/Island Residential Exception ## (CR/D-##)' Zone.

The effect of the proposed site specific zoning By-law amendment would be to permit a maximum of two sleeping cabins, each with a maximum Total floor area of 75 m^2 (807 ft^2).

The application and site plan is attached as Appendix A.

PLANNING INFORMATION

Ward:	4
Official Plan Neighbourhood:	Sans Souci - Copperhead
By-law No. A2000-07:	Coastal/Island Residential (CR)

Neighbouring Uses: Residential & Massasauga Provincial Park

BACKGROUND:

The proposal was originally submitted as a Minor Variance application to the Committee of Adjustment for two sleeping cabins, each proposed to have a total floor area of 60 m^2 (646 ft^2). The Committee of Adjustment was to consider the Minor Variance application in May, 2021; however, based on the discussions at the hearing, the applicant requested the application be deferred. The owner has resubmitted the application as a Zoning By-law Amendment, amended the proposal to include screened porches, thereby increasing the floor area of each proposed sleeping cabin by 15 m^2 (161 ft^2).

PLANNING ANALYSIS:

1. Provincial Policy Statement

The Provincial Policy Statement (2020) issued under the authority of Section 3 of the Planning Act provides policy direction on matters of provincial interest relating to land use planning.

Rural Lands in Municipalities

The subject property is located within a rural area as per Section 1.1.4 of the Provincial Policy Statement. Section 1.1.5.2 of the Provincial Policy Statement recognizes limited residential development and resource-based recreational activities on the subject property, it states:

1.1.5.2 On rural lands located in municipalities, permitted uses are:

b) resource-based recreational uses (including recreational dwellings);
c) limited residential development;

Further, Section 1.1.5.4 of the Provincial Policy Statement states:

1.1.5.4 Development that is compatible with the rural landscape and can be sustained by rural service levels should be promoted.

The proposal would facilitate the continued resource-based recreational use on the subject property.

2. Official Plan

The Official Plan recognizes the importance of the waterfront area to the Township with the goal to preserve the unique and high quality of the natural environment which leads to an experience that is aesthetically appealing to property owners and to visitors.

To this end, Section 14.23 of the Official Plan states:

'The aesthetics of the Township's waterfront lands will be preserved using detailed land use regulations and control....Principles that will be applied to afford a measure of aesthetic control will include: screening, setbacks and building locations.'

Section 14.10 and 14.11 of the Official Plan recognizes sleeping cabins as being an integral component of the seasonal residential land use and permits sleeping cabins as accessory uses so long as they remain subordinate and incidental to the main dwelling.

Section 14.10 of the Official Plan states:

'Sleeping or guest cabins are permitted accessory uses so long as they remain subordinate and incidental to the main dwelling subject to the requirements of the Zoning By-law implementing this Plan. The Zoning By-law will include regulations that ensure that sleeping cabins are:

a) subordinate in size to any residential use;
b) retained as an accessory function (i.e. no cooking facilities); and,
c) restricted in number so as to preserve the residential use.

These regulations may be neighbourhood-specific to respond to the varying circumstances that have evolved in different regions in the Township.'

Official Plan Amendment No. 50 built upon the above policies and established a policy framework for proposed changes to the sleeping cabin regulations within Comprehensive Zoning By-law No. A2000-07, as amended. Official Plan Amendment No. 50 demonstrates Council's intent to protect sleeping cabin regulations within the Comprehensive Zoning By-law, from indiscriminate and inappropriate minor variances.

Section 14.11 of the Official Plan states:

'Sleeping cabins are an integral component of the seasonal residential land use within the Township. The historical development of Georgian Bay has typically seen the construction of a principal cottage with two or three sleeping cabins for the use of the extended family. This heritage component of the development of the islands is reflected in the Comprehensive Zoning By-law regulations.

Council is concerned that those undertaking new development or redevelopment of a property may seek to unduly exploit by-law regulations through a proliferation of minor variances to the sleeping cabin regulations. The result of a number of minor variances to sleeping cabin regulations could result in more obtrusive structures or a greater number of cabins than the intent of the by-law regulations.

Through the review of the Comprehensive Zoning By-law, sleeping cabin regulations were examined with a neighbourhood approach used as a solution to the number of cabins allowed, the individual cabin floor area and the total floor area of cabins permitted.

Site specific variations to the sleeping cabin regulations should generally proceed through a zoning by-law amendment process to properly assess the requested regulatory change. In some circumstances, a minor variance may be warranted to

address minor regulatory changes for the site relating to sleeping cabins.

Council will have regard for the general impact of the requested amendment; assess the extent of the change to the regulation being varied from the adjacent waterbody, the impact on the neighbourhood because of the change, and the cumulative effect of variances for sleeping cabins to evaluate the appropriateness of the change from the intent of the regulations.

Sleeping cabins that are proposed to be:

i) larger than the regulated maximum total floor area for each sleeping cabin; or
ii) larger than the total floor area on a lot collectively; or
iii) greater in height than the regulated maximum height; or
iv) increased in the number of sleeping cabins for the site,

will be assessed in accordance with the following criteria:

a) the size of the structure relative to the shoreline frontage and area of the property;
b) a demonstrated need for the regulation change;
c) the proposal will not have a significant adverse impact on the aesthetics of the area when viewed from adjacent properties or from waterways;
d) the elevation of the sleeping cabins relative to existing landscaping and tree coverage to ensure buffering and screening from the waterways;
e) *special design features or landscaping that can be implemented to reduce the visual impact of the larger structure and increased number of structures;*
f) the internal use of the sleeping cabin and the assurance that the cabin will not be used for anything other than what the by-law permits;
g) the conformity of the request with other by-law regulations or neighbourhood policies; and
h) detailed drawings will accompany any application to clearly demonstrate mitigation measures to reduce the visible impact of the modified cabin'.

3. Comprehensive Zoning By-law No. A2000-07

The Subject Property is zoned 'Coastal/Island Residential' (CR)' in Comprehensive Zoning By-law No. A2000-07, as amended. On a residential property within Ward 4, Section 5.36 a) of the Zoning By-law permits sleeping cabins, provided that:

i) The maximum Total Floor Area of each sleeping cabin, including the floor area of any basement, does not exceed 50.16 m2 or the ground floor area of the main dwelling on the lot, whichever is the lesser;
ii) The maximum number of sleeping cabins permitted on one lot is three cabins; and
iii) The maximum Total Floor Area of all sleeping cabins on a lot, including the floor area of any basement, shall not collectively exceed 150.48 m².

Respectfully submitted,

Cale Henderson, MCIP, RPP
Manager of Development & Environmental Services

APPENDIX 'A'

APPLICATION
SITE PLAN AND SKETCHES

Supplemental Response

A two sleeping cabin maximum is being proposed for the property. Three sleeping cabins are currently permitted per the Zoning Bylaw. However, rather than disturb the land by adding more structures to contain four total bedrooms, we are proposing sleeping cabins slightly larger than the permitted 50.16m^2 to facilitate both containing two bedrooms. While the 50.16m^2 requirement is for 'Ground Floor Area', the interior area of each cabin has been kept at only 49.3m^2 to keep with the spirit of this law.

75m^2 is being proposed as the maximum area per sleeping cabin as this is half of the 150m^2 total maximum area of sleeping cabins allowed for the lot. This relief of 24.84m^2 will be split between indoor and outdoor space.

The additional area inside the sleeping cabin will also allow our client's family to comfortable sit in the living room area of these proposed buildings if the weather is poor. It seems reasonable that there is adequate space to provide seating for the same number of people sleeping in the structure. This space will predominantly be used for a set of couches and table for games and crafts.

The township voiced concern with the opportunity for cooking in this space. No cooking facilities will be provided in this space and the space has been reduced so that any future cooking facilities would be undesirable.

The additional area outside the sleeping cabin will be a covered porch to serve as a shaded space to enter the building and to monitor children playing along the shore.

A potential solution was posited by the township to purchase adjacent island property where cottages are permitted to be constructed. Adjacent lands are however part of The Massasauga Provincial Park and therefore not suitable for development.

145 King Street East
Hamilton Ontario L8N 1B1
289 768 2211
office@toms-mcnally.ca
toms-mcnally.ca

Print Form

9 James Street
Parry Sound, Ontario
P2A 1T4
Phone: 705-746-4243
Fax: 705-746-7301
web: www.thearchipelago.on.ca

Application for Amendment to the Comprehensive Zoning By-law

under Section 34 of the Planning Act, R.S.O. 1990, C.P. 13, as amended

TOWNSHIP OF THE ARCHIPELAGO
OCT 13 2021
☐ PLANNING
☐ BUILDING

OFFICE USE ONLY

Date Received _____ Complete Application ☐ Yes ☐ No Application No. ZO-21

Date Accepted _____ Applicable Fee Paid ☐ Yes ☐ No

1. Applicant / Agent Information

Name of Applicant / Agent

Graham McNally

Address

City _____ Province / State _____ Postal / Zip Code _____

Home Phone No. _____ Business Phone No. _____ email _____

2. Owner(s) Information

Name of Owner(s)

Chris McNally

Address

City _____ Province / State _____ Postal / Zip Code _____

Home Phone No. _____ Business Phone No. _____ email _____

Please advise to whom all communication should be directed. ☒ Owner ☒ Applicant / Agent

If known, please provide the names and addresses of the holders of any mortgages, charges or other encumbrances in respect of the subject land.

3. Location of the Subject Land (please provide a copy of the Transfer/Deed of Land)

Assessment Roll Number 4905- 09001300800 Lot _____ Concession _____ Island No. B-008

Registered Plan of Subdivision No. (if any) Plan No. M - _____ Lot No. _____

Reference Plan No. (if any) Plan No. 42R - _____ Part No. _____

Parcel No. _____ Other Description _____

Dimensions of Subject Property:

Depth (metres) _____ Frontage (metres) _____ Hectares 5.22

4. Purpose of Application

What is the existing zoning of the subject land?

Coastal/Island Residential (CR) Zone

What is the nature and extent of the rezoning being requested?

A variance from Section 5.36 a) i) Sleeping Cabins - Ward 4 of 24.84m^2.
From a maximum of 50.16m^2 to a maximum of 75m^2.
An additional regulation to 6.1.3, Zone Standards.
A maximum of two sleeping cabins permitted on one lot.

4. Purpose of Application (cont'd)

What are the reasons for the proposed rezoning?

To provide additional comfort to occupants of sleeping cabins by increasing sleeping cabin floor area without increase the total area of sleeping cabins on the island.

See attached supplemental response.

5. Land Use

What is the existing Official Plan designation(s), if any, of the subject land?

Sans Souci Neighbourhood

How does this application conform to the policies of the Township's Official Plan?

A reduction of maximum number of sleeping cabins promotes conservation of this neighbourhood.

Is the application consistent with the Provincial Policy Statements issued under subsection 3(1) of the Planning Act? ☒ Yes ☐ No

Is the subject property within an area of land designated under any Provincial plan or plans?

☐ Yes ☒ No

If yes, does the application conform to or not conflict with the applicable Provincial plan or plans?

☐ Yes ☐ No

What are the existing uses of the subject land?

Residential

How long have the existing uses of the subject land continued?

± 1970

What are the proposed uses of the subject land?

Residential

6. History of Land

When was the subject land acquired by the current owner?

1968

Has the subject land ever been the subject of an application for approval of a plan of subdivision or consent under the Planning Act?

If YES and if known, provide the application number and the decision made on the application.

Has the subject land ever been the subject of an application under Section 34 of the Planning Act?

☐ Yes ☐ No ☒ Unknown

Has the subject land ever been the subject of a Minister's Zoning Order? If known, please provide the Ontario Regulation number of the Zoning Order.

☐ Yes ☐ No ☒ Unknown Ontario Regulation Number _____

7. Service Information (check appropriate box)

Access

☐ Provincial Highway ☐ Municipal road, maintained all year ☐ Municipal road, maintained seasonally

☐ Other public road ☐ Right-of-way ☒ Water Access (see below)

If access to the subject land is by private road, or if by "other public road" or "right-of-way", indicate who owns the land or road, who is responsible for its maintenance and whether it is maintained seasonally or all year.

If access to the subject land is by water, describe the parking and docking facilities and the approximate distance of these facilities from the subject land and the nearest public road.

Moose Deer Marina - Approximately 45 minute trip by boat.

Marina is ± 2 minutes from public road.

Water

☐ Privately owned and operated individual well ☐ Privately owned and operated communal well

☒ Lake ☐ Other Means _____

Sewage Disposal (check appropriate box)

☒ Privately owned and operated individual septic system ☐ Privy

☐ Privately owned and operated communal septic system ☐ Other Means _____

Please provide a copy of the building permit or certificate of approval for the existing septic system on the property, if applicable.

Pursuant to the Planning Act, if the requested amendment would permit development on a privately owned and operated individual or communal septic system and more than 4500 litres of effluent would be produced per day as a result of the development being completed, the applicant may be requested to provide the Township with a servicing options report and a hydrogeological report.

8. Buildings and Structures (on or proposed for the subject land)

EXISTING - List all existing buildings and structures					**DISTANCE FROM LOT LINES (metres)**			
Building / Structure Type	Date of Construction	# of Storeys / Height	Ground Floor Area (m^2)	Total Floor Area (m^2)	Front	Rear	Side	Side
Existing Cottage 1	± 1969	1	130.9	103.9	± 12m			
Existing Cottage 2	2020-2021	1	144	144	7m			
Sleeping Cabin (to be Demolished)	1969	1	32.9	32.9	±10m			

PROPOSED - List all proposed buildings and structures				**PROPOSED DISTANCE FROM LOT LINES (metres)**			
Building / Structure Type	# of Storeys / Height	Ground Floor Area (m^2)	Total Floor Area (m^2)	Front	Rear	Side	Side
Sleeping Cabin 1	1	75	75	28.8m			
Sleeping Cabin 2	1	75	75	8.1m			

9. Plans (to assist in the preparation of plans, please refer to the attached sample sketch)

Location Plan

Every application shall be accompanied by a location plan, drawn to an appropriate scale, properly dimensioned and showing thereon:

- the boundaries of the parcel of land that is the subject of the application, the part of the parcel that is the subject of the application, the location of all adjacent properties and/or islands, transportation routes, etc.;
- the distance between the subject land and the nearest township lot line or landmark, such as a railway crossing or bridge;
- existing and proposed uses on the subject land (e.g. residential, agricultural, cottage, commercial etc.);
- existing uses of all lands within 120 metres (400 feet) of the subject land.

Site Plan

Every application shall be accompanied by a site plan, drawn to an appropriate scale, properly dimensioned and showing thereon:

- the boundaries and dimensions of the subject land and the part that is the subject of this application;
- the location and dimensions of existing and proposed buildings and structures and their distances from lot lines;
- the approximate location of all natural and artificial features on the subject land and adjacent lands that, in the opinion of the applicant, may affect the application, such as railways, roads, watercourses, drainage ditches, river or stream banks, wetlands, wooded areas, wells and septic tanks, landscaped open spaces, planting strips, parking areas, loading areas, driveways and walkways;
- the existing uses on adjacent lands;
- the location, width and name of any roads within or abutting the subject land, indicating whether it is an unopened road allowance, a publicly travelled road, a private road or a right-of-way;
- if access to the subject land is by water only, the location of the parking and boat docking facilities used;
- the location and nature of any easement affecting the subject land.

Additional information, including architectural drawings and elevations, shall be furnished by the applicant at the request of the Township.

10. Other Information

Is there any other information that you think may be useful to the Township in reviewing this application? If so, explain below or attach a separate page.

_____

_____

_____

_____

11. Affidavit or Sworn Declaration

Dated at the CITY OF HAMILTON this 6 day of OCTOBER, 2021

I, GRAHAM McNALLY of the CITY OF ..... in the

County/District/Regional Municipality of ____ solemnly declare that all the statements contained in this application are true, and I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the **CANADA EVIDENCE ACT**.

DECLARED BEFORE ME at the CITY of _____

in the PERKINSVL of ONTARIO this 6 day of OCTOBER, 2021.

_____ _____

A Commissioner of Oaths Signature of Owner or authorized Applicant / Agent

12. Authorizations

Authorization of Owner(s) for Agent to Make the Application

If the applicant is not the owner of the land that is the subject of this application, authorization for the agent to make this application, as set out below, must be given. Alternatively, written authorization can be provided on a separate form and submitted with this application. Authorization must be provided by all registered owners of the subject property.

I/We, Chris McNally, am/are the owner(s) of the land that is the subject of this application and I/we authorize Graham McNally to make this application on my/our behalf.

Date Sep 28 2021 Signature of Owner Chris McNally

Date _____ Signature of Owner _____

Date _____ Signature of Owner _____

Date _____ Signature of Owner _____

Authorization of Owner(s) for Agent to Provide Personal Information

If the applicant is not the owner of the land that is the subject of this application, authorization for the agent to provide personal information, as set out below, must be given. Alternatively, written authorization can be provided on a separate form and submitted with this application. Authorization must be given by all registered owners of the subject property.

I/We, Chris McNally, am/are the owner(s) of the land that is the subject of this application and for the purposes of the *Freedom of Information and Protection of Privacy Act*, I/we authorize Graham McNally as my/our agent for this application, to provide any of my/our personal information that will be included in this application or collected during the process of the application.

Date Sep 28 2021 Signature of Owner Chris McNally

Date _____ Signature of Owner _____

Date _____ Signature of Owner _____

Date _____ Signature of Owner _____

13. Consent of the Owner(s) to the Use and Disclosure of Personal Information

All registered owners of the subject property must provide their consent concerning the disclosure of personal information, as set out below.

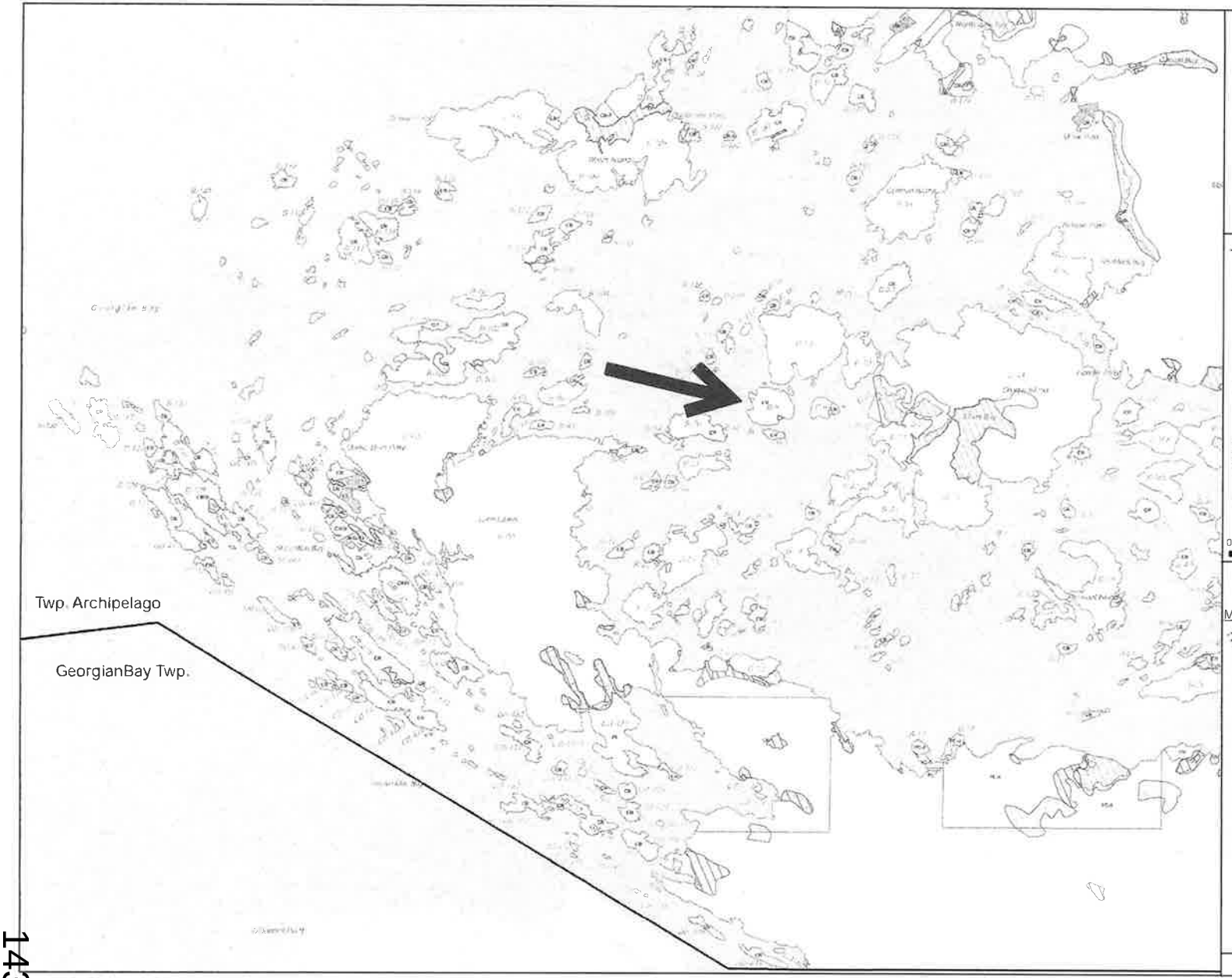
I/We, Chris McNally, am/are the owner(s) of the land that is the subject of this application and for the purposes of the *Freedom of Information and Protection of Privacy Act*, I/we authorize and consent to the use by or the disclosure to any person or public body of any personal information that is collected under the authority of the *Planning Act* for the purposes of processing this application.

Date Sep 28 2021 Signature of Owner Chris McNally

Date _____ Signature of Owner _____

Date _____ Signature of Owner _____

Date _____ Signature of Owner _____



THE CORPORATION
OF
THE TOWNSHIP OF
THE ARCHIPELAGO

9 James Street
Parry Sound, ON
P2A 1T4
705-746-4243

ZONING BY-LAW A2000-07
SCHEDULE A (South)
-- SHEET EXTRACT --

LEGEND

Zone Symbology

NS, NSC

Zone Specific - See Map for Zoning Label
- CR - Coastal Residential
- IR - Inland Lakes Residential
- GR - General Residential
- EU - Existing Use
- PC - Private Club
- CF - Community Facility
- PQ - Pit & Quarry
- WD - Waste Disposal
- /D - Divided (indicative of a lot division)
- /H - Holding (indicative of a holding provision)
- -# - Special Provision Zoning

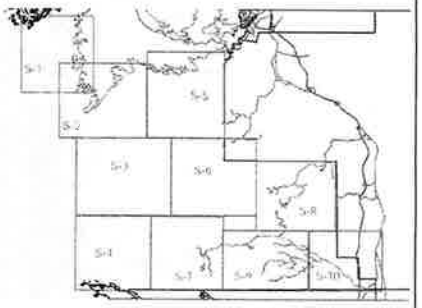
Commercial Zoning
- CC - Contractor Commercial
- MC - Marina Commercial
- MRC - Marina/Resort Commercial
- RC - Resort Commercial
- EC - General Employment Commercial
- PBC - Pointe au Baril Commercial

ES
ES1
ES2
ES (Environmentally Sensitive Lands)

Other Objects
- Water
- Native Reserve
- Road
- Island Number Reference
- Railway
- Zoning Label Reference

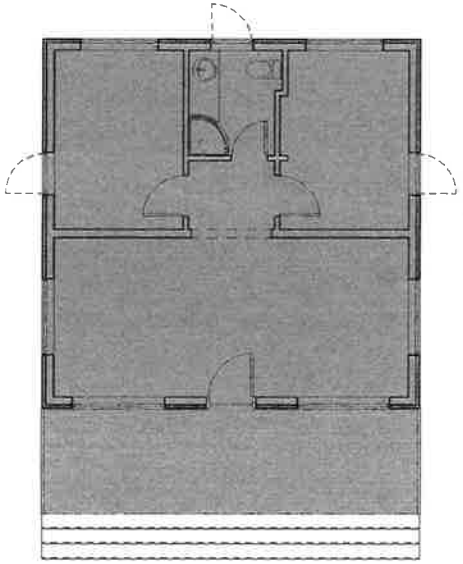
0 500 1,000 Meters

MAP INDEX - South



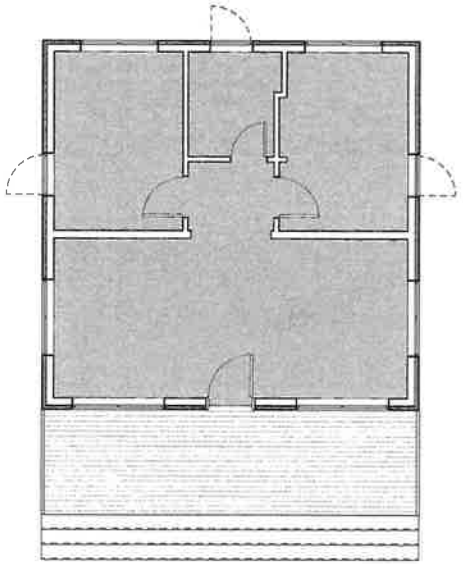
THIS ZONING BY-LAW INFORMATION MAP IS PROVIDED FOR CONVENIENT REFERENCE ONLY. SCHEDULE 'A' AS AMENDED, PASSED BY COUNCIL ON JUNE 22, 2007 UNDER BY-LAW A2000-07 SHOULD BE REFERENCED FOR ACCURATE, LEGAL INFORMATION.

SHEET: S-4 v. 02/2016



FLOOR AREA RESIDENTIAL (GROUND/TOTAL) FROM ZONING BY-LAW:
805.67 SF OR 74.94 m²

2 / A0.02 FLOOR AREA (GROUND/TOTAL)
1/8" = 1'-0"



INTERIOR FLOOR AREA EXCLUDING INTERIOR PARTITIONS:
531 SF OR 49.3 m²

1 / A0.02 FLOOR AREA (INTERIOR)
1/8" = 1'-0"

1. These Contract Documents are the copyright property of the Architect.
2. Drawings are not to be scaled for construction. Contractor to verify all existing conditions and dimensions required to perform the Work and report any discrepancies with the Contract Documents to the Architect before commencing work.
3. The Architect bears no responsibility for the interpretations of these documents by the Contractor. Upon written application the Architect will provide written and graphic clarification or supplementary information regarding the intent of the Contract Documents. The Architect will review Shop Drawings submitted by the Contractor for design conformance only.
4. All construction shown in these Contract Documents forms part of the Work unless noted as existing.
5. Positions of exposed or finished mechanical or electrical devices, fittings, and fixtures are indicated on the Architectural drawings. The locations shown on the Architectural drawings govern over the Mechanical and Electrical drawings. Those items not clearly located will be located as directed by the Architect.

ONTARIO ASSOCIATION OF ARCHITECTS
GRAHAM JOHN MCNALLY
LICENCE
7098

No.	Description	Date
9	Issued for Zoning Amendment	21/09/27

TOMS + MCNALLY
DESIGN | ARCHITECTURE | URBANISM | CONSTRUCTION

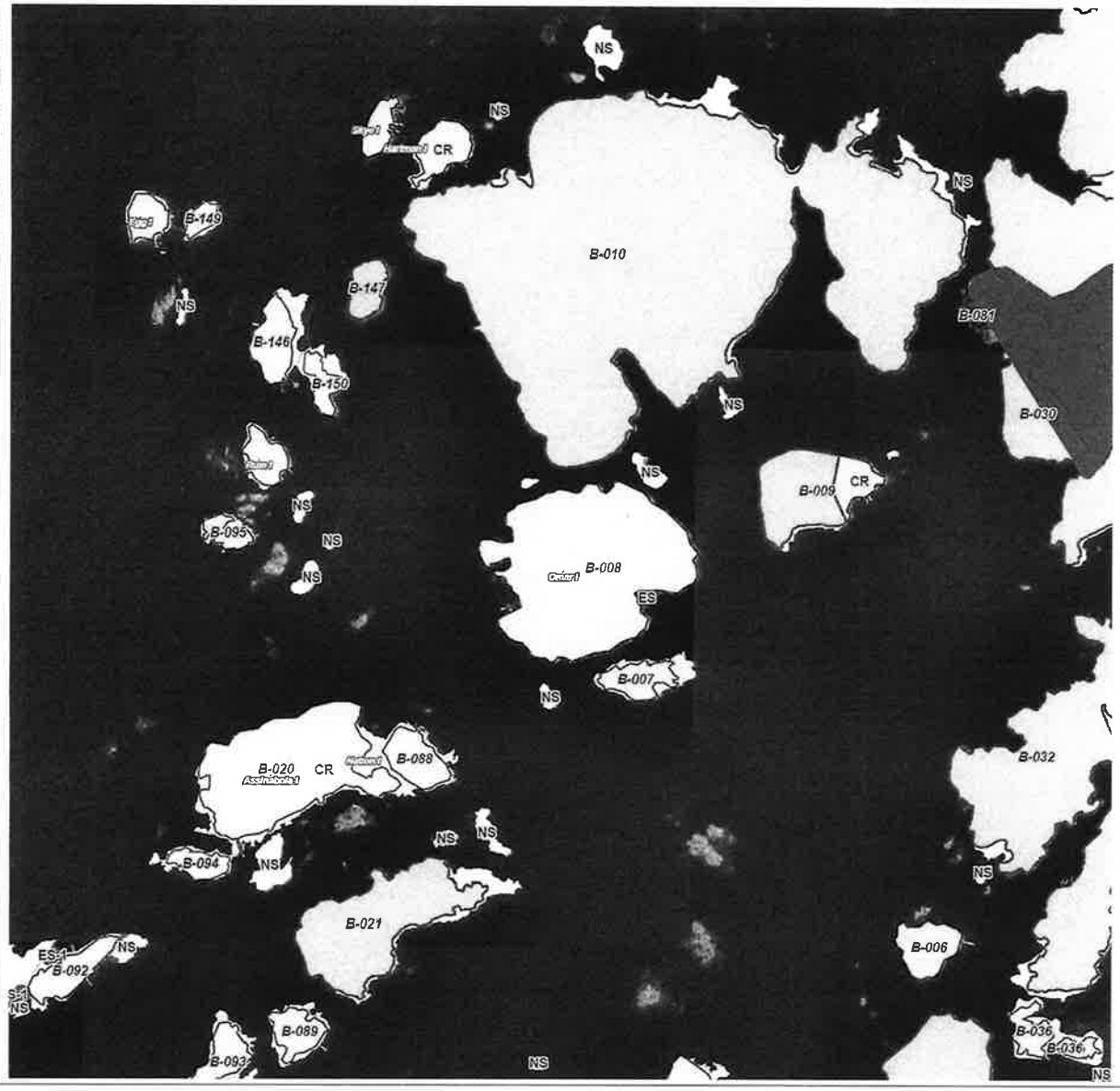
145 King Street East | Hamilton | Ontario | L8N 1B1 | 289 768 2211
www.toms-mcnally.ca

OMAR SLEEPING CABINS
Omar Island, Township of the Archipelago, Ontario, Canada

AREA CALCULATIONS

Project No	20031
Scale:	1/8" = 1'-0"
Drawn By:	Author
Checked By:	Checker

A0.02



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ONTARIO ASSOCIATION OF ARCHITECTS
GRAHAM JOHN MCNALLY
LICENCE
7098

No.	Description	Date
3	Issued for Zoning Amendment	21/09/27

TOMS + MCNALLY
DESIGN | ARCHITECTURE | URBANISM | CONSTRUCTION

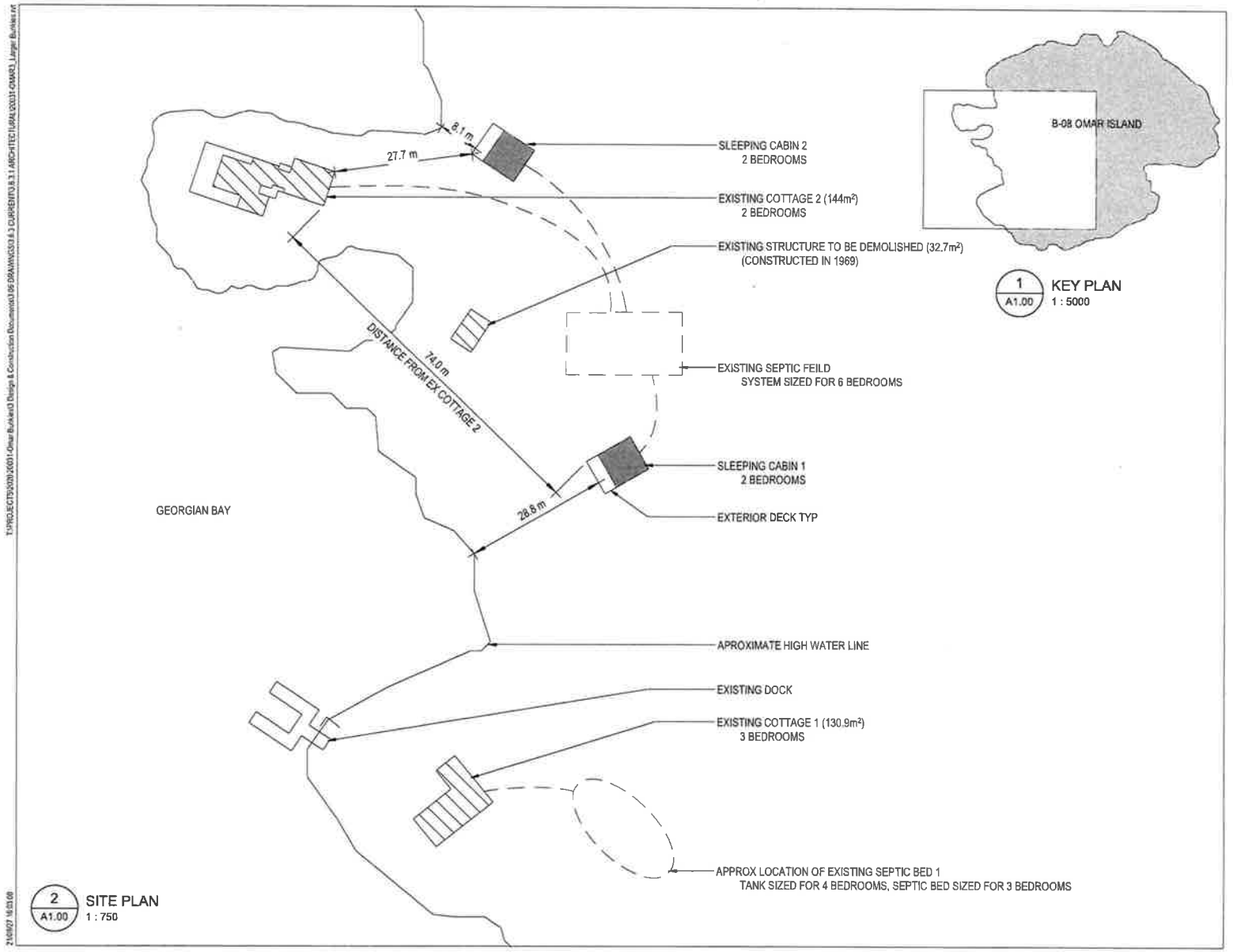
145 King Street East | Hamilton | Ontario | LBN 181 | 289 768 2221
www.toms-mcnally.ca

OMAR SLEEPING CABINS
Omar Island, Township of the Archipelago, Ontario, Canada

ADJACENT PROVINCIAL PARK LANDS

Project No	20031
Scale:	
Drawn By:	Author
Checked By:	Checker

A0.03



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ONTARIO ASSOCIATION OF ARCHITECTS
GRAHAM JOHN MCNALLY
LICENCE
7098

No.	Description	Date
9	Issued for Zoning Amendment	21/09/27
8	Re-Issued for Minor Variance	21/05/10
7	Re-Issued for Minor Variance	21/05/05
6	Issued for Minor Variance	21/03/11

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DESIGN | ARCHITECTURE | URBANISM | CONSTRUCTION
145 King Street East | Hamilton | Ontario | L8N 1B1 | 289 768 2211
www.toms-mcnally.ca

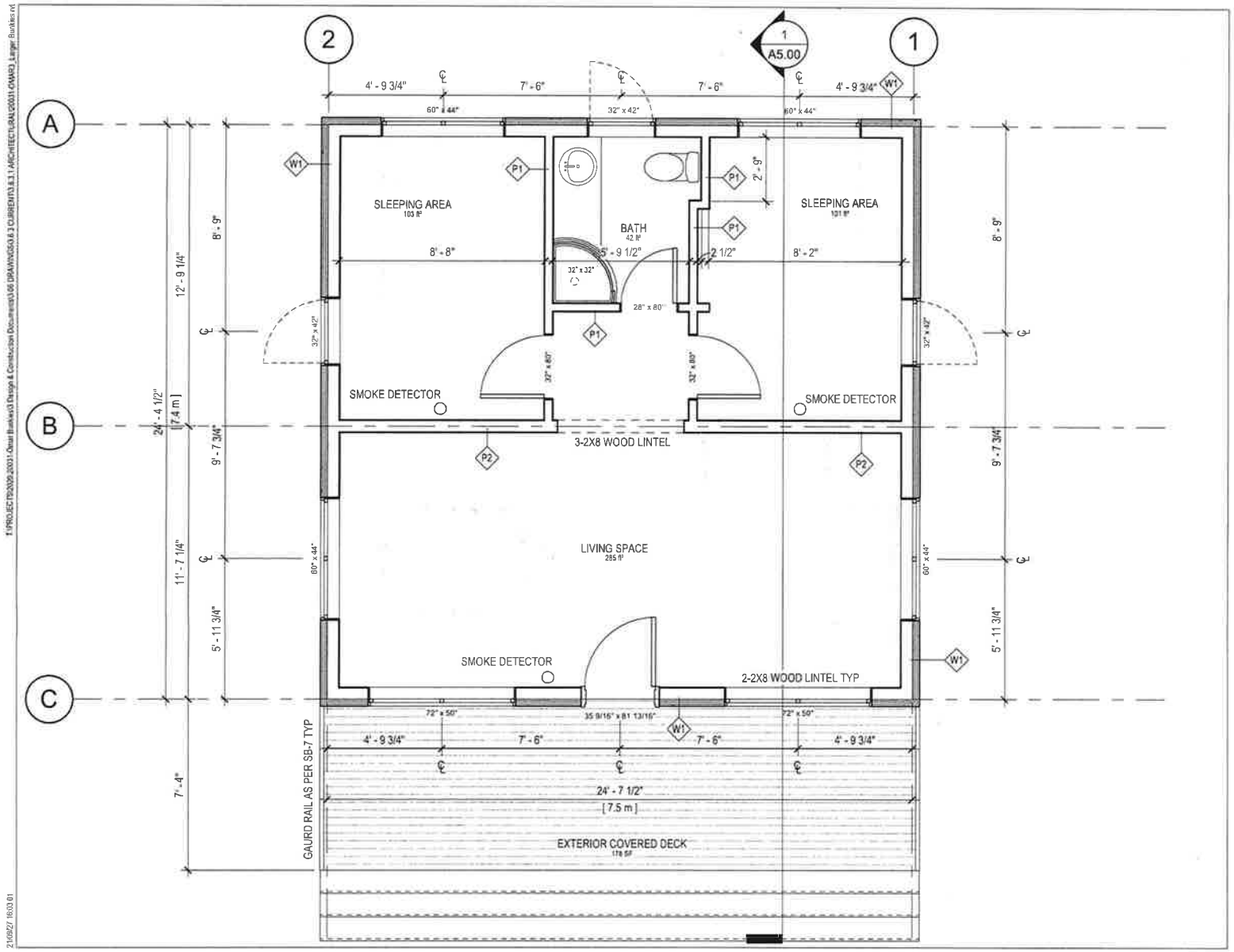
OMAR SLEEPING CABINS

Omar Island, Township of the Archipelago, Ontario, Canada

SITE PLAN

Project No:	20031
Scale:	As indicated
Drawn By:	Author
Checked By:	Checker

A1.00



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ONTARIO ASSOCIATION OF ARCHITECTS
GRAHAM JOHN MCNALLY
LICENCE
7098

No.	Description	Date
9	Issued for Zoning Amendment	21/09/27
5	Issued For Permit	21/02/16
4	Issued for Client Review	21/02/08
3	Issued for Client Review	21/01/08

TOMS + MCNALLY
DESIGN | ARCHITECTURE | URBANISM | CONSTRUCTION
145 King Street East | Hamilton | Ontario | L8N 1B1 | 289 768 2211
www.toms-mcnally.ca

OMAR SLEEPING CABINS

Omar Island, Township of the Archipelago, Ontario, Canada

GROUND LEVEL FLOOR PLAN

Project No:	20031
Scale:	1/4" = 1'-0"
Drawn By:	MM
Checked By:	GM

A2.01

Township of The Archipelago

Permit Comparison Summary

Issued For Period OCT 1,2021 To OCT 31,2021

Name	Type	Number	Property
O'HARA, JOHN	-DEMOLITION	2021-0279	54 A96 ISLAND
O'HARA, JOHN	-SEWAGE CLASS 4	2021-0280	54 A96 ISLAND
PERREN, RICHARD	-SEWAGE CLASS 4	2021-0281	32 A500 ISLAND
KARGES, DIANE PATRICIA	-SEWAGE CLASS 4	2021-0282	13 LEASIDE DR
WOODIWISS, DAVID	-SEWAGE CLASS 4	2021-0283	59 FLICKER TRAIL
EICHLER, HANS	-DECK	2021-0284	345 HEALEY LAKE
WIEBE, RONALD JOHN	-GARAGE/STORAGE BUILDING	2021-0285	444 GEORGIAN BAY
MAHONEY, RYAN	-BOATHOUSE	2021-0286	70 JOE KORAN RD
LEDIARD, KAREN	-ACCESSORY BUILDING	2021-0287	45 SOUTH SHORE RD
PHILLIPS, KAREN	-LIVING ADDITION	2021-0288	9 B273 ISLAND
PHILLIPS, KAREN	-DEMOLITION	2021-0289	9 B273 ISLAND
WAENGLER, SHEILA CRAIG	-SEWAGE CLASS 4	2021-0290	1 B254 ISLAND
CHABOT, MICHELE LORRAINE	-SLEEPING CABIN	2021-0291	3 B727 ISLAND
CHABOT, MICHELE LORRAINE	-SEWAGE CLASS 2	2021-0292	3 B727 ISLAND
MITCHELL, JOHN	-DEMOLITION	2021-0293	51 SITE 9 RD
HELLWIG, JOHN	-ACCESSORY BUILDING	2021-0294	5 A476 ISLAND
SNYDER, RICHARD PETER	-LIVING ADDITION	2021-0295	455 GEORGIAN BAY
BATE, JOHN STEWART	-SEWAGE CLASS 4	2021-0296	1560 GEORGIAN BAY WATE
O'NEILL, BRENDAN	-SEWAGE CLASS 4	2021-0297	14 A417 ISLAND
ROBERTS JONES, BONNIE	-SEWAGE CLASS 4	2021-0298	1 GB446 ISLAND
CRANE LAKE DISCOVERY CAMP	-LIVING ADDITION	2021-0299	200 S CRANE LAKE RD
KEMP, RONALD SCOTT	-COMMERCIAL BUILDING	2021-0300	165 NORTH SHORE RD
KEMP, RONALD SCOTT	-DEMOLITION	2021-0301	165 NORTH SHORE RD
O'HARA, JOHN	-SEASONAL DWELLING	2021-0302	54 A96 ISLAND
RESURGAM INVESTMENT CORPORA	DEMOLITION	2021-0303	1 B852 ISLAND

Permit Comparison Summary

Issued For Period OCT 1,2021 To OCT 31,2021

	Previous Year			Current Year		
	Permit Count	Fees	Value	Permit Count	Fees	Value
-ACCESSORY BUILDING	1	1,069.00	97,200.00	2	330.00	30,000.00
-BOATHOUSE	0	0.00	0.00	1	559.00	50,850.00
-COMMERCIAL BUILDING	0	0.00	0.00	1	1,100.00	100,000.00
-DECK	2	1,139.00	96,750.00	1	115.00	10,494.00
-DEMOLITION	0	0.00	0.00	5	250.00	22,500.00
-DOCK	2	100.00	40,346.00	0	0.00	0.00
-GARAGE/STORAGE BUILDING	1	396.00	36,000.00	1	316.00	28,800.00
-LIVING ADDITION	0	0.00	0.00	3	2,931.00	266,500.00
-RENOVATION	1	100.00	8,000.00	0	0.00	0.00
-SEASONAL DWELLING	0	0.00	0.00	1	4,072.00	370,200.00
-SEWAGE CLASS 2	0	0.00	0.00	1	175.00	5,000.00
-SEWAGE CLASS 4	6	3,000.00	120,000.00	8	4,000.00	164,000.00
-SLEEPING CABIN	2	1,870.00	170,000.00	1	726.00	66,000.00

	Previous Year	Current Year
Total Permits Issued	15	25
Total Dwelling Units Created	0	0
Total Permit Value	568,296.00	1,114,344.00
Total Permit Fees	7,674.00	14,574.00
Total Compliance Letters Issued	4	2

BUILDING PERMIT SUMMARY (comparison 2020 to 2021)

2020

Month	Total No.	Value	Fees	Permit Area (Sq. Feet)
JAN	4	75,800.00	493.00	516
FEB	5	107,800.00	497.00	500
MAR	6	1,520,500.00	17,179.00	7,533
APR	2	0.00	100.00	2,205
MAY	31	1,609,435.00	18,775.00	11,474
JUN	45	2,878,990.00	34,353.00	21,165
JUL	25	1,509,925.00	17,832.00	12,136
AUG	31	1,550,910.00	18,753.00	11,899
SEP	28	2,164,320.00	27,222.00	10,651
OCT	15	568,296.00	7,674.00	5,775
NOV				
DEC				
TOTALS	**192**	**$11,985,976.00**	**$142,878.00**	**83,854**

2021

Month	Total No.	Value	Fees	Permit Area (Sq. Feet)
JAN	20	1,569,940.00	17,196.00	10,561
FEB	9	84,500.00	979.00	3,442
MAR	24	1,547,330.00	17,065.00	12,387
APR	22	855,000.00	11,085.00	11,037
MAY	34	3,968,000.00	46,522.00	12,348
JUN	49	4,127,550.00	49,212.00	20,880
JUL	37	3,836,630.00	46,398.00	16,423
AUG	47	4,236,950.00	52,620.00	8,417
SEP	36	4,935,245.00	56,903.00	28,045
OCT	25	1,114,344.00	14,574.00	12,318
NOV				
DEC				
TOTALS	**303**	**$26,275,489.00**	**$312,554.00**	**135,858**

10 Year Building Permit Comparison

Inspectors	Year	Total Number	Construction Value	Permit Fees	Permit Area (Sqft)
2	2020	217	$14,485,336	$170,470	97,798
2	2019	229	$17,583,215	$206,557	111,251
2	2018	243	$13,384,210	$158,586	97,049
2	2017	253	$12,079,625	$158,298	112,450
2	2016	255	$14,263,575	$190,799	97,112
3	2015	251	$10,181,075	$141,225	104,769
3	2014	203	$8,683,875	$116,569	71,947
3	2013	238	$8,357,912	$110,466	87,848
3	2012	280	$10,861,525	$147,012	95,280
3	2011	278	$11,532,557	$156,465	90,409
Average 2011-2020		245	$12,141,291	$155,645	96,591
Jan-Oct 2021		**303**	**$26,275,489**	**$312,554**	**135,858**

The Township of The Archipelago

Recommendation Report to Council

Report No.: Clerk-2021-05 **Date:** November 18, 2021

Originator: Maryann Weaver,

Subject: Georgian Cliffs Memorial Park Cemetery – New Cemetery By-law

---

RECOMMENDATION

That Council approve in principle, the draft Cemetery By-law 2021-XX and authorize staff to proceed with the public notice requirements.

BACKGROUND/HISTORY

The current Cemetery By-law 2000-04 was passed in 2000, and was authorized under the then current Cemeteries Act.

The Funeral, Burial and Cremations Services Act, 2002 (FBCSA) received Royal Assent in the Ontario Legislature on December 13, 2002. In February 2011, the FBCSA was proclaimed into force to take effect July 1, 2012. The FBCSA consolidates and modernizes two statutes, the Cemeteries Act (Revised) and the Board of Funeral Services Act (formerly titled the Funeral Directors and Establishments Act).

The FBCSA provides the framework for the regulation of the bereavement sector. The FBCSA and its regulations recognize that bereavement-related purchases are often made during delicate and emotional times. The FBCSA helps ensure that consumers are clearly informed of their options and have the necessary information on hand when making bereavement-related purchase decisions.

The Ministry of Government and Consumer Services is implementing changes to Ontario Regulation 30/11 under the FBCSA regarding cemetery Care & Maintenance funds and accounts. These changes come into effect January 1st 2022.

On November 4, 2021 the Cemetery Advisory Committee reviewed and approved the draft by-law to be sent to Council for their approval.

The proposed draft Cemetery By-law will ensure compliance with all current legislation.

Notice Requirements

- published once in a local newspaper with general circulation.
- clearly posted on a sign at the cemetery entrance for four weeks.

- delivered to each supplier of markers who has delivered a marker to the cemetery in the last year.

If approved in November, there will be sufficient time to provide notice and bring the by-law, with public comments, to the December Meeting for Council's consideration. Once the By-law is passed by Council, it will be sent to the Registrar for approval.

ANALYSIS/OPTIONS

Option 1
Approve in principle, the draft Cemetery By-law 2021-XX and authorize staff to proceed with the public notice requirements.

Option 2
Address any concerns with the draft Cemetery By-law 2021-XX.

FINANCIAL IMPLICATIONS

No budget implications.

CONCLUSION

It is recommended that Council:

a) approve in principle the draft Cemetery By-law 2021-XX, as presented;
b) authorize staff to proceed with the public notice requirements; and
c) request that staff bring the draft by-law forward to the December Meeting, with public comments.

ATTACHMENTS

- Draft Cemetery By-law 2021-XX
- Current Cemetery By-law 2000-04
- BAO Chart – Cemetery Care and Maintenance Fund/Account Contribution Amount Increases

Respectfully Submitted,

Maryann Weaver
Clerk

I concur with this report,

John B. Fior
Chief Administrative Officer

The Corporation of the

TOWNSHIP OF THE ARCHIPELAGO

By-Law No. 2021 -XX

Being a By-law to Provide for the Maintenance, Management, Regulation and Control of the Georgian Cliffs Memorial Park Cemetery

---

WHEREAS the Funeral, Burial and Cremation Services Act, 2002, S.O, 2002, c.33 (the Act) which came into effect July 1, 2012, regulates the operation of cemeteries in Ontario; and

WHEREAS The Corporation of the Township of The Archipelago established the Georgian Cliffs Memorial Park Cemetery upon lands particularly described as Part of Lot 29, Concession 4, located at 138 South Shore Road, Pointe au Baril, Ontario; and

WHEREAS Council for the Township of The Archipelago deems it desirable to enact a By-law to regulate the operation, care and control of the Georgian Cliffs Memorial Park Cemetery; and

WHEREAS Section 150 of Ontario Regulation 30/11 made under the Funeral Burial & Cremation Services Act, 2002 provided that the owner of every cemetery may pass by-laws affecting the operations of the cemetery; and

WHEREAS no such by-law comes into force or takes effect until it is filed with, and approved by the Registrar under the Funeral Burial & Cremation Services Act, 2002, Section 151;

NOW THEREFORE BE IT ENACTED as a By-law of the Council of the Corporation of the Township of The Archipelago as follows:

1.0 DEFINITIONS

For the purpose of this By-law, the following definitions shall apply;

1.1 "Act" shall mean the Funeral, Burial and Cremations Services Act, 2002, S.O, 2002, c.33.

1.2 "By-law" shall mean the rules under which the Cemetery is operated, and shall be approved by both the Council of the Corporation of the Township of The Archipelago and the Registrar.

1.3 "Care and Maintenance Trust Fund" A requirement under the *Funeral, Burial and Cremations Services* Act, 2002, S.O, 2002, c.33 and O. Reg. 30/11 and 184/12 that a prescribed amount or a percentage of the purchase price (excluding tax) of all interment and scattering rights sold, transferred, assigned or permitted; and prescribed amounts for monuments and markers, is contributed into the care and maintenance fund. If no scattering rights are sold but scattering is permitted a prescribed amount must be contributed to the fund when the scattering is conducted. Interest earned from this fund is used to provide care and maintenance of lots, plots, markers and monuments in the Cemetery.

1.4 "Caretaker" shall mean an employee of the Corporation whose duties include care and maintenance of the Cemetery.

1.5 "Cemetery" shall mean the land set aside as a Cemetery under the Act, to be used for the interment of human remains and known as Georgian Cliffs Memorial Park Cemetery.

1.6 "Certificate of Cremation" shall mean a document certifying that a decedent has been cremated and which includes the name of the decedent, the identification number, the date of cremation, the name, address, and phone number of the crematory, and the signature of the crematory authority.

1.7 "Clerk" shall mean the Clerk of the Corporation of the Township of The Archipelago.

1.8 "Columbarium" shall mean a structure designed for the purpose of interring cremated human remains in sealed compartments.

1.9 "Contract" shall mean for the purpose of this By-law, all purchasers of rights must sign a contract with the Cemetery, detailing obligations of both parties and acceptance of the Cemetery By-law.

1.10 "Corporation" shall mean the Township of The Archipelago.

1.11 "Council" shall mean the Municipal Council of the Corporation of the Township of The Archipelago.

1.12 "Interment" shall mean the burial of human remains and includes the placing of human remains in a niche or in a scattering garden.

1.13 "Interment Fees" shall mean the fees and charges set forth by the Corporation for the opening and closing of the lot.

1.14 "Interment Rights" shall mean the right to require or direct the interment of human remains in a niche and direct associated memorialization.

1.15 "Interment Rights Certificate" shall mean the certificate issued by the Corporation to the purchaser, once the interment rights have been paid in full, identifying ownership of the interment rights.

1.16 "Interment Rights Holder" shall mean the person designated to hold the right to direct the interment of cremated human remains in a specified lot and direct the associated memorialization.

1.17 "Ornamentation" shall mean flowers, ornaments or other embellishments, which are placed on niches or in front of columbariums with the intention of improving their appearance, or in memory of the deceased.

1.18 "Niche" shall mean an individual compartment in a columbarium for the entombment of cremated human remains.

1.19 "Non-Resident" shall mean anyone other than a resident.

1.20 "Pre-need" shall mean services that are not required to be provided until the death of a person alive at the time the arrangements are made.

1.21 "Resident" shall mean any person who resides in or owns property in the Township of The Archipelago, or a former resident who has moved into a long-term care facility or in with family for required care.

1.22 "Scattering Ground" shall mean the right to direct the spreading of cremated remains over the designated area within a Cemetery with the knowledge and permission of the Corporation and in keeping with the Corporation's By-laws.

2.0 ADMINISTRATION

2.1 The Corporation reserves the full and complete control and management of the lands, plantings, roads, utilities, books and records of the Cemetery and complete authority to administer these By-laws.

2.2 The Corporation shall be responsible for the administration, management, care, maintenance, and improvement of the Cemetery.

2.3 The Caretaker shall have custody of the Cemetery under the direction of the Corporation, and shall observe and carry out all of the provisions of the Cemetery By-laws and regulations that may be in effect from time to time.

2.4 The Corporation will not be held liable for any loss or damage, without limitation (including damage by the elements, Acts of God, or vandals) to any columbarium, niche, or other article that has been placed in relation to an interment, save and except for the direct loss or damage caused by gross negligence of the Corporation.

2.5 The Clerk shall keep such registers, records and books as are necessary for properly recording all matters, acts, interment rights certificates and matters pertaining to the Cemetery as come within his/her respective jurisdiction, and as may be prescribed.

2.6 The Corporation has the right at any time to re-survey, enlarge, diminish, re-plot, change or remove plantings, grade, close pathways or roads, alter in shape or size, or otherwise change all or any part of the Cemetery, subject to approval of the appropriate authorities.

3.0 SALE, CANCELLATION, TRANSFER OR RESALE OF INTERMENT RIGHTS

3.1 A Certificate of Interment Rights will not be issued until full payment is received.

3.2 The resale of interment rights by the holder/purchaser to a third party is prohibited.

3.3 Interment rights may be purchased from the Corporation at the rates set out in the Cemetery Price List, as set out in Schedule "A" and Schedule "A1".

3.4 At the time of sale, The Corporation shall provide the interment rights holder with:

a) a contract, which shall be executed by the purchaser and the Clerk, or designate, on behalf of the Corporation, attached as Schedule "B";

b) conditions of contract, attached as Schedule "C"

c) a Certificate of Interment Rights, which shall be executed by the Clerk, or designate, on behalf of the Corporation; attached as Schedule "D"

d) a copy of the Cemetery By-law; and

e) a copy of the Consumer Information Guide (A Guide to Death Care in Ontario)

3.5 A purchaser shall have the right to cancel **within the thirty (30) day cooling off period** of signing the contract by providing written notice to the Corporation. The Corporation will provide a refund within thirty (30) days from the date of the request of cancellation, all monies paid.

3.6 **After the thirty (30) day cooling off period** for purchases of interment rights, the Corporation will deposit the Care and Maintenance Trust Funds, as specified in regulations made under the Act.

3.7 A purchaser shall not transfer interment rights, except in accordance with Section 3.8.

3.8 A purchaser may gift, bequest or otherwise transfer interment rights without consideration to another person by giving notice of the transfer to the Corporation, specifying the name and address of the Transferee and date

of transfer, and returning the original Certificate of Interment Rights to the Corporation. Upon receipt of the notice and the original certificate, and payment of a fee as set out in the Cemetery Price List, the Corporation shall issue a new Certificate of Interment Rights to the Transferee.

3.9 In cases of transfer of interment rights by will or bequest, the Corporation reserves the right to require the productions of a notarial copy of the Will or other evidence sufficient to prove ownership.

3.10 If the Will does not contain a specific bequest of the interment rights, a written request for transfer from the Estate Trustee(s) is required.

3.11 An Interment Rights Holder may by written demand, require the Corporation to repurchase the rights at any time before they are used.

3.12 The Corporation will repurchase the interment rights at the price listed on the current Cemetery Price List, less the Care and Maintenance Fund contributions made at the time of purchase. This applies to all purchases or contracts that were made before this Act came into being. Refund would be made within 30 days of the written request.

3.13 No refund will be made if interment rights have been exercised.

3.14 If any interments rights have not been exercised after a twenty-five (25) year period has passed from the date of sale, they may be considered abandoned. The Corporation may apply to the Registrar for a declaration that the Interment Rights are abandoned after making inquiries and giving reasonable notices to find the Interment Rights Holder(s) or beneficiaries. Upon being satisfied that the rights are abandoned, the Registrar shall issue a declaration to that effect. If there is no appeal by the end of the appeal period, as stipulated by the Registrar or otherwise within thirty (30) days, the Corporation may re-sell the Interment Rights in question.

4.0 INTERMENTS AND SCATTERING OF CREMATED REMAINS

4.1 No interments or scattering of cremated remains shall take place until all fees and charges have been paid in full.

4.2 A Certificate of Cremation must be submitted to the Corporation prior to all interments and scattering of cremated remains.

4.3. Cremated remains may be scattered within the designated area of the Cemetery only.

4.4 Once scattered, cremated remains cannot be retrieved.

4.5 The winter season shall be considered to be October 15th – May 15th, and no interments or scatterings shall take place during this period unless specifically authorized by the Corporation.

4.6 No interments or scattering of remains shall be allowed in the Cemetery outside of daylight hours.

5.0 COLUMBARIUMS NICHES

5.1 A maximum of two (2) cremated remains shall be permitted in a columbarium niche. Niche dimensions are approximately 11 inches square.

5.2 Only the Caretaker may open and seal niches for interment.

5.3. To ensure quality control, uniformity, and standard of workmanship, only the Corporation shall cause to inscribe the niche covers.

5.4 The lettering is one (1) inch high Vermarco style, for maximum capacity, inscribed in the granite niche cover. White lettering, with a limit of seventeen (17) characters per

line (including spaces) maximum six (6) lines. All dates will be in this format only (1920-2005).

5.5 The inscription fee paid in the initial purchase price, includes a maximum of six (6) lines, seventeen (17) characters per line (including spaces). Any additions to this will be at the expense of the Interment Rights Holder, as set out in the Cemetery Price List.

5.6 No person, other than employees, shall remove or alter niche covers.

6.0 MONUMENTS

6.1 To ensure quality control, uniformity, and standard of workmanship, only the Corporation shall cause to inscribe all monuments.

6.2 The lettering is one (1) inch high Vermarco style, for maximum capacity. White lettering, with a limit of twenty-eight (28) characters per line (including spaces) maximum two (2) lines. All dates will be in this format only (1920-2005). Any additions to this will be at the expense of the Interment Rights Holder, as set out in the Cemetery Price List.

7.0 CARE OF GROUNDS AND ORNAMENATION

7.1 No person, except the Caretaker, shall undertake any maintenance within the Cemetery.

7.2 The Corporation shall take reasonable precautions to protect the property of Interment Rights Holders, but assumes no liability for the loss of or damage to any ornamentation.

7.3 No person shall place ornamentation on or around the columbariums or monuments, except in accordance with the following regulations:

a) Ornaments may be affixed to columbarium niche covers, provided they do not interfere with a neighbouring niche.

b) Potted plants, wreaths and floral tributes contained in vases, urns or stands may be placed as close to columbariums or monuments as possible.

c) Plants or flowers are permitted to be placed in the planters provided by the Township, which are located to the scattering garden.

d) Plants and flowers shall not be planted in the ground.

8.0 RULES AND REGULATIONS

8.1. No person, except Corporation Staff or Peace Officers shall enter or be within the Cemetery grounds before 7:00 a.m. or after 10:00 p.m. Public visitation times are during daylight hours 7 days a week, year round. Winter maintenance is not performed within the cemeteries; entry is at the visitors' own risk.

8.2 No person shall plant trees or shrubs in the Cemetery.

8.3 No person shall bring any alcoholic beverage within the Cemetery grounds.

8.4 No pleasure ATV's (All Terrain Vehicles), unlicensed motorcycles, snow vehicles or off-road vehicles are permitted within the Cemetery grounds.

8.5 All persons entering the Cemetery shall behave with due order and decorum and with due respect to the deceased, and shall not disturb any service being held.

8.6 No person may damage, destroy, remove or deface any property within the Cemetery.

8.7 No person shall allow or permit any animal to enter or remain in the Cemetery, excluding service animals.

8.8 No persons under the age or sixteen (16) will be admitted within the Cemetery unless supervised by an adult who will be responsible for their conduct.

9.0 RULES FOR WORKERS, MONUMENT DEALERS AND CONTRACTORS

9.1 All contractors performing work in the Cemetery are required to produce evidence of public liability and property damage insurance in amount not less than two million dollars ($2,000,000.00) on an annual basis.

9.2 All contactors performing work in the Cemetery shall be required to produce on annual basis evidence of good standing with the Workplace Safety and Insurance Board (WSIB) if applicable.

9.3 All contractors and workers in any capacity within the Cemetery, including masons, carters, stonecutters, erectors or helpers are subject to the direction and control of the Corporation and are further governed by the Occupational Health and Safety Act and Regulations with respect to proper safety wear.

9.4 All persons performing work in the Cemetery shall conduct themselves in a manner in keeping with the dignity of the Cemetery and shall respect any restrictions which may be required by the Corporation in the performance of their work.

10.0 CONTRACTS AND CERTIFICATES OF INTERMENT

10.1 The Clerk or designated alternate is hereby authorized to execute on behalf of the Township, the Contracts for Purchase of Interment Rights and Services, and the Certificate of Interment Rights.

11.0 EFFECTIVE DATE

11.1 This By-law shall come into force upon approval by the Registrar of the Bereavement Authority of Ontario, Pursuant to the Funeral, Burial and Cremation Services Act, 2002.

12.0 REPEAL

12.1 By-law 2000-04 is hereby repealed upon the effective date of this By-law.

READ and **FINALLY PASSED** in **OPEN COUNCIL** this **XX** day of **XXXXXXXXX**, **2021**.

THE CORPORATION OF THE TOWNSHIP OF THE ARCHIPELAGO

Bert Liverance, Reeve

Maryann Weaver, Clerk

SCHEDULE "A" TO BY-LAW 2021-XX
CEMETERY PRICE LIST - Effective January 1, 2022 to Decmeber 31, 2022
GEORGIAN CLIFFS MEMORIAL PARK CEMETERY
138 South Shore Road, Pointe au Baril, ON
Corporation License # 4671433
Operated by the Corporation of the Township of The Archipelago
9 James St. Parry Sound, ON P2A 1T4
Clerk (705) 746-4243 Ext. 301

SALE OF INTERMENT RIGHTS FOR COLUMBARIUM NICHES

RESIDENT PRICING

NICHE ROW	FEE	CARE AND MAINTENANCE	HST	TOTAL PRICE
First Row	$ 1,270.75	$ 224.25	$ 194.35	$ 1,689.35
Second and Third Row	$ 1,185.75	$ 209.25	$ 181.35	$ 1,576.35
Fourth Row	$ 1,100.75	$ 194.25	$ 168.35	$ 1,463.35

NON-RESIDENT PRICING

NICHE ROW	FEE	CARE AND MAINTENANCE	HST	TOTAL PRICE
First Row	$ 1,588.44	$ 280.31	$ 242.94	$ 2,111.68
Second and Third Row	$ 1,482.19	$ 261.56	$ 226.69	$ 1,970.43
Fourth Row	$ 1,375.94	$ 242.81	$ 210.44	$ 1,829.18

SCATTERING GARDEN

RESIDENT PRICING

SCATTERING GARDEN OPTIONS	FEE	CARE AND MAINTENANCE	HST	TOTAL PRICE
Scattering of Ashes	$ 70.00	$ 30.00	$ 13.00	$ 113.00
Scattering of Ashes + Inscription on Monument	$ 420.00	$ 30.00	$ 58.50	$ 508.50

NON-RESIDENT PRICING

SCATTERING GARDEN OPTIONS	FEE	CARE AND MAINTENANCE	HST	TOTAL PRICE
Scattering of Ashes	$ 95.00	$ 30.00	$ 16.25	$ 141.25
Scattering of Ashes + Inscription on Monument	$ 532.50	$ 30.00	$ 73.12	$ 635.62

INSCRIPTION ON MEMORIAL MONUMENTS

RESIDENT PRICING

MEMORIAL MONUMENT OPTIONS	FEE	HST	TOTAL PRICE
2 Lines, Maximum 28 Characters (including spaces)	$ 400.00	$ 52.00	$ 452.00
Each Additional Character/Space			$10 plus HST

NON-RESIDENT PRICING

MEMORIAL MONUMENT OPTIONS	FEE	HST	TOTAL PRICE
2 Lines, Maximum 28 Characters (including spaces)	$ 500.00	$ 65.00	$ 565.00
Each Additional Character/Space			$10 plus HST

INTERMENT RIGHTS CERTIFICATE

RESIDENT & NON-RESIDENT

MEMORIAL MONUMENT OPTIONS	FEE	HST	TOTAL PRICE
Replacement Interment Rights Certificate	$ 40.00	$ 5.20	$ 45.20
Transfer of Interment Rights	$ 100.00	$ 13.00	$ 113.00

OTHER CHARGES

RESIDENT & NON-RESIDENT

MEMORIAL MONUMENT OPTIONS	REFUND
Cancellation of Interment Rights | Within 30 days of purchase	Full Refund
Cancellation of Interment Rights | After 30 days of purchase and rights not used)	Cost of the Interment Rights Contract, less amount deposited into the Care and Maintenance Fund

Price of each niche includes:

i) two openings and two closings at time of interment
ii) the names and dates of the deceased inscribed on the niche cover.

Inscriptions:

The lettering is one (1) inch high Vermarco style, for maximum capacity, inscribed in the granite niche cover. White lettering, with a limit of 17 characters per line (including spaces) maximum six lines. All dates will be in this format only (1920-2005).

SCHEDULE "A1" TO BY-LAW 2021-XX
CEMETERY PRICE LIST - Effective January 1, 2023
GEORGIAN CLIFFS MEMORIAL PARK CEMETERY
138 South Shore Road, Pointe au Baril, ON
Corporation License # 4671433
Operated by the Corporation of the Township of The Archipelago
9 James St. Parry Sound, ON P2A 1T4
Clerk (705) 746-4243 Ext. 301

SALE OF INTERMENT RIGHTS FOR COLUMBARIUM NICHES

RESIDENT PRICING

NICHE ROW	FEE	CARE AND MAINTENANCE	HST	TOTAL PRICE
First Row	$ 1,270.75	$ 224.25	$ 194.35	$ 1,689.35
Second and Third Row	$ 1,185.75	$ 209.25	$ 181.35	$ 1,576.35
Fourth Row	$ 1,100.75	$ 194.25	$ 168.35	$ 1,463.35

NON-RESIDENT PRICING

NICHE ROW	FEE	CARE AND MAINTENANCE	HST	TOTAL PRICE
First Row	$ 1,906.12	$ 336.38	$ 291.52	$ 2,534.02
Second and Third Row	$ 1,778.62	$ 313.88	$ 272.02	$ 2,364.52
Fourth Row	$ 1,651.12	$ 291.38	$ 252.52	$ 2,195.02

SCATTERING GARDEN

RESIDENT PRICING

SCATTERING GARDEN OPTIONS	FEE	CARE AND MAINTENANCE	HST	TOTAL PRICE
Scattering of Ashes	$ 70.00	$ 30.00	$ 13.00	$ 113.00
Scattering of Ashes + Inscription on Monument	$ 420.00	$ 30.00	$ 58.50	$ 508.50

NON-RESIDENT PRICING

SCATTERING GARDEN OPTIONS	FEE	CARE AND MAINTENANCE	HST	TOTAL PRICE
Scattering of Ashes	$ 120.00	$ 30.00	$ 19.50	$ 169.50
Scattering of Ashes + Inscription on Monument	$ 645.00	$ 30.00	$ 87.75	$ 762.75

INSCRIPTION ON MEMORIAL MONUMENTS

RESIDENT PRICING

MEMORIAL MONUMENT OPTIONS	FEE	HST	TOTAL PRICE
2 Lines, Maximum 28 Characters (including spaces)	$ 400.00	$ 52.00	$ 452.00
Each Additional Character/Space			**$10 plus HST**

NON-RESIDENT PRICING

MEMORIAL MONUMENT OPTIONS	FEE	HST	TOTAL PRICE
2 Lines, Maximum 28 Characters (including spaces)	$ 600.00	$ 78.00	$ 678.00
Each Additional Character/Space			**$10 plus HST**

INTERMENT RIGHTS CERTIFICATE

RESIDENT & NON-RESIDENT

MEMORIAL MONUMENT OPTIONS	FEE	HST	TOTAL PRICE
Replacement Interment Rights Certificate	$ 40.00	$ 5.20	$ 45.20
Transfer of Interment Rights	$ 100.00	$ 13.00	$ 113.00

OTHER CHARGES

RESIDENT & NON-RESIDENT

MEMORIAL MONUMENT OPTIONS	REFUND
Cancellation of Interment Rights | Within 30 days of purchase	Full Refund
Cancellation of Interment Rights | After 30 days of purchase and rights not used)	Cost of the Interment Rights Contract, less amount deposited into the Care and Maintenance Fund

Price of each niche includes:
i) two openings and two closings at time of interment
ii) the names and dates of the deceased inscribed on the niche cover.

Inscriptions:
The lettering is one (1) inch high Vermarco style, for maximum capacity, inscribed in the granite niche cover. White lettering, with a limit of 17 characters per line (including spaces) maximum six lines. All dates will be in this format only (1920-2005).

SCHEDULE "B" TO BY-LAW 2021-XX

GEORGIAN CLIFFS MEMORIAL PARK CEMETERY
138 South Shore Road, Pointe au Baril, ON
Corporation License # 4671433
Operated by the Corporation of the Township of The Archipelago
9 James St. Parry Sound, ON P2A 1T4
Clerk (705) 746-4243 Ext. 301

CONTRACT FOR THE PURCHASE OF INTERMENT RIGHTS AND SERVICES

Date of Purchase: _____ **AT NEED:** ☐ **PRE-NEED:** ☐

Name: _____ Phone: _____

Address: _____ Email: _____

City: _____ Postal Code: _____

Province: _____

RECIPIENT #1

Name: _____

Address: _____

City: _____ Prov: _____

Phone: _____

Date of Birth: D: M: Y:

Place of Birth: _____

Date of Death: D: M: Y:

RECIPIENT #2

Name: _____

Address: _____

City: _____ Prov: _____

Phone: _____

Date of Birth: D: M: Y:

Place of Birth: _____

Date of Death D: M: Y:

INTERMENT RIGHTS

Columbarium No: _____ Niche No: _____ West: ☐ East: ☐

SCATTERING GARDEN / INSCRIPTIONS

Scattering Gardens: ☐ Scattering Garden with Inscription on Monument: ☐

Monuments Available for Inscription:

Obelisk North ☐ Obelisk South ☐ Obelisk West ☐ Obelisk East ☐

"In Loving Memory Of" Monument ☐

Inscription on Monument : _____

FEES

Fee: $ _____

Care and Maintenance: $ _____

HST: $ _____

TOTAL: $ _____

TERMS AND CONDITIONS

It is agreed between the parties that this contract is subject to the By-laws of Township of The Archipelago with respect to Georgian Cliffs Memorial Park Cemetery and the Interment Rights Holder(s) hereby acknowledges receipt of the By-laws and that the 'Conditions of Contract' attached have been read and understood.

_____ _____
Signature of Purchaser Date

_____ _____
Signature of Purchaser Date

_____ _____
Signature of Clerk, or designate Date
Township of The Archipelago

GEORGIAN CLIFFS MEMORIAL PARK CEMETERY
138 South Shore Road, Pointe au Baril, ON
Corporation License # 4671433
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9 James St. Parry Sound, ON P2A 1T4
Clerk (705) 746-4243 Ext. 301

CERTIFICATE OF INTERMENT RIGHTS
Certificate No.

PURSUANT TO the *Funeral, Burial and Cremation Services Act, 2002* (formerly *the Cemeteries Act*) and Regulations and all amendments thereto;

BETWEEN:

THE CORPORATION OF THE TOWNSHIP OF THE ARCHIPELAGO
hereinafter called "The Corporation"

AND:

hereinafter called "The Purchaser"

In consideration of the sum of _____ ($_____), receipt of which is hereby acknowledged and which includes the sum of _____ ($_____) for Care and Maintenance; and the sum of _____ ($_____) for Harmonized Sales Tax (HST).

The Corporation hereby assigns to The Purchaser Interment Rights in the Georgian Cliffs Memorial Park Cemetery as follows:

Columbarium No. _____Niche No. _____ West / East

The Purchaser, by the acceptance of this indenture indicates that the By-laws governing the operation of the cemetery have been received and read, and agrees to be guided by the said By-laws as well as the provisions of the *Funeral, Burial and Cremation Services Act, 2002* as if these were included as part of this indenture.

The Purchaser, agrees that in the event of transfer of said Interment Rights, this Certificate cannot be transferred but will be returned to The Corporation who will issue a new Certificate of Interment Rights to the Transferee, as per the stipulations within the By-law.

The Purchaser acknowledges receipt of the either a hard copy of the Consumer Information Guide (A Guide to Death Care in Ontario, or a link to the electronic version of the document, found on the Bereavement Authority of Ontario's (BAO's) website.

IN WITNESS WHEREOF the proper signing officer has affixed his/her signature(s) on behalf of The Corporation and The Purchaser has affixed his/her signature.

Dated this _____ day of _____, _____.

_____
PURCHASER

_____
CEMETERY REPRESENTATIVE
TOWNSHIP OF THE ARCHIPELAGO

_____
PURCHASER

GEORGIAN CLIFFS MEMORIAL PARK CEMETERY
138 South Shore Road, Pointe au Baril, ON
Corporation License # 4671433
Operated by the Corporation of the Township of The Archipelago
9 James St. Parry Sound, ON P2A 1T4
Clerk (705) 746-4243 Ext. 301

CONDITIONS OF CONTRACT

In accordance with Ontario Regulation 30/11 Section 113. (1) of the Funeral Burial & Cremation Services Act the following information is provided for this contract.

1. THE FOLLOWING CARE AND MAINTENANCE PROVISIONS ARE IN EFFECT:

Cremation Niches: 15% of the purchase price or $165.00, whichever is greater

Scattering of Ashes (no scattering rights holder): $30.00 per scattering

See Schedule "A" Cemetery Price List for exact amounts.

2. A CONTRACT FOR THE PURCHASE OF INTERMENT RIGHTS INCLUDES:

a) An Interment Rights Holder may be written demand, require the Corporation to repurchase the rights at any time before they are used.

b) The Corporation will repurchase the interment rights within thirty days from the date the written demand was received.

c) The repurchase price of the interment rights shall be determined by the current value for the rights less the amount the Corporation paid into the Care and Maintenance Fund in respect of the interment rights, except for return within the standard 30 day cooling off period during which a refund in full will be made.

d) The private sale of interment rights by the holder/purchaser to a third party is prohibited.

e) A purchaser may transfer interment rights by providing notice of the transfer, the original Certificate of Interment Rights and payment, as set out in the Cemetery Price List.

f) The Certificate of Interment Rights shall be not issued until the interment rights have been paid for in full.

3. INTERMENTS AND SCATTERING OF CREMATED REMAINS

a) No interments or scattering of cremated remains shall take place until all fees and charges have been paid in full.

b) A Certificate of Cremation must be submitted to the Corporation prior to all interments and scattering of cremated remains.

c) Cremated remains may be scattered within the designated area of the cemetery only.

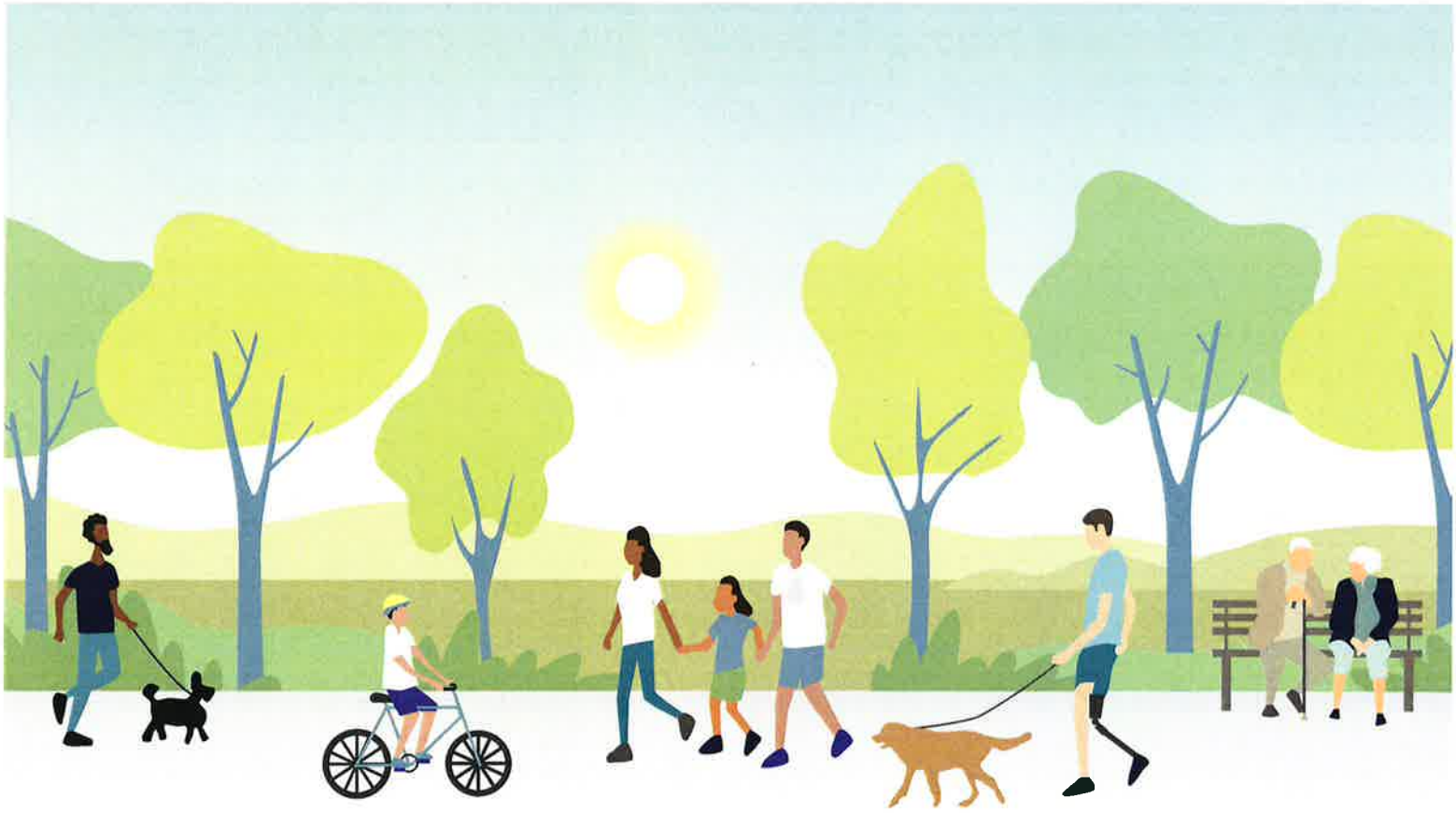
d) Once scattered, cremated remains cannot be retrieved.

e) The winter season shall be considered to be October 15th – May 15th, and no interments or scatterings shall take place during this period unless specifically authorized by the Corporation.

f) No interments or scattering of remains shall be allowed in the Cemetery outside of daylight hours.

BAO | Bereavement Authority of Ontario

Consumer Information Guide



A Guide to Death Care in Ontario

Everything you need to know.

Losing a loved one can be a difficult and stressful time.

Whether you need to arrange a funeral, burial, cremation, hydrolysis or transfer service now, or are planning ahead for yourself or someone else, this guide can help you make an informed choice.

This guide was created to inform consumers of their rights and responsibilities when planning funerals, burials, transfer services, cremation or hydrolysis. This guide will walk you through the steps you need to take to ensure that you protect yourself as a consumer.

Visit www.thebao.ca to learn more.

The Bereavement Authority of Ontario (BAO) is a government delegated authority administering provisions of the *Funeral, Burial and Cremation Services Act, 2002* (FBCSA) on behalf of the Ministry of Government and Consumer Services. Responsible for protection of the public interest, the BAO regulates and supports licensed: funeral establishment operators, directors and preplanners; cemetery, crematorium and alternative disposition operators; transfer service operators; and bereavement sector sales representatives across Ontario. The BAO is wholly funded by licensee fees (not tax dollars).

Consumer Protection Ontario is an awareness program delivered by Ontario's Ministry of Government and Consumer Services and other public organizations. It offers information on consumer rights and public safety, and directs you to the appropriate agency if you have a complaint or dispute with a business.

LEGAL DISCLAIMER

Please note that this guide is provided for general information only. Use of this guide is not intended to act as a substitute for legal advice or as a replacement for the *Funeral, Burial and Cremation Services Act, 2002*. Readers are encouraged to retain qualified and independent legal counsel to answer any legal questions or address any legal issues. Where there is any discrepancy, the Act and regulations will take precedence.

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Terms You Need to Know

Alkaline Hydrolysis (AH): AH is an alternative disposition—a chemical process that uses a heated solution of water and potassium hydroxide or sodium hydroxide under pressure and agitation to reduce a body to components of liquid and bone. The resulting bone fragments are dried and reduced to a substance resembling cremated ashes.

Care and Maintenance Fund: A trust fund that helps ensure the long-term upkeep of a cemetery.

Casket: A container intended to hold a dead human body for funeral, cremation or interment purposes that is not a vault, burial container or grave liner.

Cremation: A process that uses incineration to reduce a body to an ash or granular substance.

Columbarium: A structure designed for the purpose of interring cremated human remains in niches or compartments.

Crypt/Mausoleum: A structure, other than a columbarium, used as a place for the interment of human remains in tombs, crypts or compartments.

Family-led Death Care: A family member may provide funeral services, including transport, documentation including death registration, and body care, without a license and for no charge.

Grave: A place for burial of human remains, typically a hole dug in the ground and marked by a stone or mound.

Interment: The burial of human remains, including the placement of human remains in a lot (grave, crypt or niche.)

Interment rights: The right to require or direct the interment of human remains in a lot or the disinterment of human remains from that lot.

Lot: An area of land in a cemetery containing, or set aside to contain, interred human remains and includes a tomb, crypt or compartment in a mausoleum and a niche or compartment in a columbarium and any other similar facility or receptacle.

Niche: A space in a columbarium or mausoleum wall to hold an urn.

Plot: Two or more lots sold as a unit.

Provider: The operator of a cemetery, crematorium, funeral establishment or transfer service.

Scattering rights: The right to scatter cremated remains in a cemetery.

Shroud: A piece of fabric used to wrap a body to prepare for burial. Some cemeteries will accept a dead human body for burial in a shroud.

Supplies: Caskets, markers and monuments, vaults, urns and flowers.

Transfer Service: A service to the public with respect to the disposition of dead human bodies, including the transportation of dead human bodies and the filling out of necessary documentation with respect to the disposition of dead human bodies.

Urn: A container for the reduced and processed human remains resulting from cremation or alkaline hydrolysis.

Vault: A secondary container that is protective, rigid, sometimes waterproof, and usually made of concrete, fiberglass, plastic or similar reinforced material, within which the primary casket, coffin or urn containing human remains is placed prior to burial in the ground.

1. Before making arrangements

One of the first things to determine after someone dies is who has the authority to decide what will happen to the body of the deceased.

WHO HAS THE LEGAL AUTHORITY TO MAKE DECISIONS?

Generally, the person(s) appointed as the Estate Trustee(s) has the legal authority to make such decisions. Ontario has statutes and common law to determine who may act as the legal representative(s) when a person passes away without a valid will. The ultimate decision maker will be specific to the circumstances of each case but will generally default to a court-appointed Estate Administrator or the deceased's next of kin.

Here is a partial list of who may act as the legal representative:

1. Estate trustee, also called an executor or executrix, who is named in the will (or an administrator appointed by the court)
2. Spouse
3. Adult children (18 and over)

Laws with respect to the handling of the deceased person's body are different than the use and inheritance of interment rights. If you are the legal representative, the Provider may ask you to provide photo identification and proof of your authority, such as a valid will or court order, before making arrangements. To learn more visit www.ontario.ca and search for the phrase "What to do when someone dies".

TRANSPORTING THE DECEASED BODY

You may contact a funeral establishment or a transfer service to have the deceased person transferred from the place of death, or a family member of the deceased may carry out the transfer services, if those services are provided at no charge and/or benefit.

HOW TO CHOOSE A PROVIDER

Refer to the chart on page 8 to see the types of services offered by each Provider.

When choosing a Provider:

- Consider recommendations from family or friends.
- Talk with more than one Provider at different facilities about their services. Make sure you are confident that they understand and are able to meet your needs.
- Ask the Provider for a price list and written price estimate to assist you when comparing prices and services.
- Ask for and review a copy of the cemetery's by-laws.

HOW DO I DONATE A BODY OR ORGANS?

To donate organs for transplant, or the entire body for scientific research, arrangements must be made quickly and directly with health professionals. To learn more, contact the Trillium Gift of Life Network at www.giftoflife.on.ca.

SERVICES PROVIDED

The following chart outlines the types of services usually offered by Providers. You may purchase certain supplies, such as caskets, monuments, markers and flowers from any supplier, but you should notify your Provider prior to entering into a contract.

Description of Service	Service Provider				
	Funeral Establishment	Transfer Service	Cemetery	Crematorium or Hydrolysis	Family of Deceased
Removing the body from the place of death	✓	✓			✓
Placing the body in a casket and delivering it to a cemetery or crematorium	✓	✓			✓
Registering the death	✓	✓			✓
Arranging to transport the body of the deceased out of Ontario	✓	✓			✓
Wash and dress the body	✓	✓*			✓
Transport the body to or from a place of worship	✓	✓*			✓
Hosting memorial services, celebrations of life and receptions including the rental of facilities (no body or cremated remains present)	Can be hosted by anyone				
Coordinating religious and non-religious funeral services or receptions including the rental of facilities (with the body or cremated remains present)	✓				✓
Embalming	✓*				
Providing caskets, urns, vaults and flowers	✓	✓	✓	✓	✓
Providing in-ground graves			✓		
Providing crypts in a mausoleum			✓		
Providing niches in a columbarium			✓		
Providing monuments	✓	✓	✓	✓	
Providing places to scatter cremated remains			✓		
Providing openings and closings of graves, niches or crypts			✓		
Conducting cremation or alkaline hydrolysis				✓	
Providing viewing of cremation				✓	

* Must have class 1 licence

2. Making some important decisions

When making arrangements, there are important decisions you will have to make.

FAMILY-LED DEATH CARE

Family members can legally provide funeral services without a licence, except for arterial embalming, for their deceased loved one. They cannot be paid for this service. This includes transportation, documentation including death registration, obtaining a Coroner's Cremation Certificate (required for all cremations) or Out of Province Certificate (if a body will cross a provincial boundary for disposition) or arranging religious or personal ceremonies to mark the death.

While it is possible for family members to provide these services without a license, in some cases it may be advisable for family members to seek the services of a licensed funeral establishment or transfer service for some aspects of funeral arrangements. For example; a family member may not have a vehicle that would allow for the dignified transportation of a dead human body, or the means to transfer a casket or container into or out of a residence for a home funeral or vigil. For some people, the experience of grieving may make it difficult to adequately prepare and submit the necessary documentation to register a death or obtain a Coroner's Cremation Certificate.

When contemplating family-led death care, it is important to note that institutions, like hospitals or nursing homes, may not be aware that it is legal for family members to provide funeral services for their deceased family members. It is best that planning for family-led death care take place well in advance, including direct communication with the institutions or organizations that may be involved to ensure that there is no misunderstanding at the time of need.

WHAT ARE SOME FUNERAL OR MEMORIAL SERVICE OPTIONS?

A celebration of someone's life helps surviving family and friends grieve the loss of a loved one. You can choose a funeral, memorial or graveside service. A service may be private (by invitation only), or public (open to anyone). Other options are to have a public or private visitation/viewing, a funeral procession, a home funeral and/or home vigil, or any other respectful social, traditional or cultural ritual.

IS A CASKET REQUIRED AND WHAT ARE THE OPTIONS?

Caskets vary in style, and prices may range from a few hundred to several thousand dollars.

You may buy or rent a casket or provide your own, however if a Provider considers the casket you are providing to be unsafe, inappropriate for its intended use, or it does not meet the requirements of the cemetery or crematorium, the Provider can refuse to accept the casket. If the Provider allows you to provide your own casket the Provider cannot charge you an extra fee.

Keep in mind that some caskets cannot be used for cremation, because they are made of materials that will not burn. Price lists should clearly indicate which caskets are not suitable for cremation. If you are uncertain, ask the Provider for written confirmation of suitability. The casket must also meet cemetery and crematorium by-laws. Caskets are not used during the alkaline hydrolysis process.

GREEN BURIALS

The definition of "green burials" varies. Generally, a green burial is considered to include: an unembalmed dead human body, buried in a biodegradable casket or container, without a vault or grave liner. In some cemeteries, there may be a designated section for green burials where grave markers and monuments are not used, and the ground is covered with native species of plants such as wildflowers instead of grass. Some cemeteries, will accept a body that is wrapped in a shroud. A shroud may be a flexible piece of fabric used to enclose or wrap the body for burial. Cemeteries that accept shrouded bodies for burial may also require a rigid backing board to allow for the safe lowering of the body into the grave. Cemeteries that accept or accommodate green and/or shroud burials must detail these provisions in the cemetery by-laws — consumers are encouraged to research their options.

WHAT IS EMBALMING AND IS IT REQUIRED?

Embalming is the process of replacing blood and bodily fluids with a chemical solution to temporarily preserve the body. In Ontario, embalming is not required by law, however, in some instances a Provider may recommend it due to the length of time between death and the visitation, burial, cremation or hydrolysis. Ask your funeral establishment representative to explain the process of embalming so that you can make an informed choice.

WHAT BURIAL OPTIONS DO I HAVE?

With burial, the deceased is placed in a grave with or without a casket. A rigid container may be required to transport the body. A casket is required when placing the body in a crypt. Check the cemetery's by-laws for its specific burial requirements.

In Ontario, the body or cremated remains must be buried in a licensed cemetery.

For burial in a grave you may purchase a vault or outer liner to further protect the body in the casket. This container is placed in the ground and is usually made of concrete or fiberglass. Generally, it is not mandatory to use a vault or outer liner unless required by the medical officer of health.

For burial in a crypt (entombment) the casket is placed in a sealed crypt in a mausoleum. A mausoleum is usually an above-ground structure made of concrete, stone or marble that contains a number of crypts. Not all cemeteries have mausoleums.

HOW DO I TRANSPORT HUMAN REMAINS OUT OF THE PROVINCE?

A deceased person's body may be moved outside of Ontario once a Provider has obtained a certificate from a Coroner.

If a deceased person is being transported to another country, then embalming and a sealed casket or container may be required by the receiving country or the transportation company.

If you choose to transport human remains (including cremated remains) out of Ontario, you must also follow the laws that apply in the receiving province or country. Contact a Provider for details or visit www.catsa.gc.ca/cremated-remains

WHAT CAN BE DONE WITH CREMATED/ALKALINE HYDROLYSIS REMAINS?

With cremation or alkaline hydrolysis the deceased's body or skeletal remains are reduced to an ash or granular substance. The remains are then placed in a small box or urn along with a metal identification tag. You may provide your own urn or purchase one from a Provider. Check the crematorium and cemetery by-laws for the type and size of container allowed. If you choose cremation or alkaline hydrolysis, it is strongly recommended that you make plans for the final disposition of the remains.

A Provider can store remains for up to one year and may charge a deposit for this service. If the remains are claimed within one year the deposit will be refunded in full. After one year the Provider may use the deposit to inter the remains in the common grounds of a cemetery.

WHAT ARE INTERMENT/ SCATTERING RIGHTS?

Interment rights refer to the right to bury human remains (including cremated remains) in a lot (grave, crypt or niche). If you are named on the interment rights certificate, you are the interment rights holder, and may request a burial or disinterment, or place a decoration, marker, monument or inscription on the monument, as long as you follow the cemetery's by-laws

If you are the scattering rights holder, you may scatter cremated remains in a designated place within the cemetery, in accordance with its by-laws.

Note: Ownership of all cemetery land remains the property of the cemetery owner. Interment rights and scattering rights holders acquire only the right to use the lot or scattering grounds and to have a marker or monument installed, in keeping with the cemetery's by-laws.

SCATTERING: WHAT IS PERMISSIBLE IN ONTARIO?

Here are some choices:

- You may buy rights to bury or scatter the remains in a designated part of a cemetery. Scattering rights may not be available at all cemeteries.
- You may buy rights to place the cremated remains in a niche (or compartment) in a columbarium.
- Although the burial of cremated remains is not permitted outside a licensed cemetery, you may scatter the ashes or cremated remains on private property with the written consent of the land owner.
- You may also hire a Provider to scatter the remains. Only a Provider is permitted to charge you for this service.
- You may also scatter the cremated remains on unoccupied Crown lands and Crown lands covered by water so long as there are no signs prohibiting scattering.
- If you wish to scatter cremated remains on municipally-owned lands, check local by-laws first.
- For more information, visit www.ontario.ca and search for the crown use policy

WHAT SHOULD I KNOW ABOUT BUYING INTERMENT OR SCATTERING RIGHTS?

Before you make a purchase, each cemetery must provide:

- Its current price list;
- Its by-laws; and
- An explanation of any restrictions on the rights you are buying (such as restrictions on memorialization options, monuments, etc.).

Contact a cemetery directly, compare prices and review the by-laws before you decide where to inter or scatter your loved ones remains. Your contract will specify the number of interments (bodies or cremated remains) or scatterings you are entitled to with each interment or scattering right.

Part of the money you pay for interment and scattering rights will be placed in a care and maintenance fund. Income earned from this fund is used to maintain the cemetery for the future. The care and maintenance contribution depends on the type and cost of the interment rights.

RESELLING INTERMENT OR SCATTERING RIGHTS

You may resell interment or scattering rights to a third party if the cemetery by-laws allow it. If you resell, you must inform the cemetery operator, who will then transfer the rights to the new owner. You cannot resell rights for a price greater than the price on that cemetery's current price list. If the by-laws do not allow you to resell the rights to a third party, the cemetery operator must buy them from you at the price on the cemetery's current price list, less any payments that were made to the cemetery's care and maintenance fund. A cemetery operator may charge an administration fee when you resell your rights. The cemetery does not have to buy back rights for a grave in a plot (two or more lots originally bought as a unit) if one of those graves has been used.

ARE THERE ANY TYPES OF FINANCIAL ASSISTANCE PROGRAMS?

If you do not have enough money to pay for funeral or transfer services or for cremation, hydrolysis or burial, you may be eligible for assistance from your local municipality. Speak to your Provider and/or municipality, and take the appropriate follow-up measures **before** you sign a contract with a Provider.

If approved, the municipality's financial assistance plan may limit your choice of casket, urn or grave and related services. Some municipalities may require that you pay a portion of the cost.

3. Your contract

When you make arrangements with a Provider, you may want to bring a family member or friend along with you as the process can be stressful. Once the supplies and services are selected, you will be asked to sign a contract with the Provider.

WHAT SHOULD I KNOW BEFORE SIGNING A CONTRACT?

Make sure you are dealing with a licensed Provider (ask to see their licence).

Ensure the Provider has given you a copy of the price list before signing a contract.

Review the cemetery's or crematorium's by-laws for any special rules that you must follow, including restrictions on the purchase of supplies and services.

Make sure the contract has details about the things you have agreed to buy or rent, such as:

- Services, facilities and vehicles
- Casket, urn, vault, grave, crypt, niche or monument
- Any other payments (for newspaper notices, police escorts, honorarium for religious officials, catering, etc.)
- Any applicable taxes and commissions or benefits the Provider will receive for referrals

If the supplies and services you have purchased are not available at the time of need, you must be provided with supplies and services of equivalent value, at no additional cost.

DID YOU KNOW?

For the contract to be valid (referred to as "enforceable"), it must be signed by you and the Provider. Ensure that you receive a signed copy. The Provider will explain your cancellation and refund rights.

HOW DO I CANCEL A CONTRACT?

In some cases, you may cancel your contract in writing at any time before the supplies or services have been provided.

Here is the cancellation process in most cases:

1. Give written notice to the Provider stating that you want to cancel the contract.
2. Within 30 days of providing written notice, the Provider will refund your payment for any supplies or services that you have not yet received.
3. The amount of your refund will depend on when you cancel and whether the Provider has incurred costs.

CANCELLING A CONTRACT FOR INTERMENT OR SCATTERING RIGHTS

You may cancel contracts for interment and scattering rights by giving written notice of cancellation to the Provider:

- If written cancellation is submitted within 30 days of the purchase and if you have not used the rights, you will receive a full refund.
- If written cancellation is submitted later than 30 days of the purchase, you will receive a refund of the amount paid or the market value (whichever is greater), less the amount deposited into the cemetery's care and maintenance fund.
- In accordance with the by-laws of the cemetery, you may be required to resell the rights on the open market .
- Where cancellation is not permitted after 30 days, you are able to sell interment rights to a 3rd party.

YOUR CONTRACT CHECKLIST

The Provider must give you a copy of the contract upon signing and other important documents. Make sure your contract includes:

- ○ The name of the person who is paying for the contract (the purchaser).
- ○ The name of the person for whom the supplies or services are to be provided (the recipient/the deceased).
- ○ The name of the licensed operator you are dealing with (the Provider).
- ○ A description of the supplies or services you have chosen and details of when and how they are to be provided.
- ○ The price of each supply or service, taxes and the total price.
- ○ All payment, cancellation and refund policies, including the right to change your mind and cancel the contract.
- ○ For interment rights, make sure the contract also includes the detailed location and description of the grave, crypt or niche.
- ○ A copy of this guide.
- ○ For scattering rights, make sure the contract also includes the location and description of where the scattering may occur.

Your Provider must also give you the following documents:

- ○ A copy of the cemetery's or crematorium's by-laws.
- ○ A certificate of interment rights or scattering rights once these rights are paid in full. The certificate must include the name of the person who can legally authorize an interment or scattering.

DID YOU KNOW?
BE SPECIFIC.

Review the contract and price list carefully and ask questions to ensure that all of your requirements and expectations are specified. For example, if you want jewelry removed before the casket is closed, make sure these details are included in the contract.

4. Pre-arranging and prepaying

Many people plan ahead to prepare for their death, and some choose to pay in advance for their final arrangements.

WHY IS PLANNING AHEAD A GOOD IDEA?

- It saves your family and friends from having to make many difficult decisions during a time of grief.
- It gives you a say in planning your own arrangements.
- It gives you time to assess and compare your options.
- Prepaying may reduce or eliminate the financial burden on your family.

WHAT HAPPENS UPON DEATH?

Your legal representative (such as the estate trustee, etc.) should take your pre-arrangement documents to the Provider to show proof of payment, discuss arrangements and to make any changes to the contract if necessary.

If a supply or service is no longer available, one of two things may occur:

1. Your Provider may make a reasonable substitution, but at no extra charge. Substitutions must be similar in value, style, design and construction to what is included in your contract.
2. Your legal representative may cancel that part of the contract by providing written authorization or may enter into a new contract.

DID YOU KNOW? DISCUSS YOUR PLANS

After your death, your legal representative may, by law, change your pre-arranged funeral, burial, cremation or hydrolysis plans. It is important to discuss your wishes with him or her and your family.

DO I HAVE TO PAY IN ADVANCE?

No, you can simply pre-arrange your supplies or services without prepaying. Some Providers may keep a record of your arrangements at no cost - ask your Provider about this service. If you decide to prepay, your Provider will ask you to sign a contract. See "Your Prepayment Checklist" on page 21.

HOW CAN I PREPAY MY CONTRACT?

With most Providers, there are two ways to prepay:

Trust:

1. You can pay the money to the Provider to be held for you "in trust", either at a bank, trust company or with an independent trustee. It will earn income over the years until it is needed to pay for the supplies or services you have requested.

Insurance/Annuity:

2. You can buy insurance from an insurance company. Your Provider may have an insurance program in place. With this option, you should buy enough insurance to cover the costs of your pre-arranged supplies or services at the time of need. The insurance company will then pay the Provider at the time of your death. If you buy insurance directly from an insurance company, you will still need to have a contract in place with a Provider to have the insurance policy assigned directly to them.

DID YOU KNOW? TRUST AND INSURANCE

Refunds on cancellation of prepaid contracts funded by trusts differ from those funded by insurance policies. It's a good idea to learn as much as you can before you talk to a Provider.

HOW DO I BUY INSURANCE TO PAY FOR PRE-ARRANGED SERVICES?

Buying insurance is a two-step process:

1. You must sign a prepaid contract with your Provider for the services and supplies you choose.
2. You must sign an insurance contract (called "the policy") with the insurance company to pay the Provider for the supplies and services. The policy will set out the rules you and the insurance company must follow, including payment of any fees, your right to cancel the policy and any rights you may have to a refund.

Ask your Provider to explain the advantages and disadvantages of their prepaid trust and insurance options.

IMPORTANT: If you don't understand what your Provider is asking you to sign or to pay for, stop. Ask more questions. Alternatively, you can find another Provider who will explain things more clearly.

DID YOU KNOW? CANCELLATION CHARGES

Ask about any fees, interest, financing and cancellation charges that may apply and the total cost of making monthly payments. In most cases, you will save money by paying in full rather than over time.

WHAT HAPPENS IF PRICES INCREASE AFTER I'VE PREPAID?

At the time of death, the money held in trust (or the insurance proceeds), will be used to pay for the supplies and services set out in the contract. Costs will be based on prices in effect at the time of death. Whether you will be required to pay additional charges depends on whether your contract is guaranteed (see below). Your Provider must give the legal representative a statement showing:

- The amount your insurance will pay for your prepaid supplies or services, or the amount held in trust to pay for them (including income earned); and
- The current cost of the supplies or services you requested.

If prices have gone up, the income (interest or growth) is used to offset the increase in costs.

If you have a guaranteed contract: You (or your legal representative) will not be asked to pay more for supplies or services, as long as you have met the terms of your contract. Taxes are not guaranteed. You will have to sign the contract and pay for any services, supplies or taxes that were not included in the prepaid contract. All prepaid contracts entered into on or after July 1, 2012, must be guaranteed.

If you have a prepaid contract signed prior to July 1, 2012, it may not be guaranteed: You (or your legal representative) may have to pay additional costs to cover the higher prices. For example, if you have an existing non-guaranteed contract for which the price of supplies and services is $8,000 at the time of death, and the value of the trust or insurance is $7,500, your estate will owe the Provider $500.

WHAT HAPPENS IF THERE IS MONEY LEFT OVER AFTER EVERYTHING IN THE CONTRACT IS PAID FOR?

The answer depends on the date of your contract and the laws that applied at the time you signed:

- For cemetery or crematorium contracts signed on or after April 1, 1992, and funeral or transfer service contracts signed on or after June 1, 1990, leftover money will be paid to the estate. The law does not require a refund for contracts entered into before these dates.
- For funeral and transfer service contracts entered into after July 1, 2012, the purchaser can select a person who can receive leftover money.

WHAT HAPPENS IF I WANT TO CANCEL OR CHANGE MY PREPAID CONTRACT?

You, your legal representative or another person named in the contract may cancel or change your prepaid contract at any time before the supplies or services are provided. You must give the Provider notice in writing.

You may or may not receive all of your money back. The following rules apply:

- If your money was to be held in trust and you cancel within 30 days of the date you entered into the contract, you will receive a full refund.

- After 30 days, you will receive a refund plus any income earned, but the Provider may retain 10% of the amount paid to a maximum of $350. In addition, the Provider is required to refund the income earned or the income that would have been earned on the money had it been deposited as required by law.
- With rare exception the Provider will retain the value of the supplies and services that have been provided prior to cancellation.
- Cancellation of a prepaid contract does not necessarily cancel the related insurance policy. Cancellation fees for an insurance policy vary. Before you buy or cancel an insurance policy, you should clearly understand the implications of the insurance company's cancellation policy.

DID YOU KNOW?

Bodies that contain radioactive implants/pacemakers cannot be cremated.

HOW IS MY PREPAID MONEY PROTECTED?

Ontario law protects your prepaid money in several ways:

- When you prepay, your Provider must give you a contract that states the total amount of money you have paid to-date and the terms of payment for any balance you owe.
- If you prepay with a funeral establishment for funeral supplies and services or a transfer service for transfer supplies and services, your money is protected by a compensation fund which is used to return money to consumers if, in rare cases, their prepaid money is not available when needed. The fund will cover losses only if you prepaid with a licensed funeral establishment or transfer service.
- The Provider is required by law to choose only safe investments for prepaid trust funds.
- You are entitled to ask your Provider at least once each year where and how the money is invested and how much money you have in your trust account.
- If you buy an insurance policy to fund your pre-arranged contract, you will pay the insurance company directly. Your money is protected under the Insurance Act.

YOUR PREPAYMENT CHECKLIST

Keep the following documents in a safe place where your legal representative(s) can easily find them and give a copy to the person who will likely be making the arrangements.

The Provider will give you:

- ○ A signed contract that sets out the supplies and services you requested and their price. If the contract includes embalming, you will be asked to provide written consent for this step
- ○ An interment or scattering rights certificate (once these rights are paid in full)
- ○ A receipt for the money you paid to be placed in trust OR a copy of your insurance policy and enrollment form
- ○ Copies of any other documents you have signed

For your own records, you should keep:

- ○ Your cancelled cheques or electronic payment records
- ○ Receipts as proof of payment

Remember to ask:

- ○ About the advantages and disadvantages of paying by insurance or having your prepaid money held in trust
- ○ Where your money will be invested, and the type of investment and expected growth
- ○ What your refund will be if you cancel your insurance policy
- ○ About the guarantee that must be provided on all prepaid contracts entered into on or after July 1, 2012
- ○ What fees will apply if you choose to cancel the contract

5. Complaints

Consumer protection, in a marketplace that is safe, secure and professional, is a priority for the Bereavement Authority of Ontario.

The BAO reviews complaints pursuant to the *Funeral, Burial and Cremation Services Act, 2002*.

While the BAO attempts to resolve disputes wherever possible, the parties are strongly encouraged to attempt to resolve their concerns directly with the Provider before contacting the BAO. The Registrar's authority in handling complaints is limited to the scope of the *Funeral, Burial and Cremation Services Act, 2002* and its regulations.

The Registrar cannot award damages.

For more information on making a complaint visit www.thebao.ca or email complaints@thebao.ca

To learn more about...

Funerals, burials, cemeteries, crematoriums, hydrolysis and transfer services contact:

Bereavement Authority of Ontario

www.thebao.ca
(647) 483-2645 | (844) 493-6356
info@thebao.ca

Funeral, Burial and Cremation Services Act, 2002, and its regulations:

www.e-laws.gov.on.ca

You received this consumer information guide from:

BAO | Bereavement Authority of Ontario

Digital edition April 15/2021 - BAOCIGV10 05-2021

The Corporation of
THE TOWNSHIP OF THE ARCHIPELAGO

BY-LAW NO. 00 - 04

Being a By-Law to Operate the Pointe au Baril Cemetery

WHEREAS Section 50(1) of the Cemeteries (Revised) Act, R.S.O. 1990, as amended, provides that no person shall operate a cemetery except in accordance with the by-laws applying to that cemetery;

AND WHEREAS the Corporation of the Township of The Archipelago established a cemetery on Part of Lot 29 Concession 4 in the Geographic Township of Harrison, now in the municipality of the Township of The Archipelago;

NOW THEREFORE BE IT ENACTED as a By-law of the Council of the Corporation of the Township of The Archipelago as follows:

Definitions:

"*cemetery*" means land set aside to be used for the interment of human remains and includes a mausoleum, columbarium or other structure intended for the interment of human remains;

"*cemetery services*" means,

(a) in respect of a crypt or compartment in a mausoleum,
  i) opening, closing and sealing of the crypt or compartment,
  ii) providing temporary storage in a vault or crypt,
  iii) providing a tent or canopy for an interment service, and
  iv) providing elevating devices,

(b) in respect of a niche or compartment in a columbarium,
  i) opening, closing and sealing of the niche or compartment, and
  ii) providing a tent or canopy for an interment service,

(c) in respect of a cemetery, such other services as provided by the owner of the cemetery at the cemetery.

"*cemetery supplies*" includes interment vaults, markers, flowers, liners, urns, shrubs and artificial wreaths and other articles intended to be placed in a cemetery;

"*columbarium*" means a structure designed for the purpose of interring cremated human remains in sealed compartments;

"*human remains*" means a dead human body and includes a cremated human body;

"*inter*" means the burial of human remains and includes the placing of human remains in a lot;

"*interment rights*" includes the right to require or direct the interment of human remains in a lot;

"*interment rights holder*" means a person with interment rights with respect to a lot and includes a purchaser of interment rights under the *Cemeteries Act*, being chapter C.3 of the Revised Statutes of Ontario, 1990, or a predecessor of that Act;

Definitions (continued)

"*lot*" means an area of land in a cemetery containing, or set aside to contain, human remains and includes a tomb, crypt or compartment in a mausoleum and a niche or compartment in a columbarium;

"*marker*" means any monument, plaque or other structure or ornament affixed to or intended to be affixed to a mausoleum crypt, columbarium niche or other structure or place intended for the deposit of human remains.

"*Ministry*" means the Ministry of Consumer and Commercial Relations;

"*mausoleum*" means a building or structure, other than a columbarium, used as a place for the interment of the human remains in sealed crypts or compartments;

"*municipality*" means the Corporation of the Township of The Archipelago;

"*owner*" means an owner of a cemetery;

"*person*" includes a board of trustees, the Council of the Corporation of the Township of The Archipelago;

"*pre-need supplies or services*" means cemetery supplies or services that are not required to be provided until the death of a person alive at the time the arrangements are made;

Price of Lots

Interment rights to lots shall be sold at prices set by the trustees and filed with the Ministry.

Contract

All purchasers of Interment Rights must sign a contract with the Pointe au Baril Cemetery as adopted by the trustees and filed with the Ministry detailing obligations of both parties and acceptance of the By-Laws.

No Resale

No Interments rights may be resold.

Transfer of Rights

If Interments Rights are transferred the Rights Holder(s) must return the Interment Rights Certificate to the Cemetery who will then issue a new Certificate to the transferee.

Form of Certificate

Interment Rights shall be conveyed by such form of Interment Rights Certificate as adopted by the Trustees and filed with the Ministry.

Issue of the Certificate

The Interment Rights Certificate shall be issued to only one of the Rights Holder(s) and only after all arrears connected with the lot have been paid in full.

Limits of Rights

The Interment Rights belong only to the persons named on the Certificate and there is no transmission of interest through Death. By-Law No. limits the number and type of interments allowed in the lots.

Cancellation

The Rights Holder(s) may at any time cancel the contract and have the Cemetery repurchase the Interment Rights if no Rights have yet been exercised subject to the following conditions:

> The repurchase price shall be calculated as the original price paid minus the portion deposited into the Care and Maintenance Fund.

Arrears

No rights shall be exercised, transferred or services provided unless all arrears connected with the lots have been paid in full.

Flowers

Fresh flowers and smaller pots may be placed in designated areas but must be removed when they become unsightly. A designated area will be provided.

No flowers or flower beds may be planted on the ground.

General

Trees and shrubs and decorations in the Cemetery must meet the approval of the trustees. The Cemetery reserves the right to remove any that do not meet the approval of the trustees, due to type or shape and prune any that grow too large. A list of suitable trees and shrubs is on file in the Cemetery office.

Animals Prohibited

No animals shall be permitted in the Cemetery.

Chairs, Trellis, Etc. Prohibited

No chair or bench, wooden or wire trellis, arch or iron rods or similar articles shall be brought to or left upon the lots.

Trustees Not Responsible for Portable Articles

The trustees will not be responsible for loss of or damage to any portable article left in the Cemetery.

Inscriptions

No inscription shall be placed on any columbarium niche face or marker of any kind which is not in keeping with the dignity and decorum of the Cemetery.

READ and **FINALLY PASSED** in **OPEN COUNCIL** this 14th day of January, 2000.

THE CORPORATION OF THE TOWNSHIP OF THE ARCHIPELAGO

P.M. Stewart
REEVE / ACTING

CHIEF ADMINISTRATIVE OFFICER/CLERK

Cemetery Care and Maintenance Fund/Account Contribution Amount Increases
(Effective January 1, 2022)

Contribution Type	Current Contribution Amount	Contribution Amount (effective January 1, 2022)
In-ground graves that are 2.23 m^2 (24 ft^2) or larger	$250 or 40% of price (whichever is greater)	**$290** or 40% of price (whichever is greater)
In-ground grave that is smaller than 2.23 m^2 (24 ft^2)	$150 or 40% of price (whichever is greater)	**$175** or 40% of price (whichever is greater)
Tomb, crypt or compartment in a public mausoleum	$500 or 20% of price (whichever is greater)	**$830** or 20% of price (whichever is greater)
Niche or compartment in a public columbarium	$100 or 15% of price (whichever is greater)	**$165** or 15% of price (whichever is greater)
Scattering ground for which there will be only one scattering rights holder	$100 or 40% of price (whichever is greater)	**$115** or 40% of price (whichever is greater)
Scattering ground for which there will be more than one scattering rights holder	$25 or 15% of price (whichever is greater)	**$30** or 15% of price (whichever is greater)
Scattering ground for which there will be no scattering rights holder	$25	**$30**
A private mausoleum provided or constructed by a person other than the cemetery operator is installed in a cemetery	$500 multiplied by the number of tombs, crypts, compartments or 20% of the sum of specified prices (whichever is greater)	**$575** multiplied by the number of tombs, crypts, compartments or 20% of the sum of specified prices (whichever is greater)
A private columbarium provided or constructed by a person other than the cemetery operator is installed in a cemetery	$100 multiplied by the number of niches and compartments or 15% of the sum of specified prices (whichever is greater)	**$115** multiplied by the number of niches and compartments or 15% of the sum of specified prices (whichever is greater)
To establish a cemetery	$100,000	**$165,000**
Flat marker measuring less than 1,116.13 cm^2 (173 in^2)	$0	**$0**
Flat marker measuring at least 1,116.23 cm^2 (173 in^2)	$50	**$100**
Upright marker measuring 1.22 m (4 ft) or less in height and 1.22 m (4 ft) or less in length, including the base	$100	**$200**
Upright marker measuring more than 1.22 m (4 ft) in either height or length, including the base	$200	**$400**

The Township of The Archipelago

Recommendation Report to Council

Report No.: FINANCE-2021-008 **Date:** 18th November 2021

Originator: Erin Robinson, Chief Financial Officer

Subject: Skerryvore Road Capital Financing

RECOMMENDATION

That Council approve the staff recommendation to fund the total project costs incurred to rehabilitate Skerryvore Road $2,539,110 by borrowing from our reserves at a 1.49% interest rate compounded semi annually; and this interest rate be reviewed on a five-year term throughout the loan debenture.

BACKGROUND/HISTORY

The Skerryvore Road rehabilitation was completed in the 2020 and 2021 Council approved capital budget. This project included; ditching, culvert replacement, improving sightlines as well as a base lift & surface treatment replacement.

There are various financial elements to consider when choosing the appropriate funding strategy for large-scale capital projects that ensure we remain in a position of long-term financial stability.

Using debt strategically can provide capital funding flexibility when building infrastructure. Debt also allows the current users of the asset to fund the asset through taxation; over the assets useful life. The prudent use of debt aids financial flexibility. However, when municipalities issue debt they enter into a long-term commitment that requires repayment of that debt in the form of principal and interest payments; which will influence operating budgets for the term of the debenture.

ANALYSIS/OPTIONS

The Ministry of Municipal Affairs and Housing issues The Township's Annual Repayment Limit. This repayment limit is based on 25% of your net own source revenues (property taxes, user fees, investment income).

A summary of our 2021 Annual Repayment Limit is below (based on 2019 Financial Information Return data):

Debt Charges for the Current Year	$319,703
Interest	65,235
Total Debt Charges	$384,938
Net Own Source Revenues	$10,634,032
25% of Net Revenues	$2,658,508
Less: Total Debt Charges	-384,938
2021 Annual Repayment Limit	$2,273,570

As illustrated above we are currently only utilizing 16.9% of our potential repayment limit.

Financing Options

Calculation Assumptions		
Infrastructure Ontario:	25 Year Debenture Rate 2.97%	As of Nov 9/21
TD Interest Rate on Account Balance:	Prime (2.45%) minus 1.9% = 0.55%	

Capital Project: ***Skerryvore Community Road***

Asset Lifespan = 25 Years

Total Cost (approx.)	$	2,539,110	Option 1 - Debenture Total Cost with I/O
Loan Term		25 years	
Interest Rate		2.97%	
Total Interest paid over term	$	1,061,239	
Total Cost (approx.)	$	2,539,110	Option 2 - Borrow from reserves with interest
Loan Term		25 years	
Interest Rate		1.49%	
Total Interest paid over term	$	503,759	

FINANCIAL IMPLICATIONS

Annual Operating Budget Impact for Loans

Option 1 - Debenture Total Cost with I/O	$	144,014	
			$ 22,299 difference per year
Option 2 - Borrow from reserves with interest	$	121,715	

Annual Repayment Limit Impact for Loans

Option 1 - Debenture Total Cost with I/O			
25% of Net Revenues	$	2,658,508	
Less: Total Debt Charges		-528,952	
2021 Annual Repayment Limit	$	2,129,556	24.8% of ARL utilized
* Option 2 - Borrow from reserves with interest			
25% of Net Revenues	$	2,658,508	
Less: Total Debt Charges		-506,653	
2021 Annual Repayment Limit	$	2,151,855	23.5% of ARL utilized

*For illustration purposes only; we do not need to include borrowing from ourselves in our FIR; however this illustrates our current ability to pay and that we are not over extending our debt obligations.

Investment Income Impact

Option 1 - Debenture Total Cost with I/O			
Amount	$	2,539,110	
Term		5 years	
Return Rate TD Bank		0.55%	
Total Interest Earned	$	70,778	
			$125,483 difference per year
Option 2 - Borrow from reserves with interest			
Amount	$	2,539,110	
Term		5 years	
Return Rate		1.49%	
Total Interest Earned	$	196,261	

CONCLUSION

Staff recommend that the total project costs incurred to rehabilitate Skerryvore Road $2,539,110 is funded by borrowing from our reserves at a 1.49% interest rate compounded semi annually; and this interest rate be reviewed on a five-year term throughout the loan debenture.

Respectfully Submitted,

Erin Robinson B.Comm., CPA, CGA
Chief Financial Officer

I concur with this report
and recommendation

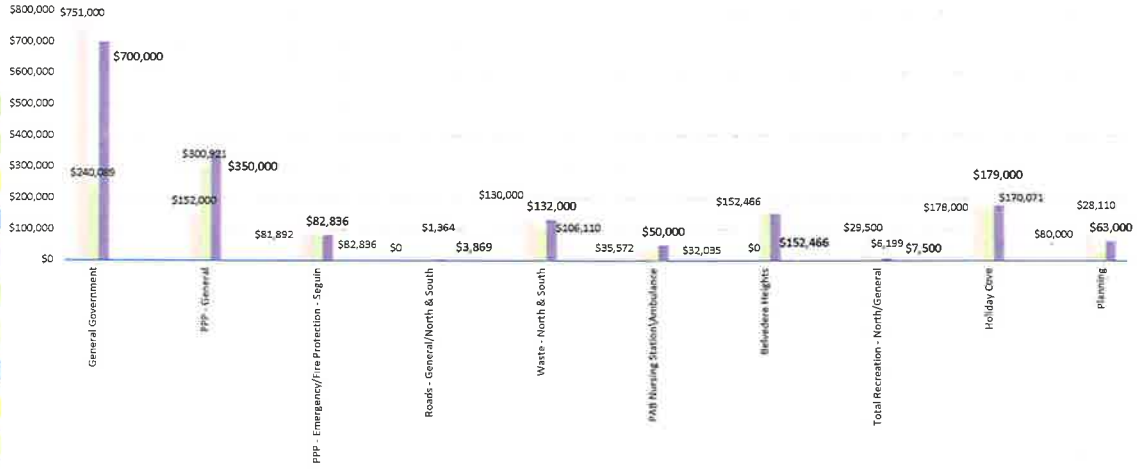
John B. Fior
Chief Administrative Officer

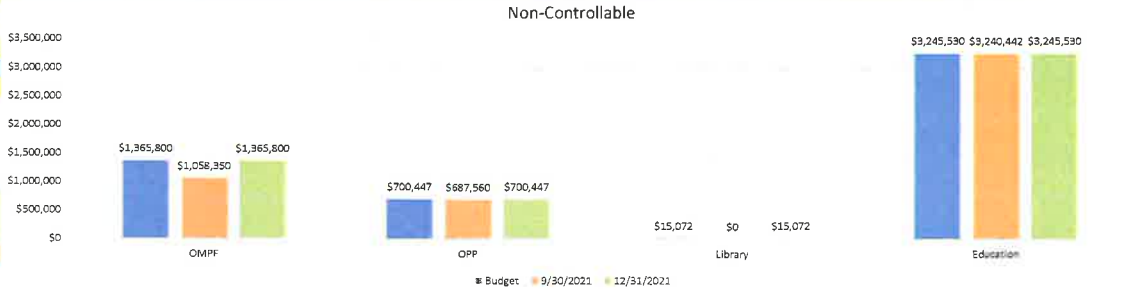
2021 REVENUE SUMMARY

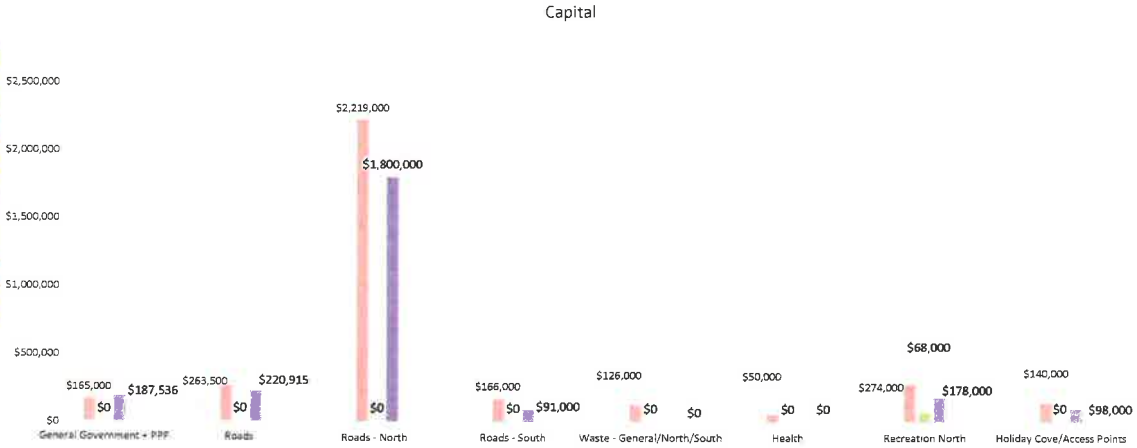
	2021		
	Budget	Actuals 9/30/2021	Forecasted 12/31/2021
General Government	$751,000	$240,089	$700,000
PPP - General	$152,000	$300,921	$350,000
PPP - Emergency/Fire Protection - Seguin	$81,892	$82,836	$82,836
Roads - General/North & South	$0	$1,364	$3,869
Waste - North & South	$130,000	$106,110	$132,000
PAB Nursing Station\Ambulance	$35,572	$32,035	$50,000
Belvedere Heights	$0	$152,466	$152,466
Total Recreation - North/General	$29,500	$6,199	$7,500
Holiday Cove	$178,000	$170,071	$179,000
Planning	$80,000	$28,110	$63,000
Total excluding taxation, non-controllable & large capital items	$1,437,964	$1,120,201	$1,568,205
Taxation - G	$3,896,381	$3,917,171	$3,896,381
Taxation - N	$1,805,485	$1,804,236	$1,805,485
Taxation - S	$2,223,357	$2,222,670	$2,223,357
Total excluding non-controllable & large capital items	$9,363,187	$9,064,277	$9,493,428

Non-Controllable	2021 Budget	Actuals 9/30/2021	Forecasted 12/31/2021
OMPF	$1,365,800	$1,058,350	$1,365,800
OPP	$700,447	$687,560	$700,447
Library	$15,072	$0	$15,072
Education	$3,245,530	$3,240,442	$3,245,530
Total Non-Controllable Revenues	$5,326,849	$4,986,352	$5,326,849

Capital	2021 Budget	Actuals 9/30/2021	Forecasted 12/31/2021
General Government + PPP	$165,000	$0	$187,536
Roads	$263,500	$0	$220,915
Roads - North	$2,219,000	$0	$1,800,000
Roads - South	$166,000	$0	$91,000
Waste - General/North/South	$126,000	$0	$0
Health	$50,000	$0	$0
Recreation North	$274,000	$68,000	$178,000
Holiday Cove/Access Points	$140,000	$0	$98,000
Total Capital Revenues/Transfers	$3,403,500	$68,000	$2,575,451
Total Revenue Budget	$18,093,536	$14,118,629	$17,395,728







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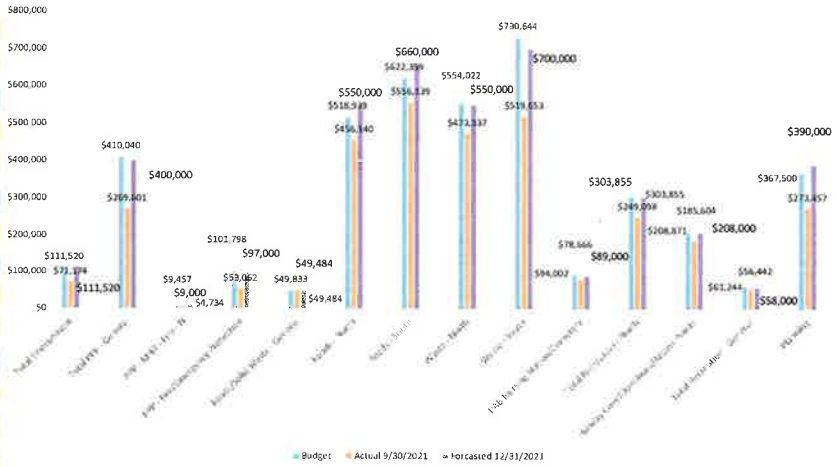
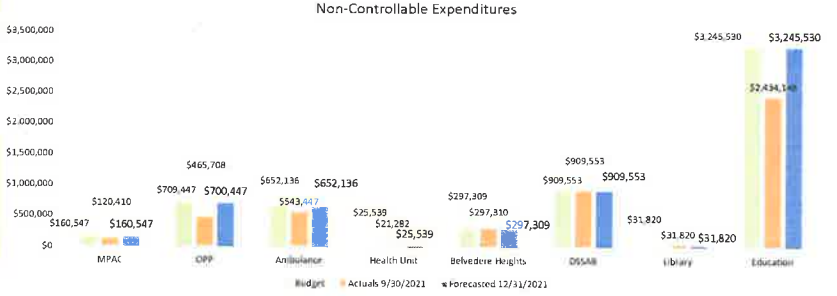
2021 EXPENDITURE SUMMARY

	2021 Budget	2021 Actuals 9/30/2021	2021 Forecasted 12/31/2021
Total Environment	$111,520	$71,174	$111,520
Total PPP - General	$410,040	$269,601	$400,000
PPP - MNR - Fire - N	$9,457	$4,734	$9,000
PPP - Fire/Emergency Protection	$101,798	$53,062	$97,000
Roads/Solid Waste - General	$49,833	$49,484	$49,484
Roads - North	$518,939	$456,140	$550,000
Roads - South	$622,359	$556,139	$660,000
Waste - North	$554,022	$473,337	$550,000
Waste - South	$730,644	$519,653	$700,000
PAB Nursing Station/Cemetery	$94,002	$78,666	$89,000
Total Recreation - North	$303,855	$249,098	$303,855
Holiday Cove/Donations/Access Points	$208,871	$185,604	$208,000
Total Recreation - General	$61,244	$56,442	$58,000
Planning	$367,500	$273,457	$390,000
Total excluding gen gov., reserves, non-controllable & large capital items	$4,144,084	$3,296,591	$4,175,859
Total General Government	$2,771,551	$1,681,539	$2,500,000
Reserves - G/N/S	$1,742,521	$1,742,521	$1,742,521
Total excluding non-controllable & large capital items	$8,658,156	$6,720,651	$8,418,380



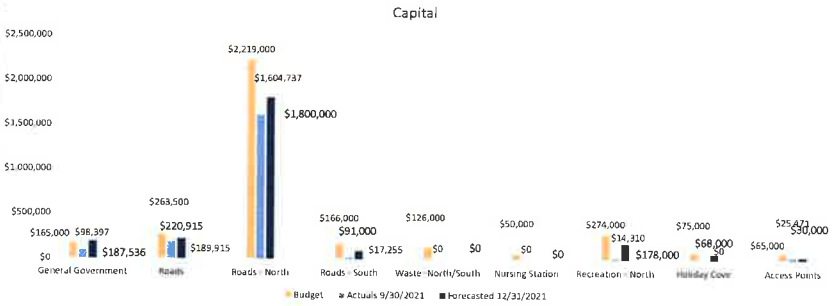
Non-Controllable Expenditures

	2021 Budget	2021 Actuals 9/30/2021	2021 Forecasted 12/31/2021
MPAC	$160,547	$120,410	$160,547
OPP	$709,447	$465,708	$700,447
Ambulance	$652,136	$543,447	$652,136
Health Unit	$25,539	$21,282	$25,539
Belvedere Heights	$297,309	$297,310	$297,309
DSSAB	$909,553	$909,553	$909,553
Library	$31,820	$31,820	$31,820
Education	$3,245,530	$2,434,148	$3,245,530
Total Non-Controllable Expenditures including Education $3,483,850	$6,031,681	$4,823,677	$6,022,861



Capital Expenditures

	2021 Budget	2021 Actuals 9/30/2021	2021 Forecasted 12/31/2021
General Government	$165,000	$98,397	$187,536
Roads	$263,500	$189,915	$220,915
Roads - North	$2,219,000	$1,604,737	$1,800,000
Roads - South	$166,000	$17,255	$91,000
Waste -North/South	$126,000	$0	$0
Nursing Station	$50,000	$0	$0
Recreation - North	$274,000	$14,310	$178,000
Holiday Cove	$75,000	$0	$68,000
Access Points	$65,000	$25,471	$30,000
Total Capital Expenditures	$3,403,500	$1,950,085	$2,575,451
Total Expenditure Budget	$18,093,537	$13,494,413	$17,016,712



The Township of The Archipelago

Information Report to Council

Report No.: Operational Services 2021-015 **Date:** 18th November 2021

Originator: Greg Mariotti, Manager of Operational Services

Subject: Operational Services Update

Public Works and Environmental Services Update

A preliminary draft capital budget has been compiled; details to follow shortly.

Canadian Scale has informed us they are having difficulty securing the timely services of a concrete foundation company, pushing the installation of the weigh scale at Site 9 back to next spring.

Heavy rains have saturated some road beds, causing noticeable degradation to the surface of Healey Lake Road, with heavy traffic exacerbating the situation. Options for remediation will be considered, likely for the 2023 budget.

Fuel Rebate Program

At the 2021 OGRA Virtual Conference last February, staff held a virtual meeting with a company called Holly Transportation Services. The company specialises in claiming fuel tax refunds from the Ministry of Revenue and Revenue Canada. The Archipelago is entitled to a refund of $0.147 per litre of all gasoline used to power marine units and small engine equipment (e.g. mowers, tractors and trimmers). We are also entitled to a refund for a portion of the diesel consumption while salting and sanding during winter control activities. Staff is happy to report that over $7,200 will be refunded following submission of our fuel records. This covers the last 3 fiscal years. Going forwards, revenue from this gas tax refund will amount to over $2,000 per year, with minimal effort by staff, now that a system is in place to track and submit fuel receipts.

Lions Club Bottle Drive Update

As was mentioned at the January 2021 Committee of the Whole meeting, the MacTier Lions Club set up "bottle and can drive" depots at the Healey Lake and Woods Bay transfer stations. This additional recycling service (and for good causes), was a success.
In total, approximately $5,000 was raised from July 1st to October 24th. Every penny raised was donated directly to the following causes and split equally among them: The Canadian National Institute for the Blind, Camp OOCH (Kids with Cancer Camp in Rosseau), Deaf Camp, Christmas Baskets (MacTier/Archipelago), Camp Dorset (Camp for kids on Dialysis), Camp Huronia (Camp for kids with Diabetes), Dog Guides and the Winter Wildlife Feeding program.
It is recommended this service be offered again next year.

Capital Project Updates

Holiday Cove Marina

The access road and the side road leading to the additional storage area has been resurfaced. Costs were within budget.

Solar Panel Systems

Following a request at a previous committee of the whole meeting, staff obtained insurance quotes to cover the solar panel systems. Insurance covers the following with a $5,000 deductible: Loss of income from power generation upon failure; $5m general liability; business interruption up to $300k (less applicable for our applications).
Premium for the $250,000 community centre system is $874 annually.
For the $131,000 nursing station it is $457 annually, and for the battery back-up generator system at 9, James Street, valued at $87,000, the annual premium is $191.

Blackstone Bridge

Bridge repairs and upgrades have been completed (paving to and from the bridge to be done in the spring) and although final expenditure needs to be determined it will be significantly below what was quoted in the capital budget.

Wharf Sea Wall

The wall itself has been completed. Work to raise the height of the contractor's dock will also commence shortly. It will be out of commission for 5-10 business days (actual dates to be posted in advance online and at the dock). Final layer of asphalt to be laid in the spring together with the addition of a floating dock.

Community Centre HVAC

Ductwork is currently being installed. Awaiting delivery of equipment.

Respectfully Submitted,

Greg Mariotti
Manager of Operational Services

I concur with this report,

John B. Fior
Chief Administrative Officer

The Township of The Archipelago

Recommendation Report to Council

Report No.: Clerk-2021-05 **Date:** November 18, 2021

Originator: Maryann Weaver, Clerk

Subject: Purchase of Meeting Management Software

RECOMMENDATION

That Council allocate modernization funds and approve the purchasing of Meeting Management Software provided by eSCRIBE, at a total purchase price (Year 1) of $12,870, and a subsequent annual support and software fees of $9,900 per year; and

That Council authorize the Clerk to execute an agreement with eSCRIBE for the provision of meeting management software.

BACKGROUND/HISTORY

In consultation with our IT Consultant, Staff have been investigating meeting and agenda management systems to improve internal reporting, agenda and minute preparation processes, meeting controls, and document accessibility and security.

New software has the ability to dramatically modernize our agenda process and realize efficiencies.

Currently Staff are using manual processes to prepare agendas, capture minutes and distribute information to Council.

Moving to paperless agendas benefits the Township by reducing Staff time in preparing agenda materials for meetings, provides easier access to information, reduces paper waste and supports a more eco friendly environment.

Staff is proposing the signing of an agreement with eSCRIBE, a well-known and reputable provider of secure, cloud-based meeting management. As a testament to the reputation of eSCRIBE, AMO has partnered with eSCRIBE and endorses this company as their provider of meeting management software.

Two proposals were received, and Staff conducted a vendor proposal review by scoring each proposal. The proposal from eSCRIBE scored highest, and is therefore recommended.

eSCRIBE ACCESSIBILITY BUNDLE - MODULE DETAILS:

eSCRIBE Meeting Manager

Meeting Manager facilitates the building of agendas, minutes, action lists, and provides a platform for adding additional eSCRIBE functionality. Meeting Manager streamlines and automates tasks before, during, and after meetings, with customizable templates and user configurable workflows for tailoring the system as needed.

eSCRIBE Report Manager

Report Manager provides administrators and staff comprehensive management of all pre-meeting and post-meeting workflow activities. Report Manager revolves around the preparation and approval of reports and items for submissions to meetings. Easy deadline management and status tracking help reduce last-minute agenda changes, while version control and simultaneous multi user document editing bolster collaboration. Template-based tools ensure consistency and compliance, while agenda items, resolutions and minutes can be automatically populated.

eSCRIBE Participant Portal

The Participant Portal provides elected officials and board/committee members with security-controlled access to meeting-related information. Participants can browse upcoming meeting agendas and related reports; download materials for offline review record comments, create follow up notes and tasks.

eSCRIBE Internet Publishing Plus

Helping drive greater transparency, the Internet Publishing Plus has a fully responsive WCAG 2.0 design that allows organizations to easily engage stakeholders through their existing websites, without programming and fully supports evolving accessibility requirements (AODA).

Existing eSCRIBE Customers

Mississauga	Lincoln	Clarington
Brampton	West Lincoln	Sault Ste. Marie
Caledon	Pelham	Peterborough
Markham	Port Colborne	Uxbridge
Vaughan	Carlton Place	Smith Falls
Richmond Hill	Sudbury	Guelph
Aurora	Hamilton	Burlington
Newmarket	Cambridge	Township of Cramahe
Georgina	Thorold	Haldlimand County

Niagara Regional Police Services Board
Hamilton Police Services Board
York Police Services Board

Key Benefits

- Paperless meetings
- Accessibility compliant meetings
- Ability to seamlessly publish information to the Township's Website to inform the public about upcoming meeting dates and provide access to user-friendly agenda packages
- Ability to securely disseminate agenda materials to Council Members and the Senior Management Team
- Tools to approve reports remotely
- 100% Canadian owned and operated
- Data is hosted securely in Canadian Microsoft Azure infrastructure, where The Archipelago retains all privacy, digital rights, and access to its data
- Integration points to other applications (Microsoft Word, Outlook, existing website etc.)
- Tools for elected officials to consume their agenda and make notes (Windows 10 devices)
- In January 2019, AMO announced its partnership with eSCRIBE, AMO's preferred provider of cloud-based, paperless meeting management and livestreaming solutions.

ANALYSIS/OPTIONS

Option 1

Approve the purchasing of Meeting Management Software provided by eSCRIBE, at a total purchase price of $12,870, and an annual support and software fees of $9,900 per year.

Option 2

Not approve and remain status quo.

FINANCIAL IMPLICATIONS

Accessibility Bundle

eSCRIBE Annual Service and Support Fees				
Module	License Type	License Fee	Quantity	Cost
eSCRIBE Meeting Manager	Annual	$9,900	1	$ 9,900
eSCRIBE Report Manager	Annual	INCL	1	
eSCRIBE Participant Portal	Annual	INCL	1	
eSCRIBE Internet Publishing	Annual	INCL	1	
Total - Annual Software and Support Fees				**$ 9,900**
Implementation Fees		Service Fee	Quantity	Cost
Accessibility Bundle Setup and Training	One time	$ 2,970	1	$ 2,970
Total - One-time Implementation Fees				**$ 2,970**
Total Year One Fees				**$ 12,870**
Total - Annual Support and Software Fees				**$ 9,900**

All fees are based on a 3 year term.

The initial cost of acquisition of the eSCRIBE system is $12,870. This cost would be funded by the Municipal Modernization Fund.

Subsequent year(s) subscription fees ($9,900) will increase from the previous years subscription fees by three percent (3%). This cost was would be included in the annual budget.

Additional YouTube Connector
Pricing for Transparency YouTube Package is $14,900 annually + $3,870 setup.

CONCLUSION

It is recommended that Council:

a) approve the purchasing of Meeting Management Software provided by eSCRIBE, at a total purchase price of $12,870, and an annual support and software fees of $9,900 per year; and

b) authorize the Clerk to execute an agreement with eSCRIBE for the provision of meeting management software.

Respectfully Submitted,

Maryann Weaver
Clerk

I concur with this report,

John B. Fior
Chief Administrative Officer

2022 Allocation Notice

Township of The Archipelago

4905

In 2022, the Province is providing the Township of The Archipelago with $1,364,900 in funding through the OMPF, which is the equivalent of $408 per household.

A Total 2022 OMPF	**$1,364,900**
1. Assessment Equalization Grant Component	-
2. Northern Communities Grant Component	$799,500
3. Rural Communities Grant Component	$438,200
4. Northern and Rural Fiscal Circumstances Grant Component	$127,200
5. Transitional Assistance	-

B Key OMPF Data Inputs	
1. Households	3,345
2. Total Weighted Assessment per Household	$641,968
3. Rural and Small Community Measure (RSCM)	100.0%
4. Farm Area Measure (FAM)	n/a
5. Northern and Rural Municipal Fiscal Circumstances Index (MFCI)	3.8
6. 2022 Guaranteed Level of Support	92.7%
7. 2021 OMPF	$1,365,800

Note: See line item descriptions on the following page.

2022 Allocation Notice

Township of The Archipelago 4905

2022 OMPF Allocation Notice - Line Item Descriptions	
A	Sum of 2022 OMPF grant components and Transitional Assistance, which are described in the 2022 OMPF Technical Guide. This document can be accessed on the Ministry of Finance's website at: https://www.fin.gov.on.ca/en/budget/ompf/2022
A5	If applicable, reflects the amount of transitional support provided to assist the municipality in adjusting to year-over-year funding changes.
B1	Based on the 2021 returned roll from the Municipal Property Assessment Corporation (MPAC).
B2	Refers to the total assessment for a municipality weighted by the tax ratio for each class of property (including payments in lieu of property taxes retained by the municipality) divided by the total number of households.
B3	Represents the proportion of a municipality's population residing in rural areas and/or small communities. For additional information, see the 2022 OMPF Technical Guide, Appendix A.
B4	Represents the percentage of a municipality's land area comprised of farm land. Additional details regarding the calculation of the Farm Area Measure are provided in the 2022 OMPF Technical Guide, Appendix B.
B5	Measures a municipality's fiscal circumstances relative to other northern and rural municipalities in the province, and ranges from 0 to 10. A lower MFCI corresponds to relatively positive fiscal circumstances, whereas a higher MFCI corresponds to more challenging fiscal circumstances. For additional information, see the 2022 OMPF Technical Guide, Appendix D.
B6	Represents the guaranteed level of support the municipality will receive through the 2022 OMPF. For additional information, see the 2022 OMPF Technical Guide.
B7	2021 OMPF Allocation Notice (Line A).

Note: Grant components and Transitional Assistance are rounded up to multiples of $100.