LGL LIMITED
environmental research associates

Final Technical Report







PUBLIC ACCESS INVENTORY – MUSKOKA RIVER WATERSHED (RFP 21-810047-06)

prepared for:

THE DISTRICT MUNICIPALITY OF MUSKOKA

prepared by:

LGL Limited
environmental research associates

NOVEMBER 2022

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PUBLIC ACCESS INVENTORY – MUSKOKA RIVER WATERSHED (RFP 21-810047-06)

FINAL TECHNICAL REPORT

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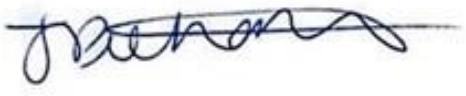

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1.0 INTRODUCTION

The Muskoka River Watershed (MRW) is located along the east side of Georgian Bay and is comprised of three distinct drainage areas: the North Branch; South Branch; and, Lower Muskoka River. Flows originate in the highlands of Algonquin Park, splitting into the North and South Branches south of the Town of Huntsville and flow southwesterly until they converge south of Bracebridge, draining into Lake Muskoka (Muskoka Watershed Council 2022). The Lower Branch receives these flows from the North and South Branches, along with flow from Lakes Joseph and Rosseau. These flows continue downstream, converging with the Moon River and Musquash River, and finally discharge into Georgian Bay (Muskoka Watershed Council 2022). Within the Muskoka River Watershed there are 14 sub-watersheds (quaternary watersheds) which contain over 2,000 lakes and cover 17% of lands within the watershed (Muskoka Watershed Council 2022). The watershed encompasses an area of approximately 5,100 km² and travels a distance of approximately 210 km from its headwaters to its discharge point into Georgian Bay (Muskoka Watershed Council 2022). Its vast amount of lakes and natural features make the MRW a popular tourist destination, visited by thousands of people each year staying at cottages, seasonal residences or one of the many resorts (Muskoka Watershed Council 2022).

Several lower tier and upper tier municipalities are located within the Muskoka River Watershed. The northern part of the Municipality of Muskoka (District) lies within the Muskoka River Watershed. The District is comprised of six lower tier municipalities: Town of Bracebridge; Town of Gravenhurst; Township of Georgian Bay; Township of Muskoka Lakes; Town of Huntsville; Township of Lake of Bays; and two Indigenous communities: Deer Moose Point First Nation; and, Wahta Mohawk Territory. The District is bounded by Georgian Bay to the west and the border of Algonquin Park to the east, with the northern tip of Lake Couchiching forming its southern limit. Also within the Muskoka River Watershed are portions of the surrounding municipalities including, the Township of The Archipelago, Seguin Township, Township of McMurrich/Monteith, Township of Perry, Town of Kearney, located within the District of Parry Sound; the Municipality of Dysart et al., and the Township of Algonquin Highlands located within the County of Haliburton; as well as the District of Nipissing (see **Figure 1**, below).

1.1 INTEGRATED WATERSHED MANAGEMENT (IWM)

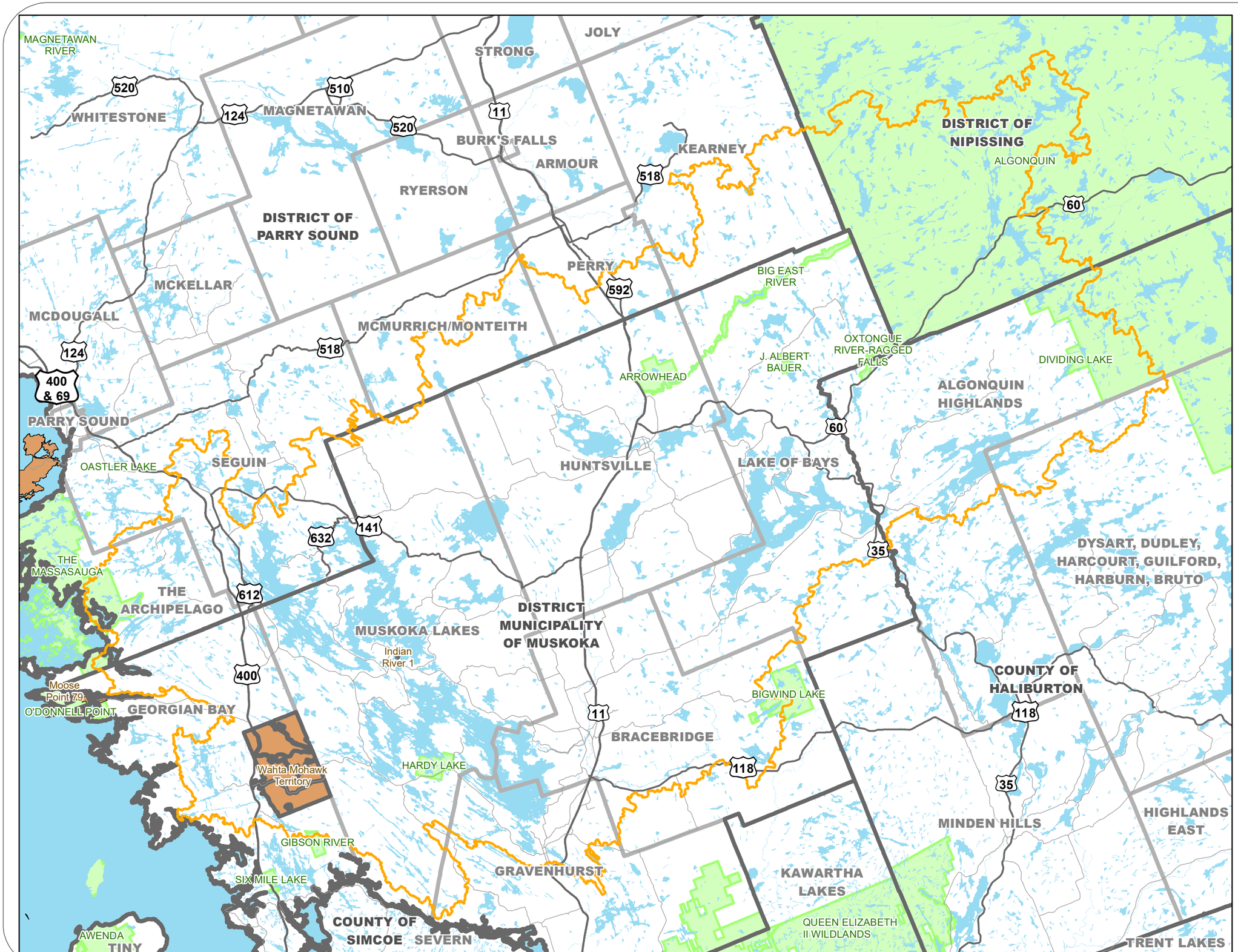
The Muskoka River Watershed is facing pressures related to increased development, severe weather events and flooding, increased contamination from road salts, invasive species, shoreline erosion, and tourist pressures for recreational activities. There is a local concern about the water quality, quantity management, and the impacts of flooding, which has resulted in the need to establish existing conditions within the Muskoka River Watershed as part of their Integrated Watershed Management (IWM) development plans. IWM is an approach to manage natural resources and human activities on a watershed

basis, through the understanding that the needs of the environment, economy, and society have connected interests and can impact each other in positive and negative ways (Conservation Ontario 2022). These initiatives under IWM will help provide a better understanding of fluctuating water levels and the threat of flooding, erosion and siltation, existing and emerging threats to water quality, and identify threats to biodiversity and natural habitat existing within the Muskoka River Watershed (The District Municipality of Muskoka 2022b). Under IWM, implications of social, environmental, and economic factors will be considered in the future management of the Muskoka River Watershed.

In April 2021, the District of Muskoka was awarded over $4 million to fund several projects to establish existing conditions and address the health of the Muskoka River Watershed. Through these projects, a comprehensive approach to watershed management may allow for future policy to be developed to guide land-use decisions, environmental and infrastructure projects, and assess broader public policy options (The District Municipality of Muskoka 2022b). The desired outcome will be the possible future implementation of an Integrated Watershed Management (IWM) Plan for the Muskoka River Watershed. Overall, 12 different projects were initiated by the District to establish baseline conditions within the watershed, all of which were divided into three phases of work. The Muskoka Public Access Inventory is part of Phase 3, initiated in February 2022 and continuing into January 2023.

2.0 PURPOSE

LGL Limited has been retained by the District Municipality of Muskoka to compile an inventory of existing public access points for both aquatic and terrestrial areas within the Muskoka River Watershed, and provide a context sensitive assessment of each access point to enable inference of implications of social, environmental and economic factors that are present within the watershed. This in turn, will help inform future decisions on land-use management, development within the watershed, and to guide future environmental policy. In line with the District's Integrated Watershed Management initiatives, the results of the public access point inventory will aid in the identification of existing conditions within the watershed in an effort to manage the natural resources and human activities presently occurring. This inventory will also aid the District in their review of the existing policy pertaining to the social, environmental and economic priorities that pertain to larger watershed scale targets.



LEGEND

- Major Road
- Highway
- Study Area Muskoka River Watershed
- First Nations Community
- Municipal Boundary Districts and Counties
- Municipal Boundary Lower Tier
- Provincial Park
- Waterbody

Data Source: Ministry of Natural Resources and Forestry (LIO). Contains information licensed under the Open Government Licence - Ontario. Produced by LGL Limited under License with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2022.

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PUBLIC ACCESS INVENTORY MUSKOKA RIVER WATERSHED **STUDY AREA**

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Project:	TA9213	**Figure:**	1
Date:	November 1, 2022	**Prepared By:**	AM
Scale:	1:400,000	**Verified By:**	CA

3.0 PROJECT SCOPE

The scope of work entails creating a comprehensive inventory of existing public access points for waterbodies (lakes and rivers), and terrestrial areas (including crown land, public parks, etc.) within the Muskoka River Watershed. A public access point is defined as “any route, roadway, highway, trail, path, or other similar feature that provides access through or across municipally, or provincially owned lands to provide admittance to the shoreline of bodies of water or other natural features” (The District Municipality of Muskoka 2022a). The District of Muskoka maintains an inventory of public access points within the District, however, LGL has obtained public access points for the areas within the Muskoka River Watershed, but outside of the District, to complete the inventory. Additional access points were obtained through data requests and background reviews of municipal websites. Details pertaining to each access point associated with the type of access, facilities at the given location, and sensitivities - whether social, economic, or environmental, have been provided for each public access point. Following the compilation of mapping all public access points, an assessment of each access point was undertaken to identify its suitability for public access and to provide recommendations for policy options that support environmental, social and economic priorities within the watershed.

4.0 METHODOLOGY

4.1 DATASETS

4.1.1 Background Review of Available Datasets

4.1.1.1 Upper Tier Municipalities, Lower Tier Municipalities and External Agency Open Data Catalogues

LGL conducted a detailed background review of publicly available documents and GIS datasets that were currently available online from various upper tier and lower tier municipalities and external agencies’ Open Data Catalogues. Datasets related to existing access points (beaches, marinas, docks, trailheads, parks, etc.) were reviewed, in addition to environmental policy areas and zoning maps, parcel fabric, and natural heritage features. Additionally, LGL reviewed Official Plan (OP) documents obtained through Muskoka River Watershed municipalities’ websites. Available online interactive mapping platforms were reviewed for the various municipalities, and where available, were downloaded as a text document (.csv), Google Waypoint (.xml), or Excel file (.xlsx) to be integrated into the existing GIS database. Data that was not available digitally (i.e., PDF versions of mapping deliverables), were saved and georeferenced in order to be integrated into the GIS database.

4.1.1.2 Land Information Ontario (LIO) – Ministry of Natural Resources and Forestry (MNRF)

A thorough review of provincial datasets published through Ontario GeoHub sourced by the Land Information Ontario (Ministry of Natural Resources and Forestry (MNRF)) was completed. A large volume of datasets pertaining to natural heritage features were obtained from LIO, as well as those pertaining to provincial lands, and species at risk, including the following:

- Areas of Natural and Scientific Interest (ANSI);
- Bear Management Area;
- Crownland Use Policy Area (CLUPA);
- Environmentally Significant Areas;
- First Nations Reserve;
- Fish Activity Areas;
- Provincial Park;
- Provincial Policy Areas;
- Provincially Tracked Species (Natural Heritage Information Centre);
- Significant Ecological Area;
- Waterbodies;
- Watercourses;
- Wetlands (Provincially Significant and unevaluated);
- Wildlife Values Area; and,
- Wildlife Value Site.

4.1.1.3 Department of Fisheries and Oceans Canada (DFO)

Datasets related to aquatic species at risk critical habitat and distribution provided by the Department of Fisheries and Oceans Canada (DFO) were reviewed to assess the presence of aquatic species at risk, and their habitat, within proximity to each access point. Although the species identified within this dataset are regulated federally under the *Species at Risk Act* (SARA), the watercourses and waterbodies within the Muskoka River Watershed, which they inhabit, are regulated provincially under the *Lakes and Rivers Improvement Act.*

4.1.2 Orthoimagery

Aerial satellite imagery is publicly available through the District's Open Data Catalogue. This imagery was captured by the District in the Spring of 2018 with 16 cm resolution. This imagery was provided to LGL to use from a remote sensing capacity in order to accurately interpret aquatic and terrestrial access points, and also use as a base map for figures created as a final deliverable.

4.1.3 Data Requests

The District provided datasets to LGL upon project initiation related to natural heritage features, municipal zoning, municipally owned parcels, in addition to their existing public access point inventory. However, many of the lower tier municipalities that lie outside of the District but within the MRW are smaller in size, and do not have a dedicated GIS department with publicly accessibly GIS data available. As such, LGL prepared a formal data request letter to distribute to these municipalities which described the project and the District's goals for their IWM development. Outlined within this letter was an exhaustive list of datasets that could be used as part of the public access inventory. Datasets that were requested pertained to municipal parcel fabric, public access points (including beaches, docks, marinas, trailheads, parks, etc.,), as well as facilities associated with public access points, Official Plan and municipal policy documents, local environmental features and/or policy areas, and natural heritage areas. In addition to the several lower tier municipalities that were contacted, local stakeholders and recreational groups were also approached, which include:

- Township of The Archipelago;
- Seguin Township;
- Township of McMurrich/Monteith;
- Township of Perry;
- Town of Kearney;
- Township of Algonquin Highlands;
- Municipality of Dysart et al.;
- County of Haliburton;
- West Parry Sound Geography Network; and,
- Regional Tourism Organization (RTO) 12 Explorer's Edge.

4.2 COMMUNITY ROUND TABLE

A component of the public access inventory was to assess social sensitivities related to public access. In order to obtain local perspectives, a meeting was held with the Community Round Table (CRT), a technical working group of the Muskoka Watershed Council, comprised of approximately 40 members who are residents/non-residents, but also members of local municipal councils, clubs and associations within the watershed. LGL prepared a presentation to highlight the goals and objectives of the project. Near the end of the presentation, LGL posed some questions to CRT members to spark a dialogue in hopes of gaining valuable insight into the current state of public access within the watershed.

LGL also created an informal survey in Microsoft Forms to be completed by members of the CRT. This survey was circulated following the meeting in both a hyperlink and QR

code format so that it could be accessed through an online web-browser and via mobile devices. This survey contained 41 questions relating to existing aquatic and terrestrial public access points within the Muskoka River Watershed. To ensure data consistency within the responses, users were required to select a response for the majority of questions from a prepopulated list. Also included in the survey were two opinion-based, short-answer style questions, in attempts to gain more comprehensive answers related to the public access. The following are examples of the content and questions included within the survey:

- Municipality of residence;
- Type of residence (permanent vs. seasonal, waterfront vs. no water access, island access only, road access vs. no road access);
- Frequency of access point use (scale from never to 20+ times a year);
- Most important types of access points on public lands or waterbodies;
- Amount of public access (i.e., too much, not enough, just the right amount);
- Why choose access point (i.e., proximity, time, facilities, accessibility, etc.);
- Importance of amenity/facility within proximity to an access point (i.e., on a scale of not important to very important);
- Quality of existing access points;
- Identification of amenities/facilities in excess or in need of more;
- Areas in need of improvement in terms of public access; and,
- Number one concern related to public access in the Muskoka River Watershed.

An example of the CRT survey can be found below in **Appendix A**.

4.3 PUBLIC/LOCAL ENGAGEMENT

4.3.1 Public Engagement Survey

To gain further insight into the social and economic sensitivities related to public access, LGL proposed to solicit input from local stakeholders by means of an informal survey to be completed by community members, clubs, and associations. To maintain consistency between the questions asked and to streamline responses, the CRT survey questions were duplicated and renamed as the Public Engagement Survey. Similar to the CRT survey, the Public Engagement Survey was created in both a hyperlink and QR code format so that it could be accessed by both online web-browser and via mobile devices. This survey was circulated by the District and posted on their social media platforms to be distributed amongst the larger Muskoka River Watershed population.

4.3.2 Indigenous Community Survey

Although the scope of work did not involve assessing public access points on private or Indigenous owned lands, it was important to consider insight from the Wahta Mohawk

Territory and Moose Deer Point First Nation communities on their use of public access points within the watershed. As such, a third survey was created for Indigenous community feedback. This survey was identical to that of the CRT and Public Engagement Surveys, with the exception of the first question related to place of residence, which was revised to include the Moose Deer Point First Nation and Wahta Mohawk Territory.

5.0 PUBLIC ACCESS INVENTORY

5.1 COMPILATION OF ACCESS POINT INVENTORY IN GIS GEODATABASE

Once all data pertaining to existing aquatic and terrestrial access points were collected from background review and through data requests, LGL GIS Analysts created a geodatabase within ESRI ArcMap software to store the inventory as a spatial dataset. The inventory was separated into two datasets: one for aquatic access points and one for terrestrial access points. Within each dataset, each access point was further broken down into the type of access point. For example, an aquatic access point could be identified as a boat launch or a beach, whereas a terrestrial access point could be identified as either a trailhead, park, or a trailhead and park. Further definitions and descriptions of boat launches and trailheads and parks are identified below in **Section 5.3.1**. For the purposes of this inventory, aquatic and terrestrial access points located within provincial parks that require parking permits were excluded from assessment. LGL made the assumption that all other public parks had free parking facilities, and thus, had been included as part of the inventory. Similarly, aquatic and terrestrial access points within an urban park setting lacking natural heritage features or greenspace were excluded from assessment (i.e., sports complex, soccer fields, skateparks)

Through discussion with District staff, a data schema was created to ensure that the database was in a format that could be easily analyzed and queried in the future. Standardized data types, domains, and a defined number of characters per attribute field were enabled to ensure consistency and data conformity throughout each dataset. Additional attribute fields using the data schema established were also added to each dataset to organize each dataset in a more complete way while maintaining data conformity. Existing attribute information from the datasets received from the District, as well as from other municipalities, was extracted and repopulated into the additional attribute fields created by LGL to ensure it adhered to the newly created data schema.

5.2 QUALITY ASSURANCE (QA)/QUALITY CONTROL (QC) OF SURVEY RESULTS

Discussions with Community Round Table (CRT) members and District staff were valuable in providing the project team with local perspectives on public access. Furthermore, the survey results were extremely helpful in identifying the current level of

use within the MRW and areas that need improvements. Once the survey results were obtained, LGL undertook a QA/QC review to ensure that results were standardized and could be properly analyzed. Several responses were a 'select all that apply' style question, therefore, each answer needed to be individualized. In the event where the respondent selected 'other' to a question followed by a short answer box prompt, key words from the short answer were extracted and standardized to glean an appropriate response. Similar to this, where spelling differences were observed in short answer responses, LGL corrected these instances to ensure sort and filter capabilities would capture all responses. In the instance of long answer/paragraph style responses, LGL extracted key words and phrases to ensure these responses could be assessed in an efficient manner.

Following the QA/QC review, LGL prepared a series of pivot tables, sort functions, and applied filters to the survey responses to highlight commonalities between the responses. The responses were compared and contrasted in several ways to extract the most important comparisons between the data. In cases where more than one answer was selected by a respondent, a weighted value was calculated to identify the number of respondents which selected each answer. In these cases, half values of individuals were recorded. Comparisons of responses were sorted in a way to extract from which municipality and type of residence in which the respondent resided. Other important comparisons were made between the facilities pertaining to each access point, where they were lacking, and where an additional need for facilities was identified. Overall, commonalities in responses with regards to aquatic access points and terrestrial access pointes were identified, and used to inform the assessment criteria, discussed below.

5.3 ASSESSMENT CRITERIA

LGL considered several assessment methods to assess the public access inventory and Public Engagement Survey results. The "Checklist Method" was chosen for its simplicity, objectivity, and usefulness for assessment purposes. The systematic process of the checklist method allows users to extract relevant information and highlight the significance and merit of evaluands (Martz 2010). User-based criteria were derived from the opinions of survey respondents based on the existing conditions of the current access points within the Muskoka River Watershed. These criteria were formatted in a checklist that could easily be answered with "yes", "no", or "unknown" answers, allowing for easier comparisons and scoring once the checklist of items was completed for each access point.

A total of 20 checklist criteria were established for aquatic access points, while 15 criteria were developed for terrestrial access points. These criteria were developed to assess each access point from a social, economic, and environmental lens. The aquatic and terrestrial access point criteria are presented in **Table 1** below and discussed in further detail in **Sections 5.3.1, 5.3.2 and 5.3.3**.

Table 1: Public Access Inventory Checklist Assessment Criteria

Sensitivity Type	Aquatic Access Point Criteria	Terrestrial Access Point Criteria
Social	Is there a trailered boat launch?	Is there a garbage receptacle at access point location?
	Is there canoe launch?	Is there a dedicated parking lot?
	Is there a dock?	Are there washrooms?
	Is there a garbage receptacle at the access point location?	Is there signage at trailhead (for trail system, invasive species, wildlife management, etc.)?
	Is there a dedicated parking lot?	Is there accessibility for those with disabilities?
	Are there washrooms?	
	Is there signage at the site (for water safety, invasive species, wildlife management, etc.)?	
	Is there accessibility for those with disabilities?	
Economic	Is access point within proximity to a settlement area (400 m)?	Is access point within proximity to a settlement area (400 m)?
	Is access point within proximity commercial zoning/businesses (food, fuel, shops, and restaurants) (400 m)?	Is access point within proximity commercial zoning/businesses (food, fuel, shops, and restaurants (400 m)?
	Is there year-round accessibility? Does the roadway leading to the access point receive snow clearing?	Is there year-round accessibility? Does the roadway leading to the access point receive snow clearing?
Environmental	Is the access point within an NHIC grid square (1 km x 1km)?	Is the access point within an NHIC grid square (1 km x 1km?
	Is the access point within 120 m of an area with aquatic SAR distribution or critical habitat (DFO)?	Is the access point within a Special Policy Area) (which includes 120 m from Muskoka heritage site)?
	Is the access point within a Special Policy Area (which includes 120 m from Muskoka heritage site)?	Is the access point within 50 m of an Earth Science (or Candidate) ANSI?

Table 1: Public Access Inventory Checklist Assessment Criteria

Sensitivity Type	Aquatic Access Point Criteria	Terrestrial Access Point Criteria
	Is the access point within 50 m of an Earth Science (or Candidate) ANSI?	Is the access point within 120 m of a Life Science (or Candidate) ANSI?
	Is the access point within 120 m of a Life Science (or Candidate) ANSI?	Is the access point within 30 m of an unevaluated wetland?
	Is the access point within 30 m of an unevaluated wetland?	Is the access point within 120 m of a significant wetland (PSW and locally significant)?
	Is the access point within 120 m of a significant wetland (PSW and locally significant)?	Is the access point within a 120 m of significant wildlife habitat (wildlife value area and wildlife value site)?
	Is the access point within a lake with a sensitive species (lake trout – at capacity)?	
	Is the access point within a 120 m of a fish activity area?	

Once the assessment was completed, all of the social, economic, and environmental criteria that were assigned a value of “yes” were tallied to provide an overall numerical score for each respective criteria category. A higher numerical score for social and economic sensitivities indicated a more favourable access point, thereby considering the access an opportunity. However, a higher numerical score for environmental criteria was considered less favourable, as a higher number indicated greater natural heritage sensitivities within proximity to a given access point, thereby resulting in a constraint.

5.3.1 Social Sensitivities

Social sensitivities were derived from both the Community Round Table discussion and survey results, as well as feedback from the Public Engagement Survey. The goal of these surveys was to gain a more complete understanding of how the community uses access points regularly, what types of access points are preferred, and to gain an overall opinion on the state of existing facilities at each location. The most frequent answers were extracted from the collective survey results to highlight the most important social considerations for public access which include: washroom facilities; garbage receptacles; dedicated parking lots (that were not street parking); accessibility for individuals with disabilities; and, signage (on-site maps and information boards). These top five common amenities were used as the benchmark when evaluating aquatic and terrestrial access points. Additionally, for public access points the type of access was also considered.

All of the social assessment criteria required verification through remote sensing principles and aerial imagery interpretation. LGL utilized the fine resolution orthoimagery provided by the District, coupled with other satellite imagery available through ESRI Basemaps and Google Earth, in addition to the use of Google Streetview to confirm the amenities and types of facilities at each access point location. This methodology was applied to both aquatic and terrestrial access points. In the event that the abovementioned criteria could be confirmed, a value of "yes" was applied. Contrastingly, when the abovementioned criteria were not observed, a value of "no" was assigned. If the various orthoimagery sources did not provide an adequate resolution to decipher presence or absence of the abovementioned criteria, then a value of "unknown" was assigned.

A breakdown and definition of each social sensitivity criteria is identified below.

Type of Access

Each of the aquatic and terrestrial access points were further broken down based on the type of access. The type of access was often stored within the original dataset provided by the District and various other sources. LGL extracted this data and populated it into an additional attribute field as a domain (predetermined list). For aquatic access points, the District defined a boat launch as any launch site from which a watercraft can be launched. Therefore, to differentiate the type of boat launch, the type of watercraft was considered. Any launch site consisting of a built-structure or inclined plane designed for trailered boat access was defined as "trailered boat access" whereas a launch site from which a canoe/kayak/stand-up-paddleboard could access from is defined as a "canoe launch". For terrestrial access points, any access point providing access to a trail would be considered a trailhead. For the terrestrial access points which are located within an urban park area, these would be considered trailhead and park. No terrestrial access points that were associated with urban trails were included as part of this inventory. However, terrestrial access points that provided access to natural features within a park, regardless of urban or rural setting, were included as a park.

Washrooms

Each access point was assessed to identify if washroom facilities were present at the access point location. Washroom facilities could either be permanent fixed structures, or temporary portable toilets (porta-potty).

Garbage Receptacle

Each access point was assessed to identify the presence of garbage/recycling receptacles at the access point location. These could be identified as temporary receptacles, permanent receptacles attached by chains, or bear-proofed canisters.

Parking

Each access point was assessed to identify if a dedicated parking lot was present. A parking lot could be a paved parking area or a gravel parking area, which would be regularly maintained. For the purposes of this criteria, a parking lot was considered distinct and separate from roadside or shoulder parking.

Signage

Access points were assessed to identify the presence of interpretive signage. Signage could include trail maps, parking signs, signs indicating a boat launch area, environmental risks, or overall safety precautions. Signs could be present as an individual, stand-alone sign or as a series of information boards.

Accessibility for Individuals with Disabilities

Each access point, and the area within close proximity, was assessed to identify the presence of accessibility considerations for those with disabilities. Features such as dedicated wheelchair parking, ramps/boardwalks, and/or crosswalks with audible enhancements were searched for.

5.3.2 Economic Sensitivities

Economic sensitives were derived from the Community Round Table discussion and survey results, feedback provided from the Public Engagement Surveys, as well as other factors that influence the economy within the Muskoka River Watershed. The CRT and Public Engagement Surveys included questions that prompted responses related to how and why residents chose to utilize the access points within the watershed. Questions related to the method of transportation used to arrive at access points and the types of businesses travelled to via access points or require access points for, all provided insight on the economic impact access points have within the Muskoka River Watershed. The most frequent answers were extracted from the collective survey results to highlight the most important economic considerations for public access which included: proximity to settlement areas; proximity to commercial zoning/business area; and, year-round accessibility.

In order to determine an appropriate proximity distance from an access point to economic amenity or settlement area LGL assumed an average walking time of five minutes. On average, it takes an individual five minutes to walk 400 m at a pace of 5 km per hour.

Proximity to Settlement Area (400 m)

A Settlement Area is defined as an area of year-round population where development is concentrated, and lands are designated for development within an Official Plan. Within the District, urban areas are those which have municipal sewage and water services while community areas are those where municipal sewage and water services are not available (District Municipality of Muskoka 2019). LGL obtained Settlement Areas from the District

and various municipalities within the MRW from data requests or through their websites. Some of these areas were provided in GIS format, while others were digitized from PDFs/graphic format into GIS. Using proximity tools, LGL was able to identify if an access point was located within 400 m of a Settlement Area.

Proximity to Commercial Zoning/Business Area (400 m)

Commercial zoning and business areas are defined as lands designated for business development and commercial properties including: shopping centres; marinas; restaurants; resorts; and, industrial facilities. Areas designated for commercial zoning and business areas are stipulated by municipal Zoning By-laws as identified in Official Plans. LGL obtained commercial zoning and business areas from the District and various municipalities within the MRW from data requests or through their websites. Some of these areas were provided in GIS format, while others were digitized from PDFs/graphic format into GIS. Using proximity tools, LGL was able to identify if an access point was located within 400 m of lands designated as commercial zoning or business area.

Year-Round Accessibility (Snow Removal)

Year-round accessibility was a consideration when evaluating public access points. Though this public access inventory is focussed on aquatic and terrestrial access points for activities geared towards 'open water' season and activities (i.e., swimming, boating, canoe/kayak/stand-up paddleboarding, and hiking), several access points can still be used during the winter months in frozen conditions. LGL collected information related to winter roads and snow removal maintenance from various municipalities' Official Plans and digitized these routes to determine if an access point was in an area of snow removal. Snowmobile and ATV trails were excluded from this inventory and no public access points providing access to these trails were assessed.

5.3.3 Environmental Sensitivities

Environmental sensitivities were derived from several sources including, the Ministry of Natural Resources and Forestry Ontario GeoHub (Land Information Ontario (LIO)), Department of Fisheries and Oceans Canada (DFO), Bird Studies Canada, the District Municipality of Muskoka, data requests, and various municipalities' Official Plans. The environmental criteria were assessed using a variety of GIS tools and principles to identify natural heritage features, environmental policy areas, species at risk, and other environmental sensitivities that may be located within immediate proximity to an access point. Several environmental sensitives were assessed for both aquatic and terrestrial access points including: Areas of Natural and Scientific Interest (ANSI); wetlands; Provincially Tracked Species; and, Special Policy Areas (which include Environmental Protection Areas and Muskoka Heritage Areas and Sites). However, there were also environmental sensitivities that were specific to either aquatic access points or terrestrial access points and were only assessed corresponding to their respective access point

type (see **Table 1** above). A more in-depth description of each of the abovementioned criteria is discussed below.

Area of Natural and Scientific Interest (ANSI)

An Area of Natural and Scientific Interest (ANSI) is defined as an area of land or water that contains natural features that are important for natural heritage, protection, appreciation, scientific study or education (MRNF 2012). ANSIs conserve significant features through means other than regulation by working in conjunction with provincial parks and conservation reserves (MECP 2022). There are two types of ANSIs: Earth Science ANSIs and Life Science ANSIs. Earth Science ANSIs are geological in nature containing significant bedrock, fossils, landforms and ongoing geological processes, while Life Science ANSIs represent biodiversity and natural landscapes (forests, valleys, prairies, wetlands, native plants and animals and their habitats), containing relatively undisturbed vegetation, landforms and their associated species and communities (MECP 2022).

Earth Science ANSI (or within 50 m)

Both aquatic and terrestrial access points were assessed by two means, the first to identify if they were located within an Earth Science or Candidate Earth Science ANSI and the second to identify if they were located within 50 m of an Earth Science or Candidate Earth Science ANSI through a proximity analysis. The 50 m proximity was applied as Official Plans of the Township of Perry (2013), Seguin Township (2015), County of Haliburton (2017), District of Muskoka (2019) and Township of The Archipelago (2019), state that lands within 50 m of significant and regional areas including Earth Science ANSIs is considered “adjacent habitat”, where it is likely that site alteration and development may have a negative impact. Access points intersecting or within 50 m of an Earth Science or Candidate Earth Science ANSI were assigned a value of “yes”, while access points outside of the abovementioned criteria were assigned a value of “no”. LGL also populated an attribute field within the geodatabase to highlight the name of the ANSI and its type, if present.

Life Science ANSI (or within 120 m)

Both aquatic and terrestrial access points were assessed by two means, the first to identify if they were located within a Life Science or Candidate Life Science ANSI and the second to identify if they were located within 120 m of a Life Science or Candidate Life Science ANSI through a proximity analysis. The 120 m proximity was applied as the Official Plans of the Township of Perry (2013), Seguin Township (2015), County of Haliburton (2017), District of Muskoka (2019) and Township of The Archipelago (2019), state that lands within 120 m of significant and regional areas including Life Science ANSIs is considered “adjacent habitat”, where it is likely that site alteration and development may have a negative impact. Access points intersecting or within 120 m of

an Earth Science or Candidate Life Science ANSI were assigned a value of “yes”, while access points outside of the abovementioned criteria were assigned a value of “no”. LGL also populated an attribute field within the geodatabase to highlight the name of the ANSI and its type, if present.

Wetlands

Wetlands are defined as areas that are permanently or seasonally flooded by shallow water resulting in moist soils and dominant vegetation that is tolerant to water. These lands occur across landscapes along lakes, rivers and streams, and may also be close to the water table allowing for year-round groundwater input into the wetland (MRNF 2019a). There are several types of wetlands: bog, fen, marsh, swamp, treed peatland, and open water. A provincial wetlands dataset is managed by the Ontario Ministry of Natural Resources and Forestry and made publicly available through the Ontario GeoHub from Land Information Ontario. The Ontario Wetland Evaluation System (OWES) is a technical criterion used to assess individual wetlands to determine their ecological value and significance. This evaluation results in the characterization of wetlands as either Provincially Significant Wetland (PSW), Evaluated Wetlands – Other, or non-evaluated wetlands. Provincially Significant Wetlands meet OWES evaluation criteria and contain one or more contiguous polygons with similar biological, social and hydrological functions which are functionally linked through ecology or hydrology (MRNF 2019a). Evaluated Wetlands – Other are wetlands that have undergone the OWES evaluation, but did not meet the criteria to support being classified as a PSW. However, these wetlands are significant on a local scale and may be protected by municipalities rather than the province (MNRF 2014). Unevaluated wetlands are those that have not undergone the OWES evaluation and have been confirmed through ground-based OWES methodology or though orthoimagery interpretation and remote sensing (OWES) (MRNF 2014).

Provincially and Locally Significant Wetlands (or within 120 m)

Both aquatic and terrestrial access points were assessed by two means, the first to identify if they intersected a PSW or Wetland Evaluated – Other (locally significant) and the second to identify if they were located within 120 m of a PSW or Wetland Evaluated – Other through a proximity analysis. The 120 m proximity was applied as the Official Plans of the Township of Perry (2013), Seguin Township (2015), County of Haliburton (2017), District of Muskoka (2019) and Township of The Archipelago (2019), state that lands within 120 m of a natural heritage feature/areas (including provincially or locally significant wetlands) were considered “adjacent habitat” where it is likely that site alteration and development may have a negative impact on ecological function. As such, any access point that was within 120 m of a locally or provincially significant wetland was assigned a value of “yes” while access points further than 120 m of a locally or provincially significant wetland were assigned a value of “no”. LGL also populated an attribute field within the geodatabase to highlight the name of wetland and its significance, if present.

Unevaluated Wetlands (or within 30 m)

Aquatic and terrestrial access points were assessed by two means, the first to identify if they intersected an unevaluated wetland and the second to identify if they were located within 30 m of an unevaluated wetland through a proximity analysis. The 30 m proximity was applied as the District's Official Plan (2019) states that lands within 30 m of an unevaluated wetland are considered "adjacent habitat", where it is likely that site alteration and development may have a negative impact on ecological function. No other upper or lower tier municipality have stipulated setback zones from unevaluated wetlands. As such, any access point that was within 30 m of an unevaluated wetland was assigned a value of "yes" while access points further than 30 m of a wetland were assigned a value of "no".

Provincially Tracked Species (NHIC Species at Risk)

The Natural Heritage Information Centre (NHIC), part of the Ministry of Natural Resources and Forestry (MNRF), manages this geospatial dataset related to provincially tracked species generalized to a 1 km by 1 km grid square. This dataset has been made publicly available through the Ontario GeoHub from Land Information Ontario. The generalized locations provide element occurrence records for species of conservation concern (including species at risk), plant communities, wildlife concentration areas, and some natural heritage areas (MRNF 2016). An element occurrence is an area of land or water where a species is or was present, where important activities for the conservation of the species was observed, specifically courtship, nesting, rearing or feeding activities (MNRF 2022). LGL applied intersect tools to both aquatic and terrestrial access points to identify if the access point was located within a NHIC grid square; if it did intersect a grid square, then a value of "yes" was applied, similarly, if it did not, then a value of "no" was applied. Additionally, if the access point was within a NHIC grid square, LGL populated an additional attribute field within the geodatabase to list the species at risk (SAR), wildlife concentration area or natural heritage area identified.

It should be noted that the NHIC 1 km x 1 km grid square covers a very large area encompassing several habitat types, which in turn, provides habitat to a wide array of species. Despite this occurrence, the exact location of particular species observations within a NHIC square are not provided by the MNRF. Therefore, although an access point may lie within an NHIC square with several Provincially Tracked Species observations, the access point itself may not be within habitat range for some of these species observed. However, LGL has still included all species occurrences as a precautionary measure.

Important Bird Area (Bird Studies Canada)

An Important Bird Area (IBA) is defined as an area of international significance for the conservation of birds and biodiversity which supports a specific group of birds (i.e.,

threatened birds, a large group of birds, or birds that are restricted by range or habitat) (BSC 2022). These IBAs range in size and habitat, encompassing private and public lands, or lands that are environmentally protected. Several environmental criteria are employed to categorize IBAs including threatened birds, range-restricted species, biome-restricted species, and congregations of birds (Moore and Couturier 2011), which has resulted in approximately 600 IBAs across Canada since 1996. There are no IBAs within the Muskoka River Watershed.

Special Policy Areas

LGL has reviewed the Official Plans for all the upper and lower tier municipalities within the Muskoka River Watershed to include pertinent environmental policy areas.

Environmental Protection Areas/Zones

Environmental protection areas or zones are lands that are environmentally sensitive and require protection. These areas or zones are identified within the Official Plans and/or Zoning By-laws of municipalities which stipulate site development restrictions and permitted types of development within a specified vicinity of an environmental protection area/zone. LGL obtained Zoning files related to environmental protection areas/zones from the District and other Muskoka River Watershed municipalities from data requests or through their websites. Some of these areas were provided in GIS format, while others were digitized from PDFs/graphic format into GIS by LGL. Using proximity tools, LGL was able to identify if an access point was located within lands designated as an environmental protection area or zone. As such, any access point that was within or intersected an environmental protection area or zone was assigned a value of “yes” while access points that were outside of these environmental protection area or zones were assigned a value of “no”.

Muskoka Heritage Areas and Sites

Muskoka Heritage Areas and Sites were identified within the District as having historical, geological, archaeological, scenic or biological importance. An assessment of each of the distinct areas or sites was undertaken to distinguish their importance based on biotic, abiotic and cultural criteria through both field investigation and desktop review (Reid & Bergsma 1994). A Heritage Area is a location where more than one assessment criterion was met, whereas a Heritage Site is a location where only one assessment criterion was met. This study resulted in a total of 48 Heritage Areas and 20 Heritage Sites (11 biotic and nine abiotic) within the District of Muskoka, all of which are incorporated for protection within the District’s Official Plan (Reid & Bergsma 1994). These Heritage Areas and Sites were provided to LGL by the District in GIS format. Access points were assessed by two means, the first to identify if they intersected a Heritage Area or Site, and the second to identify if they were located within 120 m of a Heritage Area or Site through a proximity analysis. Using proximity tools in GIS, LGL identified the public access points which

intersected or were within 120 m of a Heritage Areas or Sites as part of the "Special Policy Area" consideration. A proximity distance of 120 m was applied as the District's Official Plan states that lands within 120 m of a Muskoka Heritage Area or Site is considered "adjacent habitat" where it is likely that site alteration and development may have a negative impact (District Municipality of Muskoka 2019). As such, any access point that was within 120 m of a Heritage Site or Area was assigned a value of "yes" while access points not within the 120 m of a Heritage Site or Area were assigned a value of "no". LGL also populated an attribute field within the geodatabase to highlight the type of Heritage Site or Area, and its name was present.

Aquatic Access Points

Aquatic Species at Risk (SAR) Distribution of Critical Habitat

Aquatic Species at Risk are protected federally under the *Species at Risk Act* (SARA) by the Department of Fisheries and Oceans Canada (DFO). The goals of SARA are to protect, recover and conserve aquatic SAR and their habitat. DFO manages the spatial geodatabase for aquatic SAR as well as their critical habitat and distribution (range). Critical habitat is necessary for the survival and recovery of species listed as 'Threatened' and 'Endangered', as is the habitat that is identified in the recovery strategy and/or action plan for the listed species (DFO 2022a). Distribution is identified for species listed as 'Special Concern', 'Threatened', and 'Endangered' under SARA, in line and polygon format, based off location provided in a variety of reports including COSWEIC status reports, academic literature and export opinion (DFO 2022b). Although the species identified within this dataset are regulated federally under SARA, the watercourses and waterbodies within the Muskoka River Watershed, which they inhabit, are regulated provincially under the *Lakes and Rivers Improvement Act.* Furthermore, several species identified within the Muskoka River Watershed that are federally regulated are also provincially regulated under the *Endangered Species Act* (ESA), or are listed on the Species at Risk in Ontario List. As such, LGL has applied intersect tools to identify the aquatic access points that lied within areas of SAR critical habitat or distribution, as they may have the potential to be impacted by access point usage. Any access points that intersected these areas were assigned a value of "yes", while those that were outside of these areas were assigned a value of "no". LGL also populated an attribute field within the geodatabase to highlight the aquatic SAR present, if any.

Special Policy Area

Fish Habitat

Within the District Municipality of Muskoka, there are three types of fish habitat identified, each with different impact of development and site alteration applications. Type 1 habitat is considered critical habitat which plays a critical role in sustaining local fish populations (e.g., spawning, nursery areas, groundwater discharge areas), therefore, is highly

sensitive to development (District Municipality of Muskoka 2019). Type 2 habitat is considered important habitat (e.g., feeding areas and open water habitat) that is moderately sensitive to development. The third category is unknown habitat, which are areas where there is currently no information with regards to fish habitat. Unknown fish habitat should be treated similar to Type 1 habitats (District Municipality of Muskoka 2019). Similarly, Type 1 and 2 fish habitat were identified in the Township of Perry and Township of The Archipelago Official Plans, with definitions similar to the District's. Based on the characterization of fish habitat, developmental constraints and permitting may be required prior to approval, and adherence to shoreline protection measures and setbacks are in place to ensure that fish habitat is not impacted. As such, fish habitat is considered to be an important criterion in evaluating existing aquatic public access points and developing policy for future consideration of access points. Using proximity tools in GIS, LGL identified the aquatic access points intersecting fish habitat or within 120 m of fish habitat as part of the "Special Policy Area" consideration. Access points were assessed by two means, the first to identify if they intersected a fish habitat area or if they were located within 120 m of a fish habitat area through a proximity analysis. The 120 m proximity was applied as the Official Plans of the Township of Perry (2013), Seguin Township (2015), County of Haliburton (2017), District of Muskoka (2019) and Township of The Archipelago (2019), state that lands within 120 m of natural heritage features/areas (fish habitat) were considered "adjacent habitat" where it is likely that site alteration and development may have a negative impact. As such, any access point that was within 120 m of fish habitat was assigned a value of "yes" while access points not within the 120 m of fish habitat were assigned a value of "no". LGL also populated an attribute field within the geodatabase to highlight the type of fish habitat present, if any.

Sensitive Species (Lake Trout) – At Capacity Lake

Each aquatic access point was analyzed to determine if it was located on/within a lake that contained Lake Trout (*Salvelinus namaycush*), a sensitive cold-water fish species that is native to Ontario. Lake Trout have adapted to oligotrophic conditions including nutrient deficient lakes and high dissolved oxygen levels, however, its slow growth rate, late maturity and low reproductive potential make it susceptible to environmental stressors (OMRNF 2015). As Lake Trout lakes are rare, this species is an important fisheries resource as a sportfish, but also as an indicator of health in aquatic ecosystems (OMNRF 2015). The District's Official Plan (2019) restricts development and the creation of new lots within or adjacent to 300 m of an "at development capacity" Lake Trout lake to protect the water quality and support Lake Trout populations. There are several lakes within the Muskoka River Watershed that are 'at capacity' in terms of future development. As stipulated within the Official Plans of the Township of Perry (2013), Seguin Township (2015), County of Haliburton (2017), District of Muskoka (2019) and Township of The Archipelago (2019), fish habitat on lakes containing Lake Trout includes 300 m of adjacent lands where site alteration and development may have a negative impact on

their ecological function. Therefore, any access point that intersected a lake identified as having a Lake Trout population, or any access point within 300 m of a Lake Trout lake was assigned a value of “yes” while access points beyond 300 m of a Lake Trout lake were assigned a value of “no”.

Significant Aquatic Habitat - Fish Activity Area

Fish activity areas are specific locations where important life cycle functions such as spawning and nursery areas occur. These areas can either be species specific or generally described areas (Ontario Ministry of Natural Resources and Forestry 2019b). This dataset is managed by the Ontario Ministry of Natural Resources and Forestry and made publicly available through the Ontario GeoHub from Land Information Ontario (LIO). Aquatic access points that were within a fish activity area were assessed as these access points may have the potential to impact fish species. As stipulated within the District’s Official Plan (2019), fish activity areas provide significant life cycle functions and habitat, and includes 120 m of adjacent lands where site alteration and development may have a negative impact on their ecological function. Therefore, any access point that was intersecting a fish activity area, or any access point within 120 m of a fish activity area was assigned a value of “yes” while access points not within 120 m of a fish activity area or site were assigned a value of “no”. LGL also populated an attribute field within the geodatabase to highlight the type of fish activity area present, if any.

Terrestrial Access Points

Significant Wildlife Habitat - Wildlife Values Features

The Ministry of Natural Resources manages this geospatial dataset related to important wildlife areas and sites which have been made publicly available through the Ontario GeoHub from Land Information Ontario. Within this dataset is the consolidation of 13 types of wildlife data classes which include approximate locations of species-specific breeding, calving and fawning, denning, feeding, staging, nesting, wintering, general habitat areas, nurseries, and travel corridors (MNRF 2021a; MNRF 2021b). Wildlife Value Areas are drawn as a polygon data type, which best represent a delineated boundary or area which wildlife utilize. Wildlife value sites are represented as a point data type, which is the approximate location of specific wildlife activities. As these wildlife value sites and areas highlight important habitat for life cycle functions, these areas and sites are considered Significant Wildlife Habitat for the purposes of the assessment of environmental sensitivities. LGL has assessed each terrestrial access point in relation to its location within a wildlife value area and site, as access points may have the potential to impact wildlife life stages. As stipulated within the Official Plan’s of the County of Haliburton (2017), District of Muskoka (2019), and several lower tier municipalities (Seguin Township 2015; Township of The Archipelago 2019), Significant Wildlife Habitat includes 120 m of adjacent lands where site alteration and development may have a negative impact on their ecological function. Therefore, any access point that was

intersecting a wildlife value area or site, or any access point within 120 m of a wildlife value area or site was assigned a value of “yes” while access points not within 120 m of a wildlife value area or site were assigned a value of “no”. LGL also populated an attribute field within the geodatabase to highlight the type of wildlife value area or site present, if any.

5.3.4 Final Scoring

The assessment of access points was based on three different components: social; economic; and, environmental features. None of these three criteria could be scored congruently, as an access point could possess several criteria in all three categories. The assessment produced a final score for each sensitivity criteria for each access point.

The final score for each access point was a numerical score developed by adding up the number of “yes” scores for each social, economic, and environmental criterion. A higher overall score for social and economic sensitivity criteria was viewed as more favourable, thereby a positive score, whereas a high score for environmental sensitivity criteria was viewed as non-favourable and thus, a negative/constraint. A breakdown of the total number of criteria for each social, economic, and environmental criteria is provided in **Table 2**.

Table 2: Scoring Methodology for Public Access Points

Type of Access Point	Maximum Social Sensitivity Criteria Score	Maximum Economic Sensitivity Criteria Score	Maximum Environmental Sensitivity Criteria Score
Aquatic Access Point	8	3	9
Terrestrial Access Point	5	3	7

6.0 RESULTS

6.1 DATASETS

6.1.1 Data Requests

Of the 11 municipalities and organizations that were contacted for data, initial responses and subsequent data was received from nine municipalities. Responses were not received from the Township of Kearney and the Township of McMurrich/Monteith. Data related to public access points was provided in various formats including as a feature class within an ESRI file geodatabase, in shapefile format, as PDFs, or as a hyperlink connecting to their municipal website. In addition to public access points, Official Plan schedules, Zoning Bylaws, and municipally owned lands were also provided.

6.1.2 Data Downloaded by LGL

In addition to sending data requests, LGL conducted a thorough review of publicly available data from the municipalities within the Muskoka River Watershed. Much of the available data pertaining to public access points was downloaded as a KMZ file, in shapefile format, or through a CSV file which was converted into a shapefile by LGL using addresses or UTM coordinates within the attribute information. Additionally, datasets pertaining to Official Plans and Zoning, Special Policy Areas, and Heritage Areas and Sites were also downloaded and georeferenced appropriately.

6.2 COMMUNITY ROUND TABLE SURVEY

Following LGL's meeting with the members of the Community Round Table on June 8, 2022, a survey was distributed amongst the members of the CRT via hyperlink and QR Code. The survey was activated following the meeting with a response deadline anticipated for June 30, 2022. The survey deadline was extended until July 5, 2022 with nine responses received from CRT members. The following is summary of CRT survey results:

- CRT has approximately 40 members;
- 32 members were present at the June 8, 2022 meeting:
- 9 (23%) survey responses received;
    - 3 (33%) reside in the Township of Muskoka Lakes;
    - 3 (33%) reside in the Township of Lake of Bays;
    - 2 (22%) reside in the Town of Bracebridge;
    - 1 (11%) did not disclose residence location;
        - 4 (44%) have primary residences on waterfront with road access;
        - 3 (33%) have primary residence on waterfront but no road access:
        - 1 (11%) has secondary residence on waterfront with road access;
        - 1(11%) does not reside or own property with the MRW;
            - 6 (67%) believe there is not enough public access;
            - 3 (33%) believe there is sufficient public access;

The graphics below summarize the results of the CRT survey results.

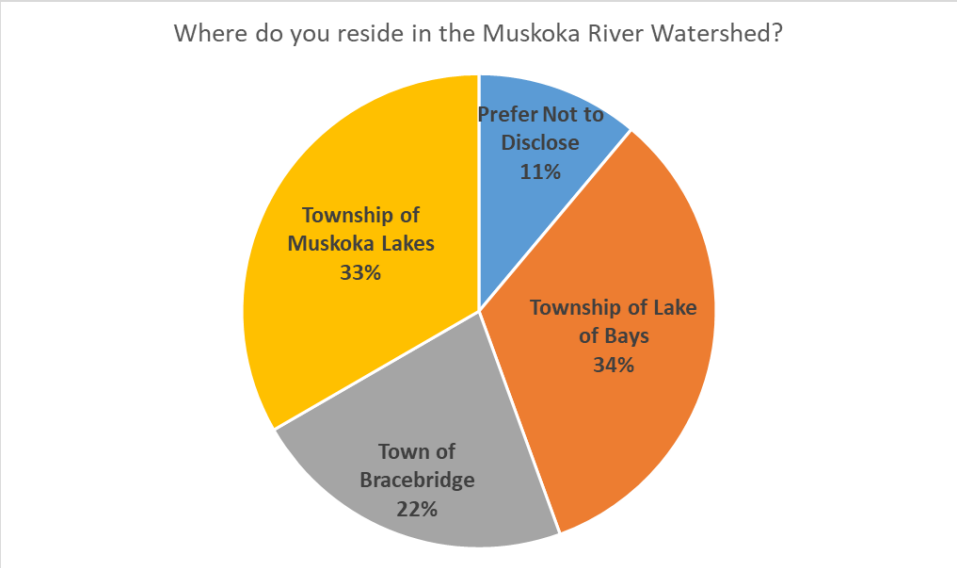


Figure 2: CRT Respondents Municipality of Residence

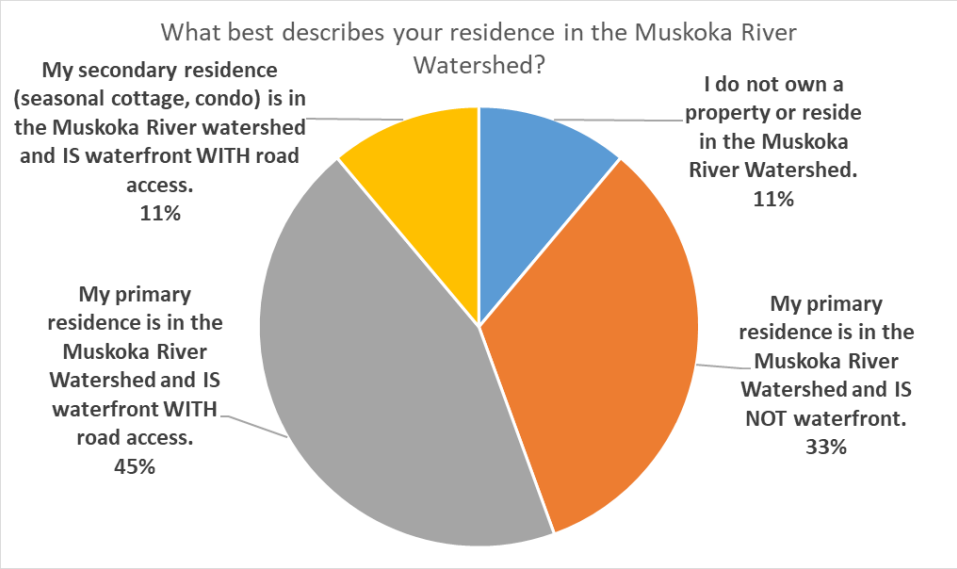


Figure 3: Residence Type of CRT Respondents

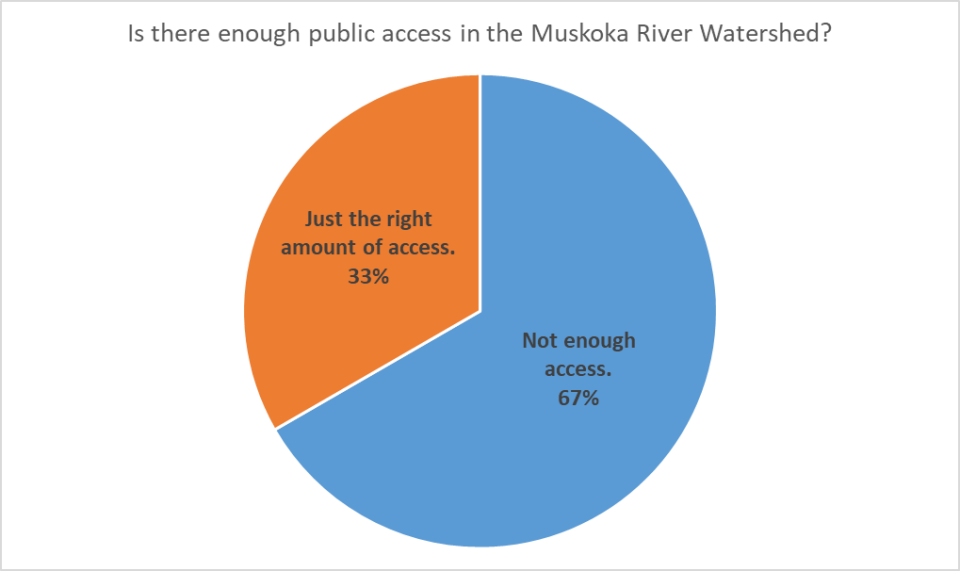


Figure 4: Amount of Access from CRT Respondents

When prompted to identify how public access points were selected for visitation, proximity was the number one answer with 2.4 (27%) individuals, followed by number of people (1.9; 21%), amount of time (1.5; 17%), accessibility (1.3; 15%), facilities (1; 12%), and suitability for family (0.75; 8%). As this question within the survey was a 'select all that apply' style question, several individuals selected more than one response. Therefore, LGL weighted the value for each answer resulting in fraction values for each response. A visual of these results is presented below in **Figure 5.**

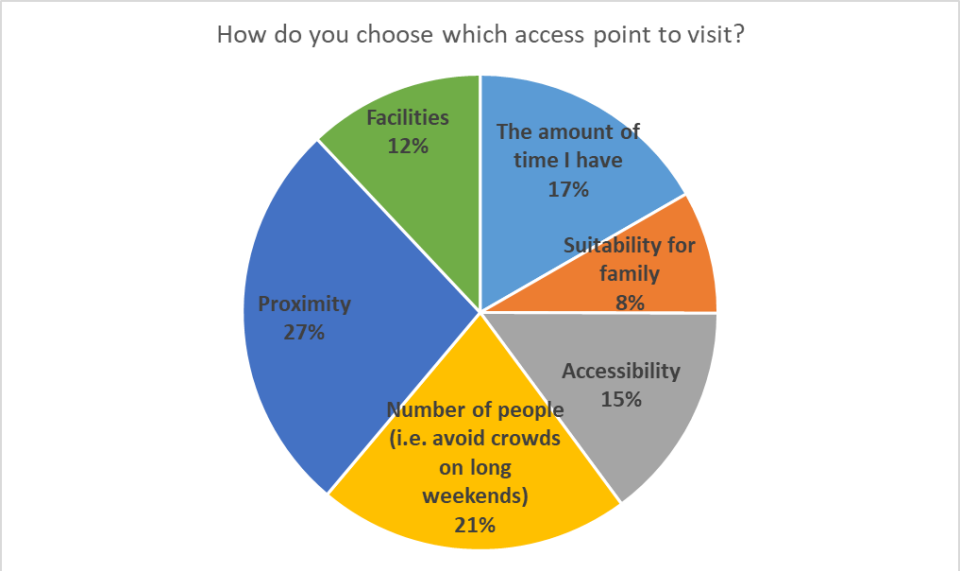


Figure 5: How CRT Respondents Chose Public Access Points

6.3 PUBLIC AND LOCAL ENGAGEMENT SURVEY

6.3.1 Public Engagement Survey

The Public Engagement Survey was published on the District's social media platforms to be distributed to members of the public. This survey was activated coinciding with the survey distributed to the CRT members following the meeting on June 8, 2022. Similarly, it was deactivated on July 5, 2022, coinciding with that of the CRT survey. At the time of deactivation, 428 responses had been received from members of the public. The following is a summary of Public Engagement Survey results:

- 428 survey responses were received
    - 214 (50%) resided in the Township of Muskoka Lakes;
    - 79 (18%) resided in the Town of Bracebridge;
    - 41 (10%) resided in the Town of Gravenhurst;
    - 38 (9%) resided in the Township of the Lake of Bays;
    - 32 (7%) resided in the Town of Huntsville;
    - 12 (3%) resided in the Seguin Township;
    - 6 (1%) resided in the Township of Algonquin Highlands;
    - 2 (<1%) resided in the Township of The Archipelago;
    - 2 (<1%) resided outside of the Muskoka River Watershed and selected 'Other';
    - 1 (<1%) resided in the Township of Georgian Bay; and,
    - 1 (<1%) resided in the Township of Severn.

Upon review of the data, it was quickly noted that the majority (94%) of the respondents resided (in either their primary or secondary residence) within the following five municipalities: Township of Muskoka Lakes; Town of Bracebridge; Town of Gravenhurst; Township of Lake of Bays; and the Town of Huntsville (see **Figure 6** below).

Likewise, an additional parameter that was quickly noted was the type of residence in which respondents resided with relation to waterfront and road access. Of the 428 respondents, 273.5 (64%) had a waterfront property with road access in the Muskoka River Watershed, of which, 109.5 (26%) were primary residences and 164 (38%) were secondary residences. Respondents with waterfront properties that did not have road access (i.e., on an island with boat access only) made up 15% of the respondents with 10.5 (3%) being a primary residence and 51.5 (12%) being a secondary residence. Compared to those with waterfront access, respondents without waterfront access comprised of 18%, with 71 (17%) being a primary residence and 4.5 (1%) being a secondary residence. The remaining 17 (4%) respondents were individuals that frequented the Muskoka River Watershed and did not own either a primary or secondary residence within the watershed. Furthermore, it was also noted that 18 respondents had

more than a single residence within the watershed, which is reflected in the half values above.

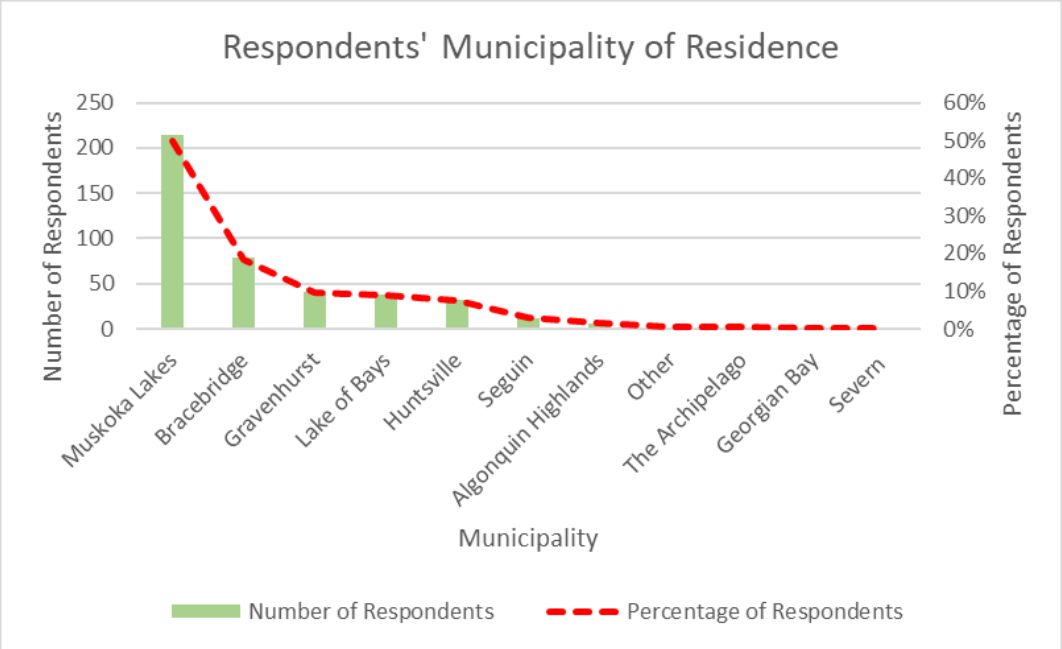


Figure 6: Municipality of Residence of Respondents from Public Engagement Survey

LGL had also asked a question related to the amount of access within the watershed – was there too much, not enough or just the right amount. The majority of respondents (264; 62%) identified that there was just the right amount of access, followed by 133 (31%) indicating that there was not enough. Only 31 (7%) respondents thought there was too much access. Of the 264 (62%) respondents that thought there was just the right amount of access, 108 (41%) were individuals residing in the watershed in a secondary residence with a waterfront and road access, 73 (28%) were individuals residing in the watershed in a primary residence with a waterfront and road access, and 34 (19%) were individuals with a secondary residence within the watershed with a waterfront and no road access. This result suggested that individuals with waterfront and road access have adequate public access to natural features and may not consider the needs of tourists.

Several results were used to form the basis of the assessment criteria, including how individuals chose which access point to go to. The majority of respondents (149; 35%) identified that proximity was how they chose which access point, followed by suitability for family (64; 15%), with accessibility and the amount of time they had scoring evenly with 57 (13%) respondents.

To gain a more in-depth insight to the extent of which facilities and/or amenities exist at current access points, LGL asked two targeted questions:

1) Overall, in your opinion, what do the existing access points need more of?
2) Overall, in your opinion, what do the existing access points need less of?

The responses to both questions were very informative. The five most selected responses for what facilities/amenities access points needed more of comprised of 73% of the responses, with dedicated parking (not on the side of the road) being the most selected answer comprising of 83 (20%) of the responses. Garbage receptacles at the main entry/exit was selected second most frequently with 71 (17%) responses, followed by washrooms, on-site maps or information boards, and signage with 69 (12%), 44 (10%) and 44 (10%) responses, respectively. When asked what facilities/amenities access points needed less of, the large majority (58%) of respondents had concerns with parking, as long-term parking/over-night parking was the most selected answer with 141 (33%) responses followed by truck/trailer parking with 107 (25%) selections. The third most common answer was nothing with 55 (13%) respondents selecting this option, followed by benches (33; 8%) and picnic tables (22; 5%).

Another interesting result was related to the type of access points within the Muskoka River Watershed that were most important to them. Of the 428 respondents, 90 (21%) individuals responded that municipal boat launches and docks were the most important to them, followed by marinas (private boat launches) (86; 20%), conservation areas/provincial or federal parks (74; 18%), hiking trails (55; 13%), and municipal parks/beaches (49; 12%). When asked the frequency of which respondents used municipal boat launches/docks, 175 (41%) identified one to five times per year while 198 (46%) responded that they never used private boat launches. Contrastingly, when asked the frequency of which respondents used private boat launches (marinas), 114 (27%) identified one to five times per year while 271 (63%) responded that they never used private boat launches. Only 43 (10%) respondents identified their private boat launch use as five to more than 20 times per year. Furthermore, of the terrestrial activities completed by respondents, hiking was by far the most popular activity, with the majority (136; 32%) of individuals using hiking trails one to five times per year, followed by 95 (22%) using trails more the 20 times per year, 81 (19%) using trails five to ten times per year, and 71 (17%) using trails ten to 20 times per year. However, the type of trail use for these responses could not be interpreted as a result of the survey questions.

6.3.2 Indigenous Community Survey

The Indigenous Community Surveys were distributed by District staff to both Moose Deer Point First Nation and Wahta Mohawk Territory on July 8, 2022 with a three week submission deadline of July 30, 2022, similar to that of the CRT and Public Engagement

Surveys. Following consultation with the District the survey period was extended to August 17, 2022. No responses were received by the submission deadline date.

6.4 PUBLIC ACCESS INVENTORY

Overall, a total of 411 public access points were compiled within the inventory spanning the Muskoka River Watershed (**Figure 7**). The composition of aquatic and terrestrial access points is as follows:

- 230 (56%) aquatic access points;
    - 162 (70%) boat launches (trailered boat access and canoe launches);
    - 68 (30%) beaches;
- 181 (44%) terrestrial access points;
    - 80 (44%) parks;
    - 55 (30%) trailheads; and,
    - 46 (26%) trailheads and parks.

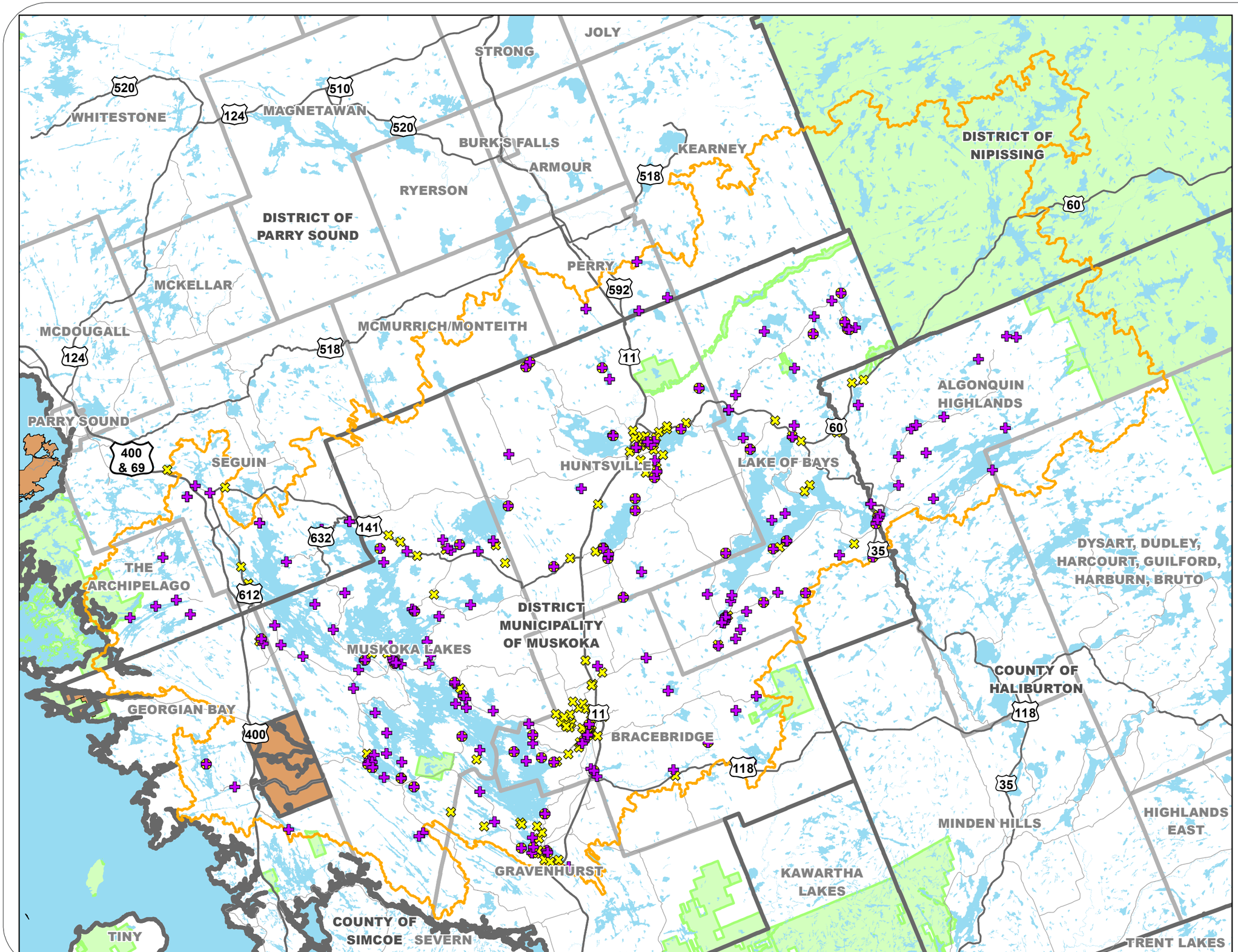
A summary of the Muskoka River Watershed aquatic and terrestrial access points by area municipality is outlined in **Table 3** below. It is clear that the majority of public access points (77% aquatic and 85% terrestrial) lie within four municipalities (Township of Muskoka Lakes, Town of Bracebridge, Township of Lake of Bays, and the Town of Huntsville) which is likely correlated to the fact that large settlement areas and populations of permanent and seasonal residents reside within these municipalities. Furthermore, there are several lower tier municipalities within the MRW that are much smaller in size and population, therefore, the need for increased public access points may not be warranted in these areas. Although a portion of the District of Nipissing lies within the Muskoka River Watershed, no public access points have been identified as this portion of the District of Nipissing is comprised of Algonquin Park, which was excluded from the analysis.

Table 3: Number of Muskoka River Watershed Public Access Points per Municipality

District	Municipality	Aquatic Access Points	Terrestrial Access Points
District Municipality of Muskoka	Town of Bracebridge	27	44
	Township of Georgian Bay	7	3
	Town of Gravenhurst	11	17
	Town of Huntsville	36	47
	Township of Lake of Bays	50	33
	Township of Muskoka Lakes	65	30
District of Parry Sound	Township of The Archipelago	5	0
	Seguin Township	10	4
	Township of McMurrich/Monteith	0	0
	Township of Perry	4	0
	Town of Kearney	0	0
County of Haliburton	Township of Algonquin Highlands	15	3
	The Municipality of Dysart et. al	0	0

6.4.1 Social Sensitivities

Social scores were assigned a value of zero through eight for aquatic access points, whereas terrestrial access points received a value of zero through five. All of the aquatic access points satisfied at least one or more social sensitivity criteria indicating that they have a facility or amenity on-site, with the highest percentage (17%) of access points containing two of the eight facilities/amenities. As mentioned above, a higher overall social score indicates a greater opportunity for public users to utilize facilities/amenities. Only 19 (8%) aquatic access points satisfied each of the eight social criteria identified above in **Table 1,** of which, one is located within the Town of Bracebridge, two are within the Seguin Township, four are within the Town of Huntsville, four are within the Township of Lake of Bays, and the remaining eight are within the Township of Muskoka Lakes. On



LEGEND

- Aquatic Public Access Point
- Terrestrial Public Access Point
- Major Road
- Highway
- Study Area Muskoka River Watershed
- First Nations Community
- Municipal Boundary Districts and Counties
- Municipal Boundary Lower Tier
- Provincial Park
- Waterbody

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PUBLIC ACCESS INVENTORY MUSKOKA RIVER WATERSHED **PUBLIC ACCESS POINTS**

LGL Est. 1971 LIMITED
environmental research associates

Project:	TA9213	**Figure:**	7
Date:	November 1, 2022	**Prepared By:**	AM
Scale:	1:400,000	**Verified By:**	CA

the contrary, most of the terrestrial access points did not meet any of the social criteria, as 51 (28%) had a total score of zero, with most of these access points located in the Township of Lake of Bays (15; 29%), Town of Bracebridge (13; 25%), and Township of Muskoka Lakes (10; 20%). Only 27 (15%) of all terrestrial access points within the MRW satisfied all five social criteria, therefore, these provide the greatest opportunities for users when accessing trailheads and parks. Of the 27 access points meeting all five criteria, nine (33%) were in the Township of Muskoka Lakes, while seven (26%) were located in both the Town of Bracebridge and Town of Huntsville, respectively. Two criteria satisfied was the next highest overall score with 32 (17%) terrestrial access points, followed by one criterion satisfied with 25 (14%) terrestrial access points and three criteria satisfied applied to 24 (13%) terrestrial access points. The number of each social sensitivity criteria for both aquatic and terrestrial access points is identified below.

Aquatic Access Points:

- 113 with trailered boat launches;
- 227 with canoe launches;
- 132 with docks;
- 122 parking lots;
- 69 washrooms;
- 88 garbage receptacles;
- 93 with signage; and,
- 77 with accessibility considerations.

Terrestrial Access Points:

- 100 parking lots;
- 62 washrooms;
- 86 garbage receptacles;
- 94 with signage; and,
- 42 with accessibility considerations.

A breakdown of the total sensitivity scores for aquatic and terrestrial access points within the District Municipality of Muskoka is found in **Figures 8 and 9**, below**.**

6.4.2 Economic Sensitivities

The total for each economic sensitivity criteria score was calculated for both aquatic and terrestrial access points which is outlined in **Figures 10 and 11**, below. Economic scores were assigned a value of zero through three for both aquatic and terrestrial access points. The majority of aquatic access points satisfied one (82; 36%) economic criteria, closely followed by all three (73; 32%) economic criteria, which provides a great number of opportunities for users within the Watershed. A further interpretation of the results was conducted which highlighted that of all aquatic access points that satisfied one economic

criterion, only one, Oxtongue Lake Launch, was located within 400 m of a settlement area. Aquatic access points that did not meet any of the economic criteria accounted for 41 (18%) of the total. On the contrary, most of the terrestrial access points met all three of the economic criteria, with 79 (44%) having a total score of three, providing a large opportunity for users within the Watershed to access urban areas and businesses. The majority of terrestrial access points that met all three economic criteria were located within the Township of Bracebridge (14; 18%), Township of Muskoka Lakes (14; 18%), Township of Lake of Bays (15; 19%), and the Town of Huntsville (24; 30%). The next highest overall score was for having met one of the three economic criteria with 39 (22%) terrestrial access points, closely followed by having met two of the economic criteria (37; 20%). The Town of Bracebridge contained the most terrestrial access points which met two economic criteria accounting for 23 (62%) of the access points. The total number of each economic sensitivity criteria for both aquatic and terrestrial access points is identified below.

Aquatic:

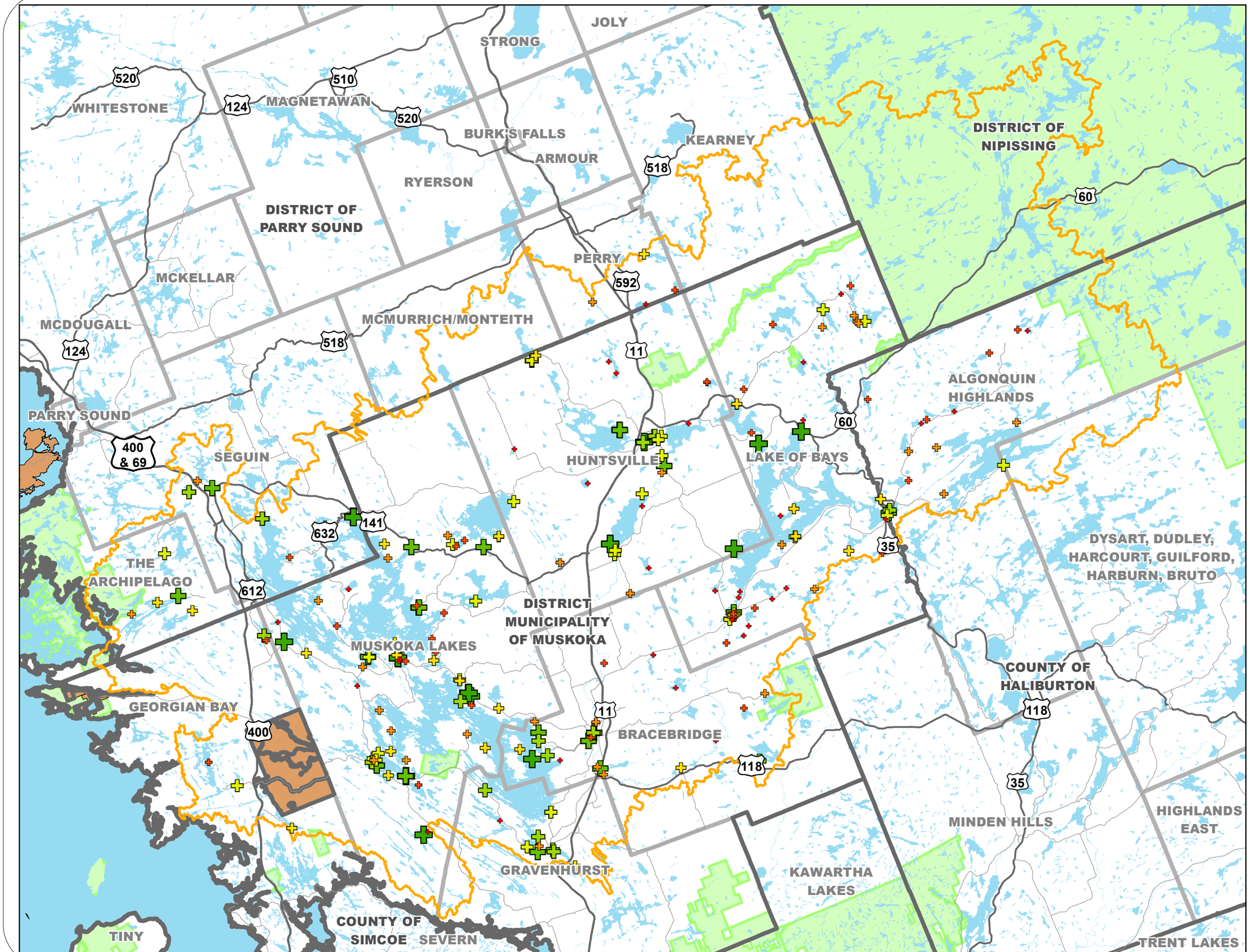
- 113 within 400 m of commercial zoning;
- 86 within 400 m of a settlement area; and,
- 170 with year-round access.

Terrestrial:

- 98 within 400 m of commercial zoning;
- 111 within 400 m of a settlement area; and,
- 141 with year-round access.

6.4.3 Environmental Sensitivities

When calculating final scores for environmental sensitivity criteria, values from zero to nine were assigned for aquatic access points whereas values of zero to seven were assigned for terrestrial access points. The higher overall environmental sensitivity score indicated that several natural heritage features were within close proximity to an access point, thereby, should be considered a constraint and is not favourable in terms of potential future development and site alteration. This is the opposite of what was inferred for social and economic sensitivity scores, where a higher overall score was seen as a positive and more opportunistic score. Six (6; 3%) aquatic access points did not meet any of the environmentally sensitive criteria, indicating the most favourable locations for public access that require limited environmental protection. Of these aquatic access points, two were located within the Township of Perry, while one was located within each of the following four municipalities: Town of Huntsville; Township of Muskoka Lakes, Township of The Archipelago; and, Township of Algonquin Highlands (see **Table 4** below). The



LEGEND

- Major Road
- Highway
- Study Area Muskoka River Watershed
- First Nations Community
- Municipal Boundary Districts and Counties
- Municipal Boundary Lower Tier
- Provincial Park
- Waterbody

Aquatic Access Social Amenity Score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

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PUBLIC ACCESS INVENTORY MUSKOKA RIVER WATERSHED

AQUATIC ACCESS SOCIAL AMENITY SCORES

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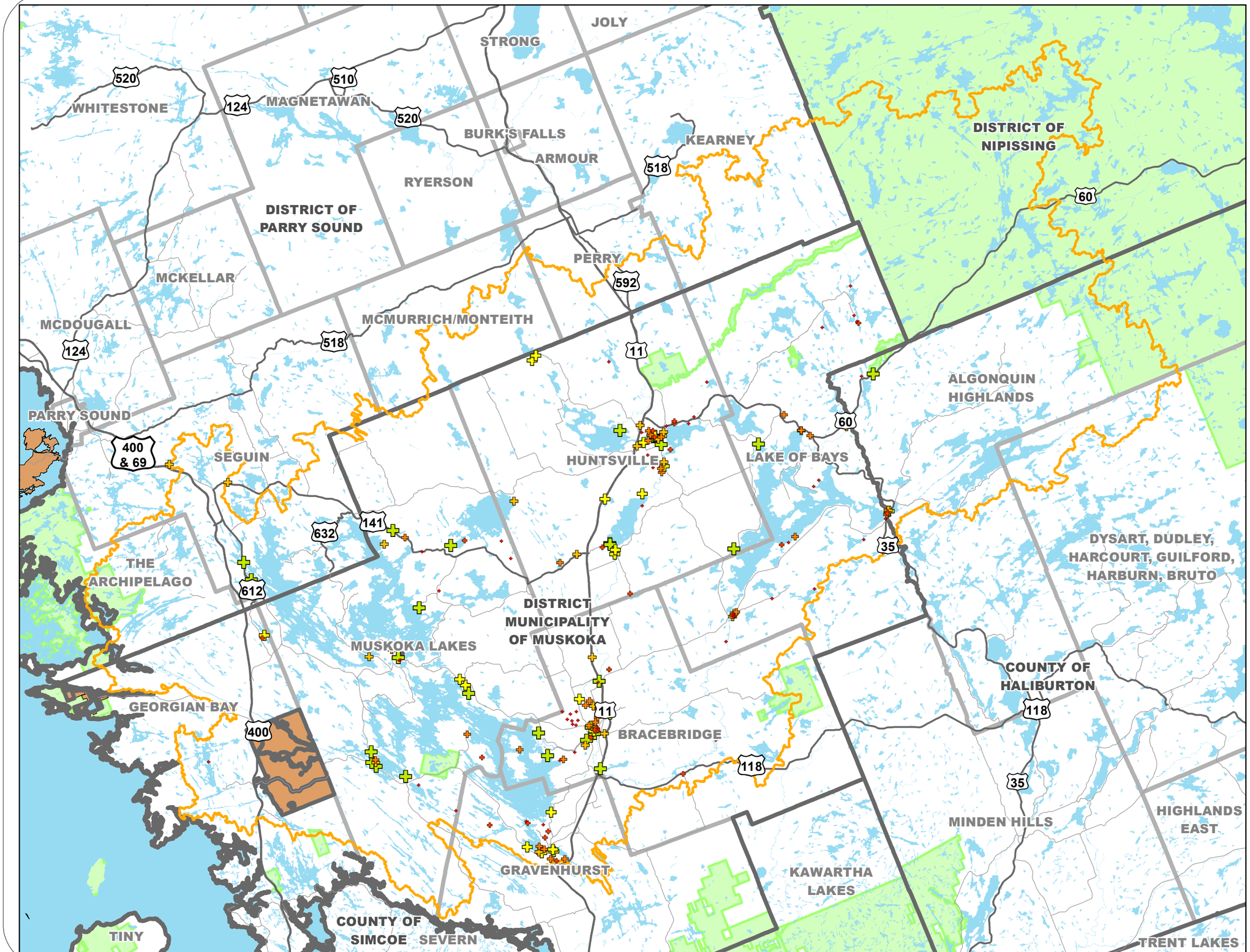
Project:	TA9213	**Figure:**	8
Date:	November 2, 2022	**Prepared By:**	AM
Scale:	1:400,000	**Verified By:**	CA



LEGEND

- Major Road
- Highway
- Study Area Muskoka River Watershed
- First Nations Community
- Municipal Boundary Districts and Counties
- Municipal Boundary Lower Tier
- Provincial Park
- Waterbody

Terrestrial Access Social Amenity Score

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

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PUBLIC ACCESS INVENTORY MUSKOKA RIVER WATERSHED **TERRESTRIAL ACCESS SOCIAL AMENITY SCORES**

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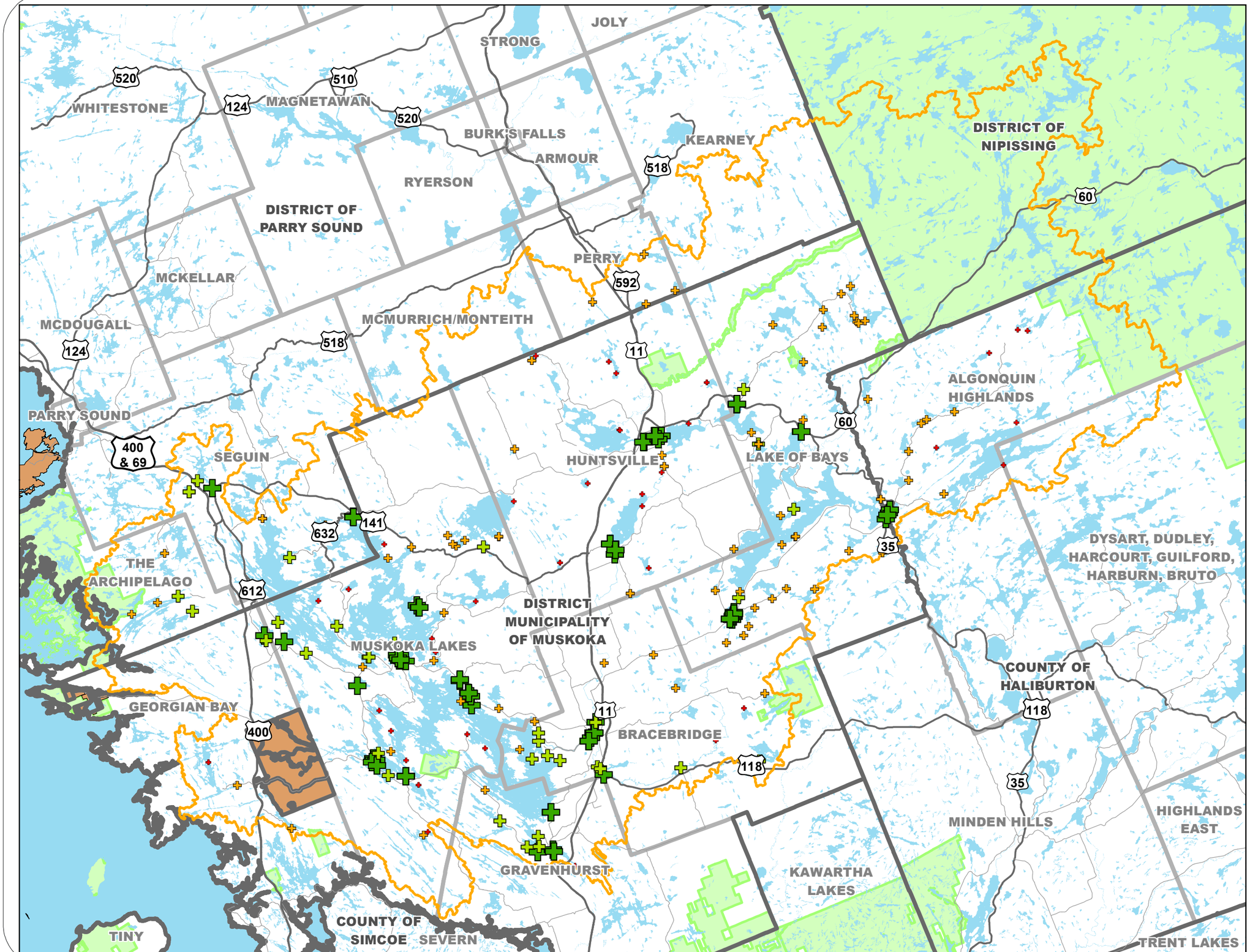
Project:	TA9213	**Figure:**	9
Date:	November 2, 2022	**Prepared By:**	AM
Scale:	1:400,000	**Verified By:**	CA



LEGEND

- Major Road
- Highway
- Study Area Muskoka River Watershed
- First Nations Community
- Municipal Boundary Districts and Counties
- Municipal Boundary Lower Tier
- Provincial Park
- Waterbody

Aquatic Access Economic Amenity Score

- 0
- 1
- 2
- 3

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PUBLIC ACCESS INVENTORY MUSKOKA RIVER WATERSHED

AQUATIC ACCESS ECONOMIC AMENITY SCORES

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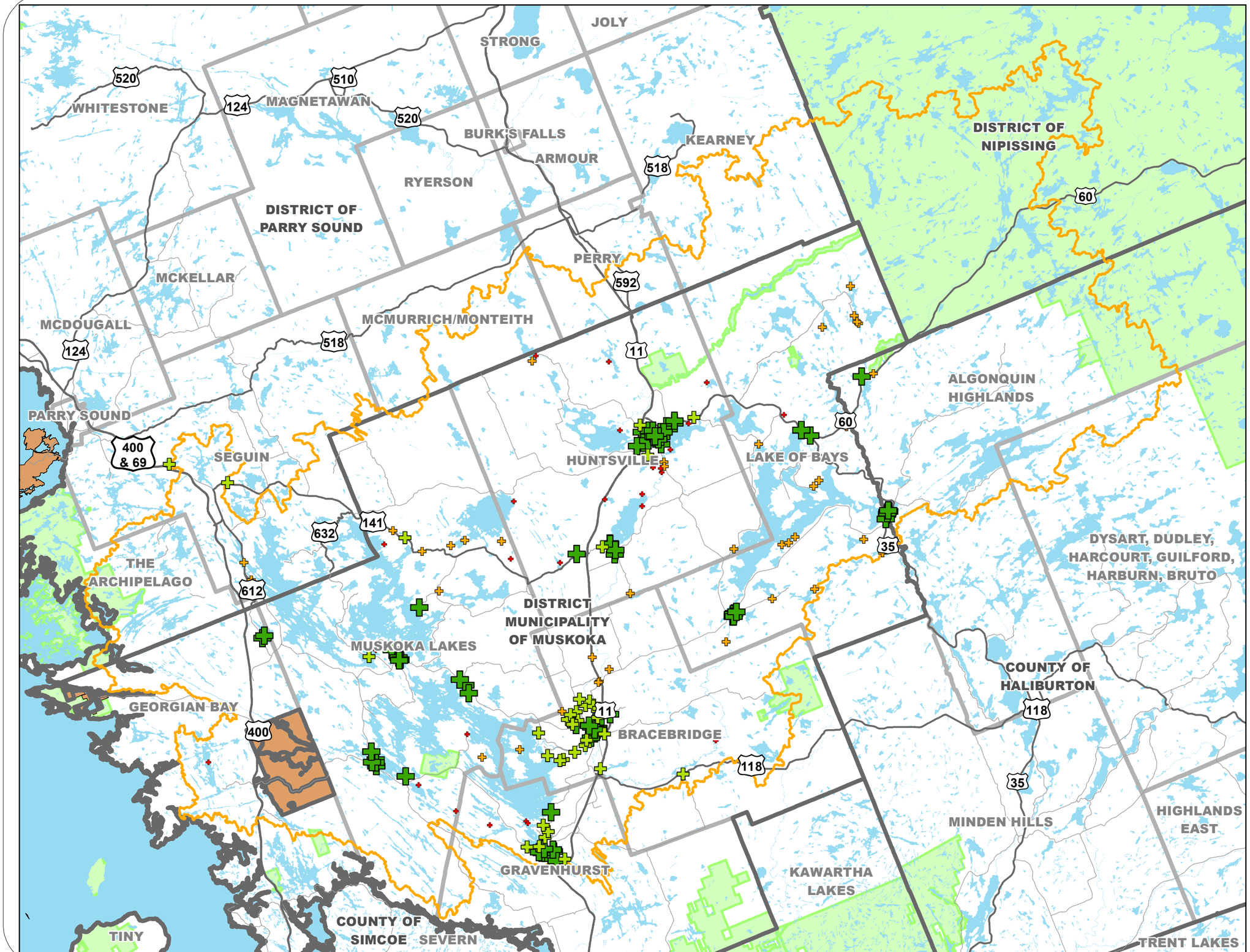
Project:	TA9213	**Figure:**	10
Date:	November 2, 2022	**Prepared By:**	AM
Scale:	1:400,000	**Verified By:**	CA



LEGEND

- Major Road
- Highway
- Study Area Muskoka River Watershed
- First Nations Community
- Municipal Boundary Districts and Counties
- Municipal Boundary Lower Tier
- Provincial Park
- Waterbody

Terrestrial Access Economic Amenity Score

- 0
- 1
- 2
- 3

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PUBLIC ACCESS INVENTORY MUSKOKA RIVER WATERSHED **TERRESTRIAL ACCESS ECONOMIC AMENITY SCORES**

LGL Est. 1971 LIMITED
environmental research associates

Project:	TA9213	**Figure:**	11
Date:	November 2, 2022	**Prepared By:**	AM
Scale:	1:400,000	**Verified By:**	CA

most common total score assigned to aquatic access points was two which accounted for 116 (50%) of the total. Fifty-four (54; 23%) aquatic access points had a total score of three, while 47 (20%) had a total score of one. Aquatic access points within the Townships of Lake of Bays (40; 34%) and Muskoka Lakes (28; 24%) contained the majority of those which meet two environmental criteria. The Hutcheson Beach and Hutcheson Beach Launch within the Town of Huntsville, however, were the only aquatic access points to contain five and six environmental sensitives, respectively, which was considered a large constraint for public access. No aquatic access point met more than six environmental sensitivity criteria.

Similar to aquatic access points, the majority (78; 43%) of terrestrial access points satisfied only one of the environmental criteria being met, closely followed by two environmental sensitivity criteria met (75; 41%). Fifteen (15; 8%) terrestrial access points satisfied three environmental sensitivity criteria, five within the Township of Lake of Bays, three in each of the Township of Muskoka Lakes and Town of Huntsville, respectively, two within the Town of Bracebridge and one was in both the Township of Algonquin Highlands and Seguin Township, respectively. Four terrestrial access points contained four environmental sensitivities: Echo Valley Nature and Bike Trails (Township of Lake of Bays), Buck Lake Beach and Hutcheson Beach (Town of Huntsville), and Johnston Park (Town of Bracebridge). Nine (9; 5%) terrestrial access points did not meet any of the environmental criteria, likewise, none met more than four environmental criteria (see **Table 4**). A breakdown of total environmental sensitivity scores by municipality for both aquatic and terrestrial access points can be found below in **Figures 12 and 13.**

Table 4: Access Points with Zero Environmentally Sensitive Criteria Met

Municipality	Aquatic Access Point	Terrestrial Access Point
Town of Bracebridge		Bracebridge Sportsplex Walk Gostic Park Peake Fields at Verena Acres Trans Canada/Strawberry Point Trail Wilson Falls Trail (3 different access points)
Town of Huntsville	Golden City Lake Launch	Utterson Community Park
Township of Muskoka Lakes	Three Mile Lake Launch	Raymond Trail
Township of Algonquin Highlands	Crown Lake Launch	
Township of Perry	Foote Lake Launch Langford Lake Beach	
Township of The Archipelago	Fox Back Road Boat Launch	

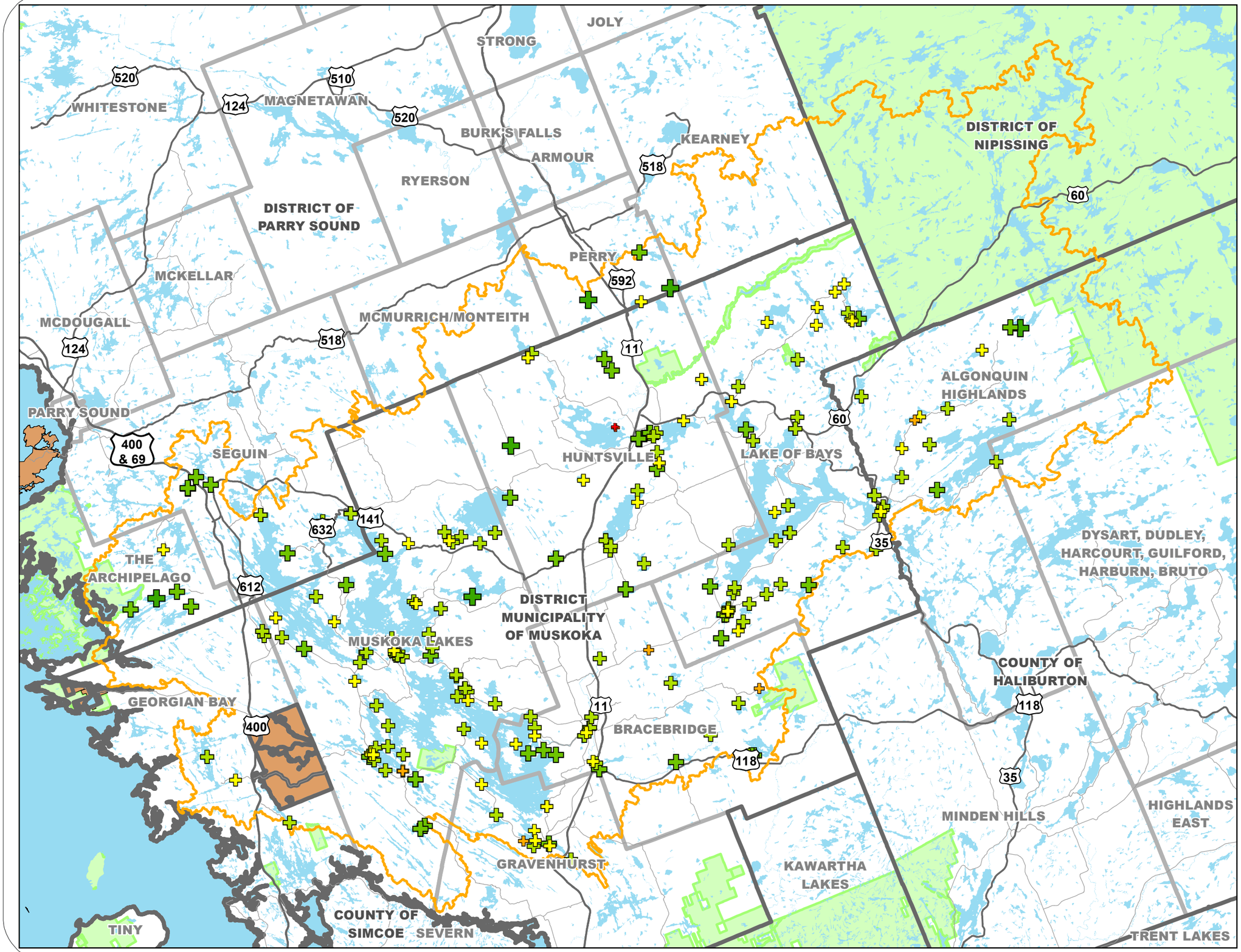
Thirty-six (36; 77%) aquatic access points that satisfied one environmental criterion and 113 (97%) of aquatic access points that satisfied two environmental criteria lied within a NHIC grid square indicating that either a species at risk, wildlife concentration area, or natural heritage area was located within the 1 km x 1 km area surrounding the access point. Similarly with terrestrial access points, this occurred for 68 (87%) of those satisfying one environmental criterion and for 74 (99%) of those satisfying two environmental criteria. Although the NHIC grid square identified species at risk (both aquatic and terrestrial), the area encapsulated by a grid square was rather vast and was applied as a precautionary measure from each species occurrence, therefore, the location of the access point may not provide suitable habitat for the species identified. However, LGL has included each species observation out of an abundance of caution. As such, further review of each access point should be completed to accurately depict if a species at risk, or their habitat, exists within the immediate vicinity of the access point. In the event that no species at risk are within the vicinity of the access point, no environmental criteria will be met for those currently with a total score of one, thereby, increasing the number of access points with no environmental constraints. This also applies for all public access points which can be downgraded by a value of one if it is found they do not have species at risk, or their habitat, within the immediate vicinity.

The access point with the overall cumulative amount of environmental constraints was Hutcheson Beach (Town of Huntsville), which was identified as both an aquatic and terrestrial access point as it contains a beach and a park. It satisfied five aquatic and four terrestrial environmental sensitivity criteria. Hutcheson Beach is identified within a NHIC 1 km x 1km grid square, within 120 m of a Special Policy Area (Muskoka Heritage Area), 120 m of East River Delta Life Science ANSI, 120 m of Big East River Delta Wetland PSW, and contains Northern Pike (*Esox Lucius*) Spawning Area.

The aquatic access point with the highest number of environmental criteria met was the Hutcheson Beach Launch within the Town of Huntsville, with six environmental sensitivities met. The Hutcheson Beach Launch contained all of the abovementioned natural heritage features, with the addition of being within 30 m of an unevaluated wetland.

The four terrestrial access points, which satisfied the most number (four) of environmental sensitivity criteria were: Echo Valley Nature and Bike Trails within the Township of Lake of Bays; Buck Lake Beach and Hutcheson Beach in the Town of Huntsville; and, Johnston Park in the Town of Bracebridge.

Overall, there were several occurrences where public access points lied within or intersected natural heritage features within the Muskoka River Watershed. Aquatic access points had a greater number and type of environmental constraints associated with them, likely due to the number inventoried in comparison to terrestrial access points. Additionally, more environmentally sensitive species, areas, and associated policies



LEGEND

- Major Road
- Highway
- Study Area Muskoka River Watershed
- First Nations Community
- Municipal Boundary Districts and Counties
- Municipal Boundary Lower Tier
- Provincial Park
- Waterbody

Aquatic Access Environmental Sensitivity Score

- 0
- 1
- 2
- 3
- 4
- 5
- 6

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PUBLIC ACCESS INVENTORY MUSKOKA RIVER WATERSHED **AQUATIC ACCESS ENVIRONMENTAL SENSITIVITY SCORES**

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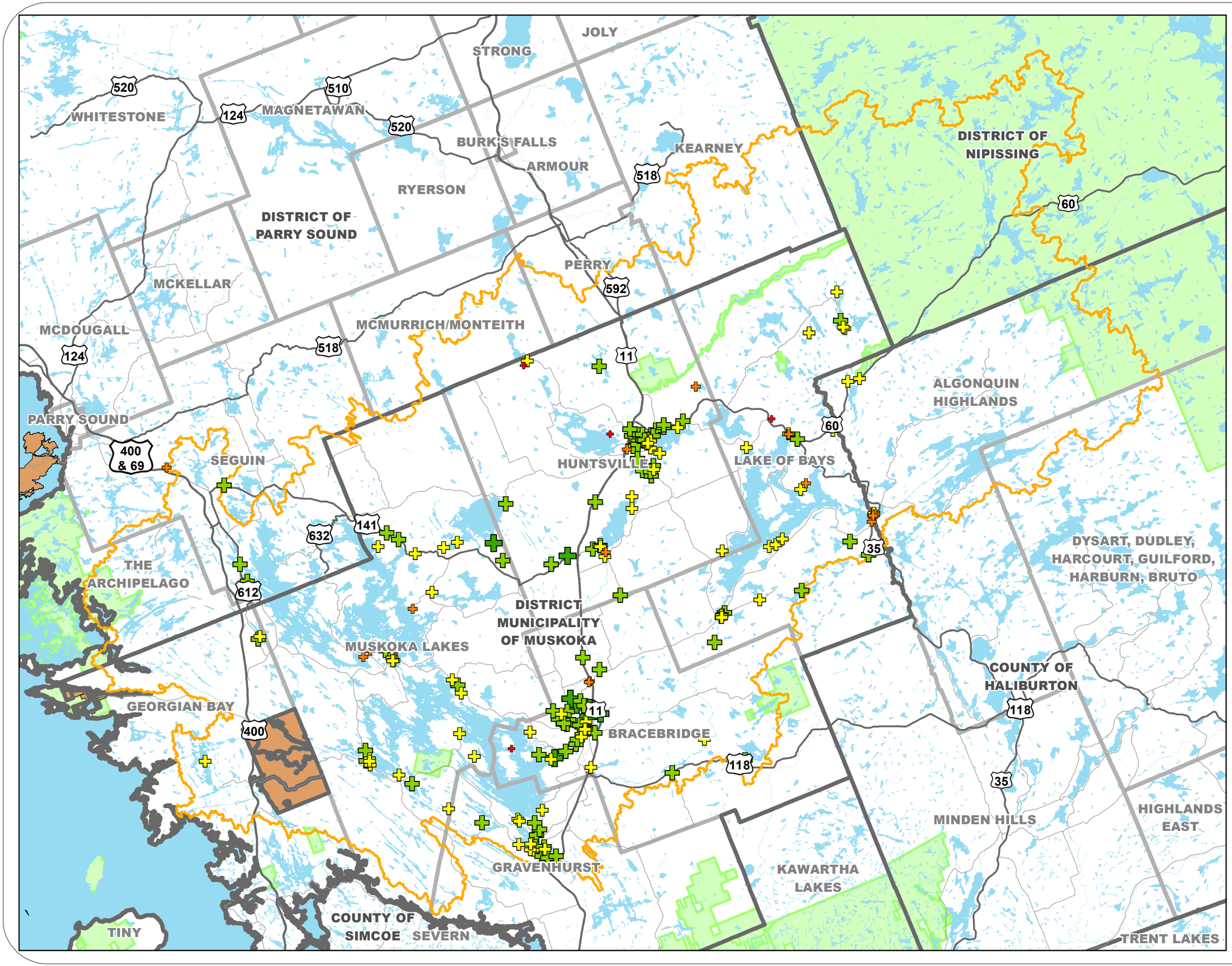
Project:	TA9213	**Figure:**	12
Date:	November 2, 2022	**Prepared By:**	AM
Scale:	1:400,000	**Verified By:**	CA



LEGEND

- Major Road
- Highway
- Study Area Muskoka River Watershed
- First Nations Community
- Municipal Boundary Districts and Counties
- Municipal Boundary Lower Tier
- Provincial Park
- Waterbody

Terrestrial Access Environmental Sensitivity Score

- 0
- 1
- 2
- 3
- 4

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PUBLIC ACCESS INVENTORY MUSKOKA RIVER WATERSHED TERRESTRIAL ACCESS ENVIRONMENTAL SENSITIVITY SCORES

LGL Est. 1971 LIMITED
environmental research associates

Project:	TA9213	**Figure:**	13
Date:	November 2, 2022	**Prepared By:**	AM
Scale:	1:400,000	**Verified By:**	CA

apply to watercourses and waterbodies than for terrestrial areas. The number of each environmental sensitivity/constraint for both aquatic and terrestrial access points is identified below.

Aquatic Access Points:

- 171 Special Policy Areas;
- 37 Fish Activity Areas (Spawning Areas – Brook Trout, Lake Trout, Largemouth Bass, Muskellunge, Northern Pike, Rainbow Smelt, Rainbow Trout, Smallmouth Bass, and Walleye);
- 23 Lake Trout Lakes;
- 12 Unevaluated wetlands;
- 9 Aquatic Species at Risk (Northern Sunfish);
- 6 Provincially Significant Wetlands (Big East River Delta Wetland PSW, Novar Bog Wetland PSW, Porridge Lake Wetland, and Siding Lake Wetland PSW);
- 3 Life Science ANSIs (East River Delta and Eilean Gowan Island); and,
- 2 Earth Science ANSIs (Axe Creek Modern Alluvial Deposit).

Terrestrial Access Points:

- 88 Special Policy Areas;
- 30 Wildlife Activity Areas (White-tailed Deer Wintering Yard (Stratum 1) and White-tailed Deer Wintering Yard (Stratum 2);
- 4 Unevaluated wetlands;
- 3 Provincially Significant Wetlands (Big East River Delta Wetland PSW, Boyne River Wetland PSW, and Pioneer Village Wetland);
- 2 Life Science ANSI (East River Delta and Eilean Gowan Island); and,
- 1 Earth Science ANSI (Axe Creek Modern Alluvial Deposit).

7.0 ANALYSIS AND DISCUSSION

Overall, through the culmination of results from the CRT and Public Engagement Survey, public access inventory and the GIS analysis related to social, economic and environmental sensitivities, it became evident that the results were largely biased based on public access within the four lower tier municipalities: Town of Bracebridge; Town of Huntsville; Township of Lake of Bays; and, Township of Muskoka Lakes. Similarly, survey responses from individuals that resided within the above-mentioned municipalities, in addition to the Town of Gravenhurst, were those which provided the majority of the results. These results were also heavily biased based on the type of residence individuals lived in; whether it be a primary or secondary residence, results were skewed based on waterfront access and road access. Through these surveys, it became clear that the

needs of those with waterfront access and those without waterfront access were much different. Likewise, the opinions related to public access for those residing within the Muskoka River Watershed appeared to be different from tourists and day-time users occasionally using public access points. With regards to the quantity of public access, the majority of both aquatic and terrestrial access points comprised within the inventory were located within the four lower tier municipalities: Town of Bracebridge; Town of Huntsville; Township of Lake of Bays; and, Township of Muskoka Lakes. Therefore, the analysis of social, economic, and environmental sensitivities was largely correlated to public access within these four municipalities, and not necessarily reflective of the Muskoka River Watershed as a whole. Although there were limited public access points in the remaining lower tier municipalities within the MRW, data gaps may exist which do not include public access points in rural areas or those which have not been provided from data requests or are not made publicly available through municipal websites.

7.1 SOCIAL SENSITIVITIES

Social criteria were developed largely as a result of the CRT and Public Engagement Survey responses. As identified above in **Section 5.3.1**, five primary social criteria were identified which included: dedicated parking lots (not side of road parking); garbage receptacles; washrooms; interpretative signage; and, accessibility for individuals with disabilities. An additional three criteria were identified for aquatic access points: trailered boat access; canoe launch; and, dock. Results of the assessment identified that 19 (8%) aquatic access points contained all eight social criteria, demonstrating a large social opportunity for public access users to utilize facilities/amenities on-site. Furthermore, LGL's assessment determined that there were no aquatic access points containing zero social criteria. The highest number of aquatic access point total scores were those containing either one (39; 17%) or two (35; 15%) social criteria. Terrestrial access points which met all social criteria comprised of 27 (15%) of the total, while 51 (28%) met zero social criteria, which was seen as a constraint to public access.

7.1.1 Parking

One of the most common answers with respect to public access was related to dedicated parking facilities. When asked what facilities/amenities existing public access points needed less of, 58% of respondents selected long term/over-night parking and truck/trailer parking. This result suggested that the majority of individuals that participated in the survey may reside in waterfront properties with road access, and therefore, would not require the use of aquatic public access points to access waterbodies. Alternatively, this could also suggest that a large portion of individuals utilizing aquatic public access points were not operating watercrafts which required trailers/long term parking, but rather, could be tourists or day-users with smaller, personal watercrafts (i.e., kayaks and canoes). With respect to terrestrial access, this response also suggested that trail users are largely tourists/day-users rather than individuals completing multi-day hikes.

Additionally, this result suggested that there is ample dedicated long-term truck/trailer parking existing within the Muskoka River Watershed currently, which may be biased towards those residing within the watershed or those with larger boats. This does not cater to the majority of individuals using public access points for single day use. On the contrary, when asked what facilities/amenities existing access points needed more of, the most frequently selected answer was dedicated parking lots (i.e., not on the side of the road) with 20% of respondents having selected this answer.

The results suggested that users of public access points may be those who use the Muskoka River Watershed's trails and waterbodies for single day-use excursions and may be operating their own personal watercraft only, therefore, would not require long term parking. In relation to aquatic access points, the assessment determined that 122 (53%) had a parking lot nearby, whereas 95 (41%) had no parking nearby. There were 100 (55%) terrestrial access points which had a dedicated parking lot, with 75 (41%) lacking parking facilities. When evaluating these two results from the perspective of local taxpayers, the need for truck/trailer parking and long term/over-night parking would be relevant as individuals whose residence does not have road access, or those who reside on an island, would require somewhere to leave their vehicles to launch their boat. However, when evaluating these responses from a tourist perspective, it is evident that there is a greater need for more dedicated parking facilities as only just over half (54%) of all access points within the Muskoka River Watershed provide public parking. Given the MRW's popularity among tourists for terrestrial and aquatic recreation, and concern demonstrated by the CRT members, an increase in dedicated parking facilities would likely improve overall public experience at access points in the future and balance the needs of both residents and tourists.

7.1.2 Garbage Receptacles

Given survey responses and conversations with the Community Round Table, there is local concern about the increasing amount of garbage littered within the MRW in recent years. Garbage receptacles at the main entry/exit was the second most common answer for an amenity that should be more common at public access points. The assessment of this criterion identified that 88 (38%) aquatic access points and 86 (48%) terrestrial access points provided garbage receptacles nearby. As the number of respondents (90%) that use public access points for hiking related activities is only reflective of individuals residing within the Muskoka River Watershed, it is expected that a large proportion of tourists and non-residents utilize hiking trails within the MRW as well. Therefore, an increase in the number of garbage receptacles on municipally owned lands should be reflective of the frequency of users. Although only a small number of garbage receptacles were confirmed at the public access points, it is likely that this number is larger and could not be confirmed as a result of orthoimagery interpretation. Overall, the availability of garbage receptacles is viewed as an opportunity to increase user experience by ensuring

that the lands surrounding public access points are clean and free of debris while ensuring environmentally sensitive features remain protected.

7.1.3 Washroom Facilities

The presence or absence of washroom facilities near public access points is another criterion that was assessed as a social criterion. Sixteen percent (16%) of respondents had identified the need for more washroom facilities to be located near public access points. Of the 230 aquatic access points, 69 (30%) had washroom facilities while only 62 (34%) of 181 terrestrial access points had washroom facilities. This equates to only 32% of the total public access points within the Muskoka River Watershed having washroom facilities on-site. Providing washroom facilities would improve the public access experience for users, in particular, those with families and small children, those with disabilities, as well as the overall general public.

7.1.4 Signage

On-site maps or information boards and interpretative signage were also amenities of interest to individuals participating in the CRT and Public Engagement Surveys, with 10% of respondents in each survey indicating a need for increased signage. During the discussion with CRT members on June 8, 2022, the concern for increased signage was discussed in relation to tourists. This concern is two-fold; to prevent tourists from entering private property to access waterbodies or trails while also making public access points more accessible and visibly obvious for visitors. Additionally, concerns were also raised regarding the lack of signage at terrestrial access points as a method of trail management related to: trail markers to ensure individuals remain on proper trails without creating new ones; location of garbage receptacles; identification of permissible off-leash dog areas; and, identifying environmental hazards.

LGL has grouped on-site maps, information boards and interpretative signage as one criterion for the purposes of the assessment. In total, 93 (40%) aquatic access points and 94 (52%) terrestrial access points had signage nearby. Although only 20% of signage could not be confirmed at terrestrial access points, signage at nearly half (47%) of aquatic access points could not confirmed due to limitations in orthoimagery resolution and remote sensing exercises. These results supported the concerns from CRT members, as it was apparent that signage directing individuals to public access points within the MRW is lacking, especially for aquatic access points. This also supported the concern that more known municipal boat launches/docks and marinas were overpopulated with crowds resulting in locals having long wait times for water access.

Additionally, it was found that 5% of respondents noted lack of maintenance at existing public access sites, therefore, increased signage would also benefit public access overall as a method to provide information related to usage restrictions, to ensure proper etiquette is upheld by all, and that environmentally significant features are protected. In

particular, signage identifying best practices such as ‘sticking to existing trails’, ‘not to litter’, or ‘no campfires’ where appropriate could be implemented as well as those identifying locations of various public access.

7.1.5 Accessibility

One of the primary concerns of those who completed the Public Engagement Survey was accessibility for individuals with disabilities when using public access points. As a result, LGL has included that parameter as a social criterion when assessing public access points. Of the 230 aquatic points, only 77 (33%) satisfied the criterion for having accessibility considerations, while only 42 (23%) of the 181 terrestrial access points satisfied this criterion.

7.1.6 Summary

Overall, only 8% of aquatic and 15% of terrestrial access points satisfied all of the social sensitivity criteria, thereby, providing the greatest opportunities for public user access within the MRW. The large majority of public access points did not contain all of the abovementioned social criteria. The need for facilities/amenities has been demonstrated by user feedback and through the increasing tourist presence within the MRW. An increase in the number of facilities/amenities at given access points would likely increase the overall user experience of public access points. However, further studies should be conducted to ensure than an increase in facilities/amenities is constructed at access points that are frequented often and would support budget requirements for construction/implementation and ongoing maintenance/management. Additionally, further studies should assess all possible environmental constraints nearest the public access points to ensure no net negative effects arise from the proposed facility/amenity upgrades.

7.2 ECONOMIC SENSITIVITIES

Economic criteria were developed following a review of several resources: the results of the CRT and Public Engagement Survey; via communication with the CRT members on June 8, 2022; and, from Official Plan and Zoning Bylaw datasets received from various municipalities. Results from the Public Engagement Survey indicated that municipal boat launches/docks, followed by marinas, were the most important types of access points with 21% and 20% of the responses, respectively.

7.2.1 Proximity to Commercial Zoning Areas

To gain a better understanding of the uses that municipal boat launches/docks and marinas provided, aside from accessing bodies of water, LGL also asked a question pertaining to the importance of ‘businesses’ or ‘other’ categories in relation to public access. Once the data had been refined, it was clear that a large majority (59%) of individuals used aquatic public access points to access businesses such as restaurants,

accommodation, shopping, fuel, and leisure businesses at least one time per year. Therefore, proximity of aquatic access points including municipal launches/docks and marinas was important to those who have access to a watercraft. One business type that was expressed as particularly important to all trailered boat users was marinas with fuel pumps. Furthermore, CRT members expressed they often travel into town for dining opportunities by docking at a local marina. Therefore, a large majority of users within the MRW identified they utilized local businesses nearby aquatic public access points. The results of the assessment indicated that 113 (49%) aquatic access points and 98 (54%) terrestrial access points were located within 400 m of a commercial zoning area. By identifying the number of public access points nearby commercial zoning and local businesses, it can be inferred the there is increased frequency of usage at these access points. From an economic perspective, it would be beneficial for businesses and future development to be concentrated within 400 m of public access points, in particular, marinas and municipal boat launches/docks.

7.2.2 Proximity to Settlement Areas

The proximity of each access point to settlement areas was calculated as a result of the majority of respondents identifying that they travelled by car (64%) or by boat (24%) to access points. This result suggested that proximity to access points plays an important role in how individuals select where to use public access points. It is assumed that many residents live within settlement areas, likewise, that there are more access points near settlement areas, especially in terms of terrestrial access within municipal parks. As such, LGL determined that proximity to settlement areas is an important economic criterion. In total, 86 (37%) aquatic access points and 111 (61%) terrestrial access points were located within 400 m of a settlement area.

7.2.3 Year-Round Access

The second most selected response of ‘other’ type of access was for winter recreation (14%). As there are many opportunities for winter activities to be enjoyed within the Muskoka River Watershed, an economic criterion related to year-round accessibility by means of snow removal was considered. Year-round accessibility was assumed for access points only if trailheads, sidewalks, and parking facilities received snow removal. As such, it was found that 170 (74%) aquatic access points and 141 (78%) terrestrial access points were accessible year-round. This result, however, was not surprising, as 99 (58%) aquatic and 83 (59%) (83) terrestrial access points which received snow removal had dedicated parking lots nearby. Additionally, it was found that 59 (42%) terrestrial access points were parks, 39 (28%) were trailheads, while 43 (30%) were trailheads and parks combined, meaning that trail access was provided through municipal parks with parking lots. As these were municipal parks, regular snow plowing occurs at these sites. Given the large number of public access points that receive snow removal within the MRW, a significant opportunity for trail users to engage in winter activities is

observed, especially considering 116 (27%) of survey respondents were found to engage in cross-country skiing at least one to five times per year.

7.2.4 Summary

In terms of economic opportunities, approximately one third (37%) of all public access points satisfied each of the three economic criteria and should be considered the greatest value from an economic perspective to attract resident and non-resident users. Most of these access points were located within five municipalities: Town of Bracebridge; Town of Gravenhurst; Town of Huntsville; Township of Lake of Bays; and, Township of Muskoka Lakes, all of which contain larger populations, settlement areas, marinas with fuel pumps, while several have a downtown core containing shops, restaurants, and local businesses. These access points offer the greatest opportunities to users of public access in terms of proximity to urban areas, businesses, and year-round accessibility. However, future policy considerations should identify the current use and pressure these access points may serve and assess how these areas can accommodate for future access point usage.

7.3 ENVIRONMENTAL SENSITIVITIES

Environmental sensitivities were identified through background review to determine the natural features within the Muskoka River Watershed. To adhere to the Official Plans within the Watershed, setback zones from wetlands (unevaluated and PSW), ANSIs, fish habitat, Lake Trout lakes, and Muskoka Heritage Areas and Sites were included to create the environmental sensitivity criteria for assessing aquatic access points. As mentioned above, a low total score for environmental sensitivity criteria provides a greater opportunity for public access, while a high total score provides a constraint, as it demonstrates the presence of multiple natural heritage features within the vicinity of a given access point.

7.3.1 Fish Habitat

Aquatic access points may have the potential to impact habitat which supports aquatic species at risk, therefore, a thorough review of the Department of Fisheries and Oceans Canada (DFO) aquatic species at risk mapping was conducted. Species at risk distribution and critical habitat datasets were reviewed to identify any aquatic access points within 120 m of either of these datasets. The assessment determined that there were two aquatic species at risk within the MRW: Northern Sunfish (*Leopomis peltastes*), and Silver Lamprey (*Ichthyomyzon unicuspis*). Both species are regulated under the federal *Endangered Species Act, 2007* (ESA) and provincial *Species at Risk Act* (SARA) as “Special Concern”. Northern Sunfish distribution spans the Township of Muskoka Lakes, Town of Bracebridge and Town of Gravenhurst, where it inhabits Lake Muskoka and Pine Lake (DFO 2022c). Silver Lamprey distribution was identified within the downstream portion of Gibson River as well as Georgian Bay within the Township of Georgian Bay (DFO 2022c). No aquatic public access points within the MRW were within

120 m of Silver Lamprey distribution areas. Only nine aquatic access points (six boat launches and three beaches) on Lake Muskoka were within 120 m of Northern Sunfish distribution, one in the Town of Bracebridge, four in the Town of Gravenhurst, and four in the Township of Muskoka Lakes. Aquatic species at risk and their habitat is regulated under the *Fisheries Act* and *Endangered Species Act, 2007*, therefore, future development or site alteration of the existing access points, or the creation of new access points within 120 m of Northern Sunfish or Silver Lamprey habitat, would require further study and discussion with environmental regulatory agencies.

Municipal policy outlined within the OPs identify aquatic species at risk habitat as fish habitat under their policies related to natural heritage features and areas, which requires a fish habitat assessment to ensure that proposed works would not result in the harmful alteration, disruption, or destruction of fish habitat (HADD). The greatest concern for impacts to aquatic species at risk, or their habitat, as a result of public access lies with watercraft use. Although fish would typically avoid motorboats, should oil/fuel spills occur, this could result in disturbance and alteration of their habitat. Fishing and angling activities could also disrupt habitat by transporting invasive species such as Zebra Mussel (*Dreissena polymorphia)* and Spiny Water Flea (*Bythotrephes longimanus*) into Lake Muskoka if boats were not washed before entering. Of the six boat launches within Northern Sunfish habitat, four were both trailered boat launches and canoe launches, three of which were docks. All three beaches were considered canoe launches but only one contained a dock. Therefore, the greatest risks to Northern Sunfish were observed at the George Road Launch (Town of Bracebridge), Glen Echo Landing (Town of Gravenhurst) and Ann St. Launch (Township of Muskoka Lakes) which all contained a trailered boat launch, canoe launch and a dock. LGL was not able to confirm if boat washing stations currently exist at these facilities, however, consideration should be provided to these three boat launches as it could help mitigate negative impacts to Northern Sunfish and their habitat.

7.3.2 Wetlands

Several wetlands (unevaluated and Provincially Significant Wetlands (PSW)) and ANSIs, are present within the Muskoka River Watershed. ANSIs and PSWs are provincially regulated, therefore, policy and setback areas should also be considered in conjunction with regional and municipal policies. Furthermore, development within these areas must demonstrate that no negative impacts to natural features or their ecological functions would occur. There is some variation in recognized setbacks within the various MRW municipalities: The District's OP stipulates 30 m setback zones from unevaluated wetlands, while Official Plans for Township of Perry (2013), Seguin Township (2015), County of Haliburton (2017), District of Muskoka (2019) and Township of The Archipelago (2019)) stipulate 50 m setback zones from Earth Science ANSIs, and 120 m setback zones from PSWs and Life Science ANSIs.

With respect to unevaluated wetlands and PSWS, the concern exists for both aquatic and terrestrial access points. Three trailheads and one park were identified within 30 m of unevaluated wetlands. One trailhead (Echo Valley Nature and Bike Trails) was located within 120 m of the Boyne River Wetland PSW, one park, the Hutcheson Beach Park, was identified within 120 m of the Big East River Delta Wetland PSW, and Conroy Park, a park and trailhead, was identified within 120 m of the Pioneer Village PSW.

The larger concern would be impacts to aquatic access points from trailered boat launches which support motorboat access. Fast speeds, large rudders and wide wakes may disrupt wetland vegetation which supports a variety of aquatic and terrestrial species by providing shoreline protection, wildlife habitat and food sources. From an environmental perspective, canoe launches and docks are the preferred type of aquatic access within setback zones of wetlands and ANSIs given their low impact potential. Of the 12 aquatic access points located within 30 m of an unevaluated wetland only three had trailered boat access, however, all 12 had a canoe launch, 11 of which also had a dock. Five of the six aquatic access points within 120 m of PSWs had boat launches, two of which had trailered boat launches with canoe launches, while three had canoe launches only. There is also one beach with a canoe launch.

7.3.3 Areas of Natural and Scientific Interest

Only one Life Science ANSI (Axe Creek Modern Alluvial Deposit) was identified for aquatic and terrestrial access points, located within 50 m of the Buck Lake Beach (both a beach and a park), and the Buck Lake Launch, a boat launch which consisted of a trailered boat launch and canoe launch. However, two Earth Science ANSIs: East River Delta and Eilean Gowan Island were located within 120 m of the Hutcheson Beach and Johnston Park, respectively, both of which were identified as a beach and a park. One additional aquatic access point, Hutcheson Beach Launch, a boat launch, was located within 120 m of the East River Delta Life Science ANSI. With regards to Life Science ANSIs, two of the three aquatic access points had a trailered boat launch and canoe launch (Hutcheson Beach and Hutcheson Beach Launch) and one (Johnston Park), a beach, only had a canoe launch and dock. Only two aquatic access points were within 50 m of an Earth Science ANSI; the Buck Lake Launch contained a trailered boat launch and canoe launch, and the Buck Lake Beach had a canoe launch only.

In the case of the Hutcheson Beach and Hutcheson Beach Launch within the Town of Huntsville, the Big East River Delta Wetland PSW and associated unevaluated wetlands along with the East River Life Science ANSI, and Northern Pike Spawning Area all provided significant ecological functions to the area surrounding these aquatic access points. However, both access points had a trailered boat launch. Thus, particular attention should be paid to ensure no harmful effects of public access usage are associated with this launch. Mitigation measures to prevent motorboat access to/over wetland habitat, near ANSIs, and known spawning locations should be considered, as well as signage to

raise awareness of critical habitat and species within the waterbody to encourage reduced speeds and no wakes.

7.3.4 Special Policy Areas

Several types of Special Policy Areas have been identified within the MRW for both aquatic and terrestrial access points. These include Muskoka Heritage Areas and Muskoka Heritage Sites, Environmental Protection (EP) zones/areas, and in relation to aquatic access points, Fish Habitat (Types 1 and 2). The District's OP identifies 120 m setback zones for any site development and alteration from Muskoka Heritage Areas and Sites, as well as all Types of Fish Habitat. Similarly, the OPs of the Township of Perry (2013), Seguin Township (2015), County of Haliburton (2017), and Township of The Archipelago (2019) also recognize a 120 m setback zone for all Types of Fish Habitat. Therefore, LGL also applied a 120 m buffer zone around Environmental Protection zones/areas for consistency. The assessment determined that 171 (74%) aquatic access points and 88 (49%) terrestrial access points lied within 120 m of a Special Policy Area. Of the aquatic access points, 114 had boat launches and 57 had beaches. Of the terrestrial access points, 52 are considered parks, 12 are considered trailheads, and 24 are considered trailheads and parks combined. Where future development or site alteration/enhancement is proposed, a Qualified Biologist is required to complete a site assessment to confirm the type of habitat and extent of natural heritage features within these Special Policy Areas. Furthermore, results of field investigations must demonstrate no negative net impacts to the habitat as a result of proposed development, and similarly, outline that mitigation measures will be sufficient in ensuring no negative impacts will be observed. Therefore, should any of these 259 public access points be considered for future development, further studies must be completed to ensure no negative impacts to the Special Policy Areas and included natural heritage features associated with these Special Policy Areas will arise.

7.3.5 Lake Trout lakes

The Muskoka River Watershed has approximately 33 lakes which contain a population of Lake Trout, a sensitive coldwater fish species. These lakes are considered to be "at developmental capacity" by the District and other municipalities within the MRW, essentially restricting any further development within 300 m of the shoreline. Therefore LGL used this factor as an important environmental sensitivity criterion when assessing aquatic access points. Of the aquatic access points, 23 were located on lakes identified as Lake Trout lakes, of which 21 had boat launches and two had beaches. Both trailered boat launches and canoe launches were found at 16 of the boat launches and both beaches, while the remaining five boat launches had only canoe launches. As such, adherence to municipal policy must be upheld and no further access points, or development, is permitted on those lakes (Township of Perry 2013; Seguin Township 2015; County of Haliburton 2017; District of Muskoka 2019; and Township of The

Archipelago 2019). As Lake Trout are a sensitive coldwater species, small changes to the thermal regime of the waterbody could have negative effects on the species. Therefore, consideration for regulating the type of access on certain waterbodies may be beneficial in protection of coldwater habitat. Furthermore, in the consideration of future access, preference should be given to personal watercraft (i.e., canoe/kayak/stand-up paddleboard) to prevent motorboat access and minimize the risk of pollutants from entering the waterbody.

7.3.6 Fish Activity Areas

Proximity to fish activity areas was assessed as an environmental sensitivity criterion for aquatic access points. Spawning areas for nine fish species were identified for aquatic access points within the Muskoka River Watershed including: Brook Trout (*Salvelinus fontinalis*); Lake Trout (*Salvelinus namaycush*); Largemouth Bass (*Micropterus salmoides*); Muskellunge (*Esox masquinongy*); Northern Pike (*Esox Lucius*); Rainbow Smelt *(Osmerus mordax*); Rainbow Trout (*Oncorhynchus mykiss*); Smallmouth Bass (*Micropterus dolomieu*); and, Walleye (*Sander vitreus*). Thirty-seven (37) aquatic access points were located within 120 m of a fish activity area, of which 24 had boat launches and 13 had beaches. Of the 24 boat launches, 15 provided both trailered boat launch and canoe launch capabilities, while the remaining nine only provided canoe launch capabilities. Four of the beaches also provided trailered boat launch and canoe launch capabilities, while the remaining nine beaches only had canoe launches. Docks were found at 23 of the aquatic access points.

Within several municipal Official Plans, fish spawning areas were included as part of the two types of fish habitat specified with respect to development and site alteration. To coincide with these OPs, LGL has applied a 120 m setback zone to all areas of fish habitat identified from the District and various other municipalities within the MRW. It was found that only Type 1 and Type 2 Fish Habitat were located within proximity to any public access point – no unknown Fish Habitat was identified. As mentioned above, fish spawning areas were included as part of the fish habitat characterization, therefore, any proposed works at these 37 access points would require field investigations conducted by a Qualified Biologist to confirm habitat and ensure no negative impacts will result.

7.3.7 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) is an additional consideration included as part of the environmental sensitivity criteria. Several types of Significant Wildlife Habitat exist within the Muskoka River Watershed, however, it was found that only Stratum 1 and Stratum 2 White-tailed Deer Wintering Yards were located within 120 m of any terrestrial access point. The Official Plans of the Township of Perry (2013), Seguin Township (2015), County of Haliburton (2017), District of Muskoka (2019) and Township of The Archipelago (2019) identified 120 m setback zones from all types of SWH, therefore, future development and site alteration must adhere to this policy stipulation, which includes any

additional access points or permanent built structures (i.e., trailered boat launch/docks, washroom facilities, information buildings, etc.). Thirty (30) terrestrial access points lied within 120 m of SWH; three containing White-tailed Deer Wintering Yards (Stratum 1), 26 containing White-tailed Deer Wintering Yards (Stratum 2), and one containing both Stratums 1 and 2. Ten (10) access points were identified as parks, 13 as trailheads and seven as trailheads and parks combined. Any future development or site alteration proposed at an access point within 120 m of SWH will require an assessment by a Qualified Biologist to confirm the presence of SWH and assess the impacts that will result from the proposed works. Furthermore, if identified, any development or site alteration within White-tailed Deer Wintering Yards (Stratum 1) is not permissible as development works would negatively impact the dense conifers which provide thermal cover and food during the winter months. If White-tailed Deer Wintering Yards (Stratum 2) habitat is identified, proposed works may be permitted given the dense conifer cover is preserved, and that the proposed works avoid habitat and provide mitigation measures to prevent overall negative impacts.

7.3.8 Summary

Overall, of the 411 public access points, the majority (81%) were found to have between zero and two environmental sensitivities out of a possible nine environmental sensitivities for aquatic access points and seven for terrestrial. As discussed above in **Section 6.4.3**, many of the access points with one or two total environmental sensitivities contain species at risk identified within an NHIC 1 km x 1 km grid square, which in fact, may not be within the immediate vicinity of the given access point due to the vast area the grid square encompasses. Thus, these access points may be downgraded to a final score of zero or one, resulting in many more favourable access points. The public access points with low environmentally sensitivity scores would likely be able to undergo future development and enhancement activities given policies are adhered to and mitigation measures are integrated. On the contrary, for the remaining 19% of access points which contained a higher total score, and several environmental sensitivities, future development and enhancement may not be recommended or permitted according to existing policy limitations.

8.0 LIMITATIONS

8.1 DATA REQUESTS

Several limitations were encountered throughout the data request/data collection process of this project. The primary limitation encountered was the lack of data or type of data provided. In many cases, in particular, from lower-tier municipalities, little to no digital data was provided (i.e. shapefile or GIS compatible format). In these instances, it was difficult to accurately decipher public access points, or other pertinent information required to

complete the analysis. When data was provided in either PDF or list format, LGL was required to manually georeference the document in order to digitize the relevant data for inclusion in the overall geodatabase. When using this methodology, minute discrepancies could occur as a result of georeferencing procedures. Additionally, when data was provided in list format, LGL would create point locations in GIS based on addresses provided in order to accurately locate an access point. However, minute errors may have also occurred via this method as access points were generalized to a specific address which may not have been the exact access point location.

Another limitation to this process was the lack of information provided or lack of responses from several municipalities. In some cases, not all of the data requested was provided to LGL. Of the 11 municipalities that were contacted, two did not respond. In these instances, LGL conducted a secondary source review of publicly available online resources. Background review did yield some additional public access points; however, these data were not within the Muskoka River Watershed boundary.

Lastly, a number of local municipalities outside of the District, rely on external consultants to provide GIS services related to Official Plans and Zoning Bylaws. These resources from these communities were useful to analyze in order to complete the public access inventory, however, were generally not available in digital format by the municipalities. In these instances, LGL was required to digitize a large quantity of data manually.

8.2 CRT AND PUBLIC ENGAGEMENT SURVEY

As mentioned above in **Section 6.2 and 6.3**, the majority of the respondents to the CRT and Public Engagement Survey were individuals that live within the Muskoka River Watershed, with most of the respondents living within five of the six area municipalities within District Municipality of Muskoka. Although the intent of these surveys was to capture information related to public access within the entire Muskoka River Watershed, the results captured information heavily related to public access points predominantly within the following five municipalities: Town of Bracebridge; Town of Huntsville; Town of Gravenhurst; Township of Lake of Bays; and, Township of Muskoka Lakes. This limitation could be related to the method in which the surveys were distributed as they did not reach a large enough audience outside of the District's area municipalities. In the future, these surveys could be distributed amongst all of the local municipalities' social media platforms within the Muskoka River Watershed to capture interest from a larger geographical area. Additionally, this limitation could also be related to the fact that the population within the area municipalities in the District is much larger than within the local municipalities within the District of Parry Sound, District of Nipissing and County of Haliburton. This is especially true during the summer months as the five above-mentioned municipalities have ample urban settlement areas and are very popular locations for cottagers and tourists.

Another limitation observed with the survey responses is that only two (0.5%) respondents did not reside within the Muskoka River Watershed. This result suggests that predominantly, tourists and cottagers did not respond to the survey. Responses from these users may provide other information regarding the access points as a whole, as these individuals may require different or additional amenities and means of access. To gain more wholesome and inclusive survey responses in the future, a public engagement survey could be posted at public access points throughout the Muskoka River Watershed so that all users (residents and non-residents) could have the opportunity to complete the survey.

9.0 RECOMMENDATIONS

9.1 DATA

9.1.1 Data Gaps

As mentioned above in **Section 8.1**, one of the primary limitations encountered throughout this project consisted of data discrepancies. These data discrepancies included missing or incomplete data as a result of data request efforts and type/format of the data received. Though best efforts were made by LGL to obtain the most comprehensive data as possible, no data was obtained from the Town of Kearney and the Township of McMurrich/Monteith. As a result, data gaps exist in the public access inventory for the lands within those municipalities. Future efforts to complete the public access inventory should include contacting these two municipalities to obtain any existing data they may have related to boat launches, beaches, marinas, trailheads and parks. Furthermore, to complete the analysis related to social, economic and environmental criteria, future work could integrate Official Plan and Zoning Bylaw information into the public access inventory for these two municipalities. Through background review conducted by LGL, it was noted that for both municipalities, outside GIS consultants had completed the mapping on the municipalities' behalf related to Official Plan Schedules and Zoning By-law amendments. These data (which may not be managed currently by the municipality) are likely in the consultant's possession and should be requested for integration into the existing public access inventory.

Additionally, data gaps were identified in datasets related to the Type of Fish Habitat. Data provided by the District encompassed a broad range of the Muskoka River Watershed to include the geographic region within its six area municipalities. However, the municipalities within the District of Parry Sound, County of Haliburton, and District of Nipissing did not have robust digital datasets available and were either lacking information related to Type of Fish Habitat or did not have digital formats that LGL could integrate into the analysis. Future consideration would be to incorporate this information and any other

lacking dataset pertaining to social, economic, or environmental sensitivity data into the existing public access inventory.

As a further future consideration, LGL recommends reviewing the MNRF's Fish ON-Line interactive map application for inclusion in the public access inventory assessment. The large number of points for each dataset within the Muskoka River Watershed's boundary would require a large work effort to georeference and digitize accurately, effort that could be minimized by requesting this data directly from the MNRF.

9.2 DATA VERIFICATION

Despite LGL's best efforts to complete remote sensing exercises to verify facilities/amenities at each existing public access point, not all components could be successfully identified. As mentioned above, orthoimage resolution, and in some cases, Google Streetview, did not provide enough clarity to accurately confirm all facilities/amenities at an access point. Therefore, there are many instances where a value of "unknown" has been populated in an attribute field. It is recommended that field verification be completed at these access points to confirm facilities/amenities where information is currently lacking. Additionally, should field investigations be completed, it would also be of benefit to complete a QA/QC of the existing access point facility/amenity information to ensure all criteria have been correctly identified. Should field verification procedures be conducted, a more comprehensive public access inventory will be completed, which will provide more valuable information related to the existing public access points as a whole.

9.3 PUBLIC ENGAGEMENT SURVEY

As previously noted, the results from the CRT and Public Engagement Survey were largely biased towards individuals that resided within the Town of Bracebridge, Town of Huntsville, Town of Gravenhurst, Township of Lake of Bays, and the Township of Muskoka Lakes. Little input was received from residents from the other seven lower tier municipalities within the Muskoka River Watershed. Similarly, little input was received from non-residents and tourists who use the MRW's access points for day use. Use of public access points was biased towards taxpayers within the Muskoka River Watershed. As a future consideration, public engagement surveys could be distributed more widely throughout the Watershed to collect a more inclusive and comprehensive dataset. For example, the survey could be created via a QR code for seamless distribution both online and physically posted to signs and information boards at access points. Local organizations that promote public access use could be approached to advertise the QR code on publicly available maps and newsletters. Local businesses that provide equipment and personal watercraft rentals, restaurants and hotels could also spread awareness by having the QR code displayed on receipts, bulletin boards and sharing by word of mouth. Through these means, the needs of day-time users and tourists related

to public access within the Watershed could be identified, and subsequently, included in future policy development and discussion.

9.4 POLICY RECOMMENDATIONS

9.4.1 Overall Goal Relative to Public Access

Throughout much of the analysis, it was clear that the results related to public access were skewed with consideration being provided to those that resided within the Towns of Bracebridge, Gravenhurst, and Huntsville, and Townships of Lake of Bays and Muskoka Lakes. The majority of respondents to the Public Engagement Surveys had either a primary or secondary residence within the Muskoka River Watershed, which also had waterfront access. It became evident that the opinions of residents and individuals that paid taxes was much different than that of tourists. This was also conveyed during the CRT meeting. As a high percentage of responses from the survey were from residents, LGL's recommendations for future policy options are for geared towards taxpayers (year-round or seasonal residents).

As policy changes/updates are considered in light of the results of this public access analysis, there are two goals to be considered:

- Will policy change/development be done with residents/taxpayers in mind? Or from a tourist/visitor perspective?
- Is the overall goal to attract people to visit the Muskoka River Watershed and use public access points or to limit the general public from using access points?

9.4.2 Public Access Points

9.4.2.1 Policy Related to Future Development of Access Points

An increase in demand for public access points has been observed in recent years, with locals continuing to utilize the MRW's ample public access points, coupled with the influx of tourists hoping for a weekend getaway among nature. As such, the need for an increase in public access points may arise in the future to accommodate this demand. Results obtained through the public access inventory analysis should be considered when evaluating locations for new public access points. Emphasis should be placed on creating more public access where existing usage is high, where there are few existing public access opportunities existing currently, and where current aquatic and terrestrial access point types (i.e., trailered boat versus canoe launch, trailhead versus trailhead and park combined) do not provide overall access to all users. However, it is not recommended that public access be created in locations in certain conditions, as follows:

- On waterbodies where motorboat access (i.e., trailered boat launch) is currently restricted;

- On waterbodies with a Lake Trout population currently identified as "at development capacity";
- At aquatic access points with greater than four total environmental sensitivity criteria satisfied; and,
- At terrestrial access points with greater than three total environmental sensitivity criteria satisfied.

To aide in the determination for where future access points may be developed or which existing access points should undergo site alterations/enhancements, policy related to development of access points from municipalities within the MRW should be reviewed. Methodologies include increasing connectivity between settlement areas and the enhancement of access points with high usage, or, within key destinations within the municipality (Seguin Township 2022). Additionally, several Official Plans (Town of Kearney 2014; Township of Algonquin Highlands 2019; County of Haliburton 2019) highlight the importance of trails from a health benefit and economic perspective, therefore encourage the establishment of new, public recreational trails which aide in the diversification of year-round recreational activities, promote tourism, minimize impacts to the natural environment and connect to other municipalities and municipal services. Likewise, creation of additional aquatic access points may be considered where possible and feasible as to not impact neighbouring features.

9.4.2.1.1 Total Score of Social, Economic and Environmental Sensitivities

Through the assessment of public access points, it was found that several public access points resulted in a score that was more favourable from both a future development and user experience perspective. Public access points with high social and economic scores were more opportunistic from and overall user experience given their number of facilities/amenities and proximity to commercial zoning and settlement areas, especially when the environmental score is low. The low environmental score would suggest that minor negative impacts are anticipated to the surrounding environment as a result of human influence as little to no sensitive natural heritage features are located within proximity to the public access point. Therefore, these are the access points where increased usage, future development and/or site alteration could be accommodated, should policy allow. For example, McDonald Road Launch in the Township of Muskoka Lakes scored eight of eight points in social criteria, three of three in economic criteria, and only one of nine in environmental criteria, making it a favourable aquatic access point for public users. However, although an access point may have an overall low environmental sensitivity score, not all environmental sensitivities should be treated equally, as policy and protection are dependent on the type of environmental sensitivity.

Although public access points with a high environmental sensitivity criteria score were considered a large constraint and should be protected by provincial and municipal policy, natural heritage features provide a benefit which attracts many individuals to a public

access point for viewing purposes. For example, survey results indicated that 30% of public access users partake in bird watching more than 20 times per year, while 23% partake one to five times per year. Wetlands and ANSIs provide specialized habitats for certain bird and other wildlife species, therefore, may attract more users for this reason. In these cases, some types of site development (i.e., trailered boat launches, docks, parking lots, and washroom facilities), should be discouraged as they would result in large, permanent footprints that would disrupt ecological function. However, a medium can still exist to allow public access to areas that have several environmental constraints. The implementation of boardwalks would have a minimal ecological footprint yet provide strict controlled access for users hiking over sensitive habitat like wetlands and ANSIs to ensure protection. Boardwalks would also draw a larger user group as individuals with disabilities would be accommodated as well. Mitigation measures could be installed for increased protection by erecting exclusion fencing around sensitive habitat to prevent species from entering areas where public users may be. This fencing would also restrict public users from entering sensitive habitat. Public access enhancement by means of facilities/amenities like garbage receptacles and signage would be more appropriate in areas with ample environmental sensitivities.

9.4.2.1.2 Distance to Next Nearest Access Point

As discussed in **Section 6.3.1**, through the Public Engagement Survey, LGL observed that proximity was the top factor (35%) in choosing how the community typically chooses an access point. For this reason, LGL also analysed the various access points and their spatial proximity to one another to identify both isolated and clustered access points. An isolated access point would draw in a larger catchment area, when looking solely at proximity, while clustered access points may also be beneficial in terms of reducing crowds at trailheads and parking facilities. It is worth noting that 11% of respondents reported crowd avoidance as their top reason for choosing an access point.

There were several access points located within close proximity to one another, either in walking distance or via car and/or boat, however, they serve different user groups. When evaluating where new access points could be created, proximity to the next nearest access point should be considered. Coupled with proximity analysis, further studies to identify the carrying capacity of lakes based on the size, number of users, and proximity to other access points providing the same type of access, or differing types of access, would yield recommendations for future creation of access points. Likewise, assessment of proximity to other access points that provide access to island only residences could be completed.

9.4.2.1.3 Public Access for Islands

The Muskoka River Watershed is home to hundreds of small islands, several of which make the perfect location for individuals to own property, go backcountry camping, or use for the day. Given the only way to access these islands is by watercraft, whether it be

motorized or not, public access points such as municipal boat launches/docks and marinas must be available to allow access to these islands. Therefore, consideration should be given to waterbodies that have islands when discussing future development of public access points.

As mentioned above in **Section 9.4.2.1.2**, with respect to proximity, enough public access points would need to be located within proximity to each island that contains a primary or secondary residence. Therefore, consideration for the creation of additional access points with a trailered boat launch should be placed on lakes that have island residents, but currently only provide canoe launches. Likewise, aquatic access points which provide trailered boat launches should not be removed if they service islands with residents, despite existing environmental sensitivities. In the former case, policy adherence would be critical to ensure that no negative impacts to environmentally sensitive features occur as a result of construction works. Setback zones should be applied, and further environmental studies would need to be conducted to ensure ecological impacts are minimized to the construction footprint and mitigation measures are enforced appropriately. On lakes which currently have no motorboat access, the effects of fuel contamination from potential spills and water disturbance from rudder/wakes of boats should be determined to address potential ecological impacts.

9.4.2.1.4 Mitigation for Future Development and/or Enhancement

Where environmental sensitivities at a given access point are low, and where policy permits development, mitigation measures can be implemented to ensure no negative impacts result from future development and enhancement activities. As mentioned above, not all environmental sensitivities can be treated equally, therefore, consideration should be provided for sensitivity specific mitigation. Much of the municipal OP policy identifies setback zones which restricts development within a certain distance from a natural heritage feature, therefore, these mitigation measures should be coupled with existing policy.

General Mitigation

Sediment and erosion control fencing should be installed around the disturbance limit to prevent sediment and/or harmful materials from entering waterbodies and terrestrial areas. This fencing may also act as wildlife exclusion fencing to prevent any wildlife from entering the work area. The use of coir logs could also be implemented to prevent erosion and provide slope stabilization should works be proposed in erosion prone areas. Good housekeeping practices related to materials storage/stockpiling, equipment fueling/maintenance, etc., must be implemented during construction. The increase of signage related to environmental concerns could be erected and placed at trailheads, marinas, and municipal boat launches to include information related to project works, mitigation best practices, and wildlife management and best practices.

Aquatics

To reduce the potential for serious harm to fish and fish habitat, several mitigation measures can be implemented to ensure no changes to water quality, temperature, or temporary disruption or permanent loss to site-specific habitat occurs as a result of site development or enhancement. For any proposed development or enhancement that requires in-water works, any in-water work/work within the riparian area must occur within permitted construction timing windows to protect spawning fish, incubating eggs, and fry emergence. The timing window for warm water thermal regimes is between July 1 and March 31 whereas the cold water thermal regime is between June 15 to September 15. All work areas should be delineated by construction fencing to minimize the area of disturbance and in-water work areas should be isolated behind cofferdams. Appropriate sediment control structures (silt fencing, flow check dams, etc.) should be in place to prevent entry of sediment into the waterbody. Any areas that are disturbed as a result of the proposed development and/or enhancement should be revegetated and restored, including riparian habitat. Where public access is within proximity to a Lake Trout lake, additional mitigation measures can be identified. Protection of the five lakes that currently do not provide trailered boat access is critical and should remain motorboat free in the future to protect the native Lake Trout populations and their habitat. Furthermore, trailered boat launches would likely pose the greatest threat to fish spawning areas from motorboat access. Mitigation measures to prevent access around or nearby potential spawning areas should be implemented to ensure protection of spawning habitat.

Terrestrial

To reduce the potential for serious harm to wildlife and wildlife habitat, well managed trails would be beneficial in areas where unevaluated wetlands, PSWs or ANSIs are present. The implementation of boardwalk facilities over wetland or ANSI habitat feature types would also permit users to view flora and fauna from a distance, ensuring that no negative impacts would occur as a result of usage. The implications of boardwalks would be minimal, limited only to the construction footprint and would be temporary in nature during construction activities. Where construction activities are proposed, sediment control fencing should be erected around the disturbance area to prevent sediment from entering sensitive habitat areas. In wetland and ANSI habitat, turtle exclusion fencing should also be in place to prevent turtles from nesting within the work area. Additionally, no construction works should be completed during the turtle nesting season (May 15 to September 30).

The Muskoka River Watershed lies within Environment Canada's Nesting Zone C3 (Nesting Period: mid-April to end of August). Therefore, where construction activities are proposed, to comply with the *Migratory Birds Convention Act* (MBCA), disturbance, clearing, or disruption of vegetation where birds may be nesting should be completed outside the window of April 15 to August 31. In the event that these activities must be

undertaken between April 15 to August 31, a nest survey should be conducted by a Qualified Avian Biologist to identify and locate active nests.

Furthermore, a Qualified Biologist must complete field investigations to confirm species at risk and their habitat, significant wildlife habitat, and targeted species surveys to identify presence/absence and potential impacts as a result of construction related activities. In the event that a species at risk be identified, consultation with the MECP is required to discuss general habitat protection measures and permitting requirements under the *Endangered Species Act.*

9.5 FREQUENCY OF USAGE

Based on the overall goal relative to public access as identified above in **Section 9.4.1**, the implementation of additional facilities/amenities at municipally owned public access points may be worthy of consideration. Although 9% of aquatic and 12% of terrestrial access points contained all respective social sensitivity criteria, the majority of access points do not possess these facilities/amenities which provide increased opportunities for users. Ten percent (10%) of respondents indicated they chose access points based on its facilities. Feedback from survey respondents indicated a great deal of concern related to social sensitivities and the existing public access points. Of these concerns, facilities and amenities were important, as was overcrowding at beaches, marinas, and municipal boat launches/docks. The identification of usage patterns among aquatic and terrestrial access points may provide benefits from a user experience perspective. Not only would it provide insight into the frequency of use at certain access points, it would also identify where the need for additional facilities/amenities may be warranted based on usage patterns. Access point usage data could be collected by including trackers at specific access points. Visual reconnaissance surveys could also be completed to count the number of users per day, or within a specified time frame. Usage patterns could also be gleaned by comparing usage statistics on weekdays versus weekends.

9.5.1 Accessibility Plan for Individuals with Disabilities

One of the primary concerns of those who completed the public engagement survey was accessibility for individuals with disabilities when using public access points. As a result, LGL has included that parameter as a social criterion when assessing public access points. Of the 230 aquatic points only 77 satisfied the criterion for having accessibility considerations, while only 42 of the 181 terrestrial access points satisfied this criterion.

The District's current Multi-Year Accessibility Plan (2020 – 2022) outlines commitments related to improvement of municipally-owned facilities, premises and service for all of those with disabilities, to identify, prevent or remove barriers to accessibility (District Municipality of Muskoka 2020). It identifies several types of barriers which includes physical barriers related to the design of spaces and places which make it difficult for individuals with disabilities to move or access certain spaces (District Municipality of

Muskoka 2020). However, it was noted that it does not include accessibility for outdoor public spaces.

The County of Haliburton's Multi-Year Joint Accessibility Plan (2018 – 2022) outlines the commitment among its member municipalities to follow the Design of Public Spaces by making changes to exterior paths of travel, ramps, stairs, and curbs and rest areas. Within this plan, proposed accessibility improvements are highlighted which included repairs to trails within municipal parks, the addition of ramps, railings and washrooms within parks, improvements to boat ramps and kayak loading docks, and the inclusion of signage at parks, beaches and boat launches (County of Haliburton 2018). In addition, inclusion of accessible parking spaces, pedestrian signals, and seating are also considered.

Additionally, only two of the five lower tier municipalities of the District of Parry Sound within the MRW (Township of Perry 2020; Seguin Township 2020) have multi-year accessibility plans which stipulate improvements to public spaces, including recreation trails and beach access routes. Furthermore, the Seguin Township's Active Transportation and Trail Master Plan (2022) stipulates recommended improvements to trail surfaces (i.e., grading, materials), signage, seating, lighting and maintenance.

LGL conducted a background review to obtain examples of accessibility for outdoor recreational spaces, which yielded the York Region's Multi-Year Accessibility Plan which includes "trails, beach access routes and forest trails", "outdoor public eating areas", "public play spaces and accessible parking" as well as "exterior paths of travel including sidewalks and accessible pedestrian signals" as part of their design of public spaces standards (York Region 2020). As York Region is home to an expansive trail network, they have incorporated several best practices for multi-use trails and accessible trail design with the goal to provide integrated accessibility for those with and without disabilities. Such design guidelines include creating accessible trail entrances that are part of shorter trails with specific ramp and slope requirements, resting intervals between slopes, seating requirements along intervals, specific trail widths to accommodate passage, trail surface materials (i.e. asphalt, concrete, crushed limestone), and edge protection (i.e. curbs/railings) (York Region 2013).

As the District of Muskoka and County of Haliburton's current Accessibility Plans are nearing expiry, it would be beneficial to consider the use of outdoor recreational spaces in future accessibility planning. There are several parks, forests and trails on municipally owned lands which could be incorporated into future accessibility planning. Considerations could include ramps and/or boardwalks through trails and over wetland natural heritage features, widening trails to accommodate for larger pathways, improving footing/terrain through use of certain materials, grade changes of trails, the inclusion of interpretative signage at the entry and along trails, as well as dedicated wheelchair parking spaces.

Another aspect to be considered is year-round accessibility of public access points. Not only does the Muskoka River Watershed support ample warm-weather activities, but there are also several winter activities that are commonly enjoyed such as snowshoeing, ice-fishing, ATVing, and snowmobiling. Snow removal can also be incorporated in terms of year-round accessibility so that entrances/access to public access points is maintained throughout the winter months, such as plowed parking lots and trailheads.

9.6 WATERSHED INVENTORY PROJECT (WIP)

The Watershed Inventory Project (WIP) was completed as a joint effort by the Muskoka Heritage Foundation (now the Muskoka Conservancy), District Municipality of Muskoka, the Muskoka Watershed Council, Ontario Trillium Foundation and the Ontario Ministry of Natural Resources and Forestry (Parry Sound District) to identify significant natural areas within the watershed, areas that had been degraded, and areas that should be protected. The terrestrial component was completed in 2007 while the aquatic component was completed afterwards, in 2009. Within the WIP, several unique terrestrial and aquatic ecosystems were identified and scored based on an array of environmental criteria including: representation (location in watershed and status); ecological function; diversity; special features (element occurrences, vegetation communities and/or significant wildlife habitat); and, condition/quality (The Muskoka Heritage Foundation et al., 2007; 2009).

Although LGL did review the WIP and geospatial dataset products created through this project, these values were not included as part of the overall public access inventory. The data does provide several meaningful results, however, as the study was conducted 15 years ago, some of the results may no longer be representative of the existing conditions within the Muskoka River Watershed. However, in future analysis, results of the WIP could be compared with the results of the public access inventory. Additionally, the results of the WIP could be reviewed through a policy lens to identify if there are certain areas within the WIP which overlap with the existing public access inventory.

10.0 CONCLUSIONS

There are 411 public access points located within the Muskoka River Watershed; 230 aquatic and 181 terrestrial. Of the aquatic access points, 162 were boat launches and 68 were beaches. Of the terrestrial access points, 80 were parks, 55 were trailheads, and 46 were trailheads and parks combined. The Town of Bracebridge, Town of Huntsville, Township of Lake of Bays and Township of Muskoka Lakes contained 81% of the public access points inventoried within the Muskoka River Watershed. Similarly, in the cumulative survey responses collected from Community Round Table members and from the Public Engagement Survey, 94% of respondents resided within these four above-mentioned municipalities, with the addition of the Town of Gravenhurst. Therefore, the overall assessment of public access points and policy considerations was biased towards these five municipalities, rather than the entire Muskoka River Watershed as a whole.

Public access points satisfying all social criteria was found for 19 aquatic access points and 27 terrestrial access points, ultimately indicating the most opportunities and ideal public access points from a social perspective. The most common facility/amenity amongst public access points was a dedicated parking lot, followed by signage, garbage receptacles, and washrooms. Accessibility considerations were more so found at aquatic access points than at terrestrial access points. Although signage was observed at 93 aquatic and 94 terrestrial public access points, consideration should be given to the inclusion of increased signage across the MRW to allow for easier identification of access point locations, to highlight trail best management practices (i.e. dog off-leash areas, littering, emergency phone numbers), and detail restricted areas/access. The increase in signage may assist in improving public opinion regarding existing access points and improvements needs, as 11% indicated the need for increased signage, while 9% indicated increased access. Additional signage at aquatic access points could reduce pressure on certain access points by making other less utilized aquatic access points more well known, ultimately, ensuring a wider distribution of users at aquatic access points. It would also serve as a means to ensure that tourist groups and non-resident users are provided information to direct them to known public access points, rather than creating their own on private properties. Additionally, consideration for increased parking facilities should be provided at access points where increased usage is observed, which coincides with 20% of respondents identifying the need for more dedicated parking, and 9% identifying improvements to parking facilities.

All economic sensitivity criteria were found to apply to 73 aquatic and 79 terrestrial access points, highlighting the greatest opportunities for public access from an economic perspective. Nearly half (49%) of all aquatic access points were located within 400 m of commercial zoning, which is not surprising given the number of marinas and municipal boat launches which provide access to fuel pumps, restaurants, and local businesses. Similarly, 54% of terrestrial access points were located within 400 m of commercial zoning as many were located within public parklands in urban areas. More terrestrial access points (111) were found to be located within 400 m of a settlement area than aquatic access points (86), given trailheads and parks were more integrated with urban areas than shorelines. Additionally, 76% of all public access points were found to have snow clearing of trailheads, sidewalks and parking lots providing year-round accessibility.

Only six aquatic and nine terrestrial access points had no environmental sensitivity criteria met, thereby resulting in no environmental constraints for future development opportunities. At least one environmental sensitivity criterion was found to be present at the majority of aquatic (97%) and terrestrial access points (95%), however, the most common number of environmental sensitivities at each access point was only one (43%) for terrestrial and two (50%) for aquatic access points. Access points located within an NHIC 1 km x 1 km grid square containing provincially tracked species at risk was the most observed constraint which includes 209 aquatic and 161 terrestrial access points. Further

studies should be conducted to confirm presence/absence of species at risk and their habitat for these access points, as the access point may lie outside of the access point vicinity, thereby not including a species at risk. The next most common constraint observed was related to Special Policy Areas with 171 aquatic and 88 terrestrial access points located within 120 m of a Muskoka Natural Heritage Area or Site, Fish Habitat (Type 1 or 2), an environmental protection zone/area, or other various zoning bylaws. Where site alteration is proposed, municipal setback zones must be applied and further field investigations by a Qualified Biologist should be conducted to identify the extent of natural heritage features. Thirty-seven (37) aquatic access points were within fish spawning areas and 23 were within 120 m of Lake Trout lakes at developmental capacity. With relation of provincially regulated features such as PSWs and ANSIs, both provincial and municipal policy restrictions must be considered during proposed development/enhancement works as several unevaluated wetlands, Provincially Significant Wetlands, and both Life Science and Earth Science ANSIs were identified as environmental constraints for aquatic and terrestrial access points. Emphasis for future development should be placed on public access points with few environmental constraints, however, proper policy adherence and implementation of mitigation measures may allow for more sensitive access points to be enhanced.

Overall, it would be beneficial from an economic perspective to increase the number of facilities/amenities around access points nearby settlement areas and local businesses which would be expected to increase usage of these access points. Policy considerations should be provided to ensure that building requirements and setback zones are in place to also protect environmental features within the proximity. However, the majority of access points that had high total social and economic scores tended to have lower environmental scores, which was beneficial and opportunistic from a user perspective. The inclusion of mitigation measures can help improve public access points and attract users to natural features while simultaneously providing environmental protection to public access points with several natural heritage features (environmental constraints). Provincial and municipal policy may restrict certain types of site development/alteration, though enhancements may be made so long as minimally invasive footprints are enforced by including fencing, signage and garbage receptacles. It was found that several access points were suitable candidates for future site development, though most should be provided various levels of protection and mitigation measures to accommodate future development and/or enhancement opportunities.

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Appendix A
Microsoft Form Survey Example

Muskoka River Watershed Public Access Inventory - Public Survey

The District Municipality of Muskoka is conducting a survey as part of the Making Waves: Integrated Watershed Management Initiative. The purpose of this survey is to gain information from the Muskoka River Watershed community about public access.

For this survey, public access is defined as any route (such as a road, trail, easement, or other feature) that provides access to public lands (such as shorelines, lakes, forests, or other natural features). Some examples of public access include:

- A foot-trail that is accessible off a road that leads into a forest;
- A municipal-owned dock, beach, or park;
- Crown land.

* Required

* This form will record your name, please fill your name.

1. Where do you reside in the Muskoka River Watershed? *

- ◯ Town of Bracebridge
- ◯ Town of Gravenhurst
- ◯ Town of Huntsville
- ◯ Township of Georgian Bay
- ◯ Township of Lake of Bays
- ◯ Township of Muskoka Lakes
- ◯ Township of the Archipelago
- ◯ Township of Seguin
- ◯ Township of McMurrich/Monteith
- ◯ Township of Perry
- ◯ Township of Kearney
- ◯ Township of Algonquin Highlands
- ◯ Municipality of Dysart et al
- ◯ Prefer Not to Disclose
- ◯ Other

2. Please select all of the following statements that apply to you: *

- [ ] My primary residence is in the Muskoka River Watershed and IS NOT waterfront.
- [ ] My primary residence is in the Muskoka River Watershed and IS waterfront WITH road access.
- [ ] My primary residence is in the Muskoka River Watershed and IS waterfront with NO road access (i.e. island, boat-in only).
- [ ] My secondary residence (seasonal cottage, condo) is in the Muskoka River watershed and IS NOT waterfront.
- [ ] My secondary residence (seasonal cottage, condo) is in the Muskoka River watershed and IS waterfront WITH road access.
- [ ] My secondary residence (seasonal cottage, condo) is in the Muskoka River watershed and IS waterfront with NO road access (i.e. island, boat-in only).
- [ ] I do not own a property or reside in the Muskoka River Watershed.

3. How often do you use the following features and activities in the Muskoka River Watershed?

Municipal parks/beaches (includes swimming) *

- ◯ Never
- ◯ 1 to 5 times a year
- ◯ 5 to 10 times a year
- ◯ 10 to 20 times a year
- ◯ 20+ times a year

4. How often do you use the following features and activities in the Muskoka River Watershed?

   Municipal boat launches *

   - ◯ Never
   - ◯ 1 to 5 times a year
   - ◯ 5 to 10 times a year
   - ◯ 10 to 20 times a year
   - ◯ 20+ times a year

5. How often do you use the following features and activities in the Muskoka River Watershed?

   Private boat launches *

   - ◯ Never
   - ◯ 1 to 5 times a year
   - ◯ 5 to 10 times a year
   - ◯ 10 to 20 times a year
   - ◯ 20+ times a year

6. How often do you use the following features and activities in the Muskoka River Watershed?

   Motor boating *

   - ◯ Never
   - ◯ 1 to 5 times a year
   - ◯ 5 to 10 times a year
   - ◯ 10 to 20 times a year
   - ◯ 20+ times a year

7. How often do you use the following features and activities in the Muskoka River Watershed?

   Canoeing/kayaking/stand-up paddle boarding *

   - ◯ Never
   - ◯ 1 to 5 times a year
   - ◯ 5 to 10 times a year
   - ◯ 10 to 20 times a year
   - ◯ 20+ times a year

8. How often do you use the following features and activities in the Muskoka River Watershed?

   Provincial or federal park camping *

   - ◯ Never
   - ◯ 1 to 5 times a year
   - ◯ 5 to 10 times a year
   - ◯ 10 to 20 times a year
   - ◯ 20+ times a year

9. How often do you use the following features and activities in the Muskoka River Watershed?

   Crown Land camping *

   - ◯ Never
   - ◯ 1 to 5 times a year
   - ◯ 5 to 10 times a year
   - ◯ 10 to 20 times a year
   - ◯ 20+ times a year

10. How often do you use the following features and activities in the Muskoka River Watershed?

Hiking (or walking/snowshoeing/running) trails *

- ◯ Never
- ◯ 1 to 5 times a year
- ◯ 5 to 10 times a year
- ◯ 10 to 20 times a year
- ◯ 20+ times a year

11. How often do you use the following features and activities in the Muskoka River Watershed?

Fishing *

- ◯ Never
- ◯ 1 to 5 times a year
- ◯ 5 to 10 times a year
- ◯ 10 to 20 times a year
- ◯ 20+ times a year

12. How often do you use the following features and activities in the Muskoka River Watershed?

Cross country skiing *

- ◯ Never
- ◯ 1 to 5 times a year
- ◯ 5 to 10 times a year
- ◯ 10 to 20 times a year
- ◯ 20+ times a year

13. How often do you use the following features and activities in the Muskoka River Watershed?

Bird/nature watching *

- ◯ Never
- ◯ 1 to 5 times a year
- ◯ 5 to 10 times a year
- ◯ 10 to 20 times a year
- ◯ 20+ times a year

14. How often do you use the following features and activities in the Muskoka River Watershed?

Hunting *

- ◯ Never
- ◯ 1 to 5 times a year
- ◯ 5 to 10 times a year
- ◯ 10 to 20 times a year
- ◯ 20+ times a year

15. How often do you use the following features and activities in the Muskoka River Watershed?

Biking on trails *

- ◯ Never
- ◯ 1 to 5 times a year
- ◯ 5 to 10 times a year
- ◯ 10 to 20 times a year
- ◯ 20+ times a year

16. How often do you use the following features and activities in the Muskoka River Watershed?

Biking on roads *

- ◯ Never
- ◯ 1 to 5 times a year
- ◯ 5 to 10 times a year
- ◯ 10 to 20 times a year
- ◯ 20+ times a year

17. How often do you use the following features and activities in the Muskoka River Watershed?

Businesses that provide or require water access *

- ◯ Never
- ◯ 1 to 5 times a year
- ◯ 5 to 10 times a year
- ◯ 10 to 20 times a year
- ◯ 20+ times a year

18. How often do you use the following features and activities in the Muskoka River Watershed?

Other *

- ◯ Never
- ◯ 1 to 5 times a year
- ◯ 5 to 10 times a year
- ◯ 10 to 20 times a year
- ◯ 20+ times a year

19. If you responded 'other' or 'business' above, please specify below:

20. What kinds of access points to public lands or waterbodies are most important to you? Select all that apply. *

- [ ] Municipal parks/beaches (includes swimming)
- [ ] Municipal boat launches/docks
- [ ] Private boat launches
- [ ] Marinas
- [ ] Provincial or federal parks
- [ ] Crown land
- [ ] Hiking (or walking, snowshoeing, running) trails
- [ ] Municipal docks
- [ ] Conservation Areas
- [ ] Bike (on trails)
- [ ] Bike (on road shoulder)
- [ ] Cross country skiing trails
- [ ] Other

21. In terms of public access, do you think the Muskoka River Watershed has: *

- ◯ Too much access
- ◯ Not enough access
- ◯ Just the right amount of access

22. How do you typically get to the pubic access points that you use? Select all that apply. *

- [ ] I arrive by road (car, transit, other)
- [ ] I arrive by foot
- [ ] I arrive by bicycle
- [ ] I arrive by boat
- [ ] I arrive by float plane
- [ ] Other

23. How do you typically choose which access point to go to? Select all that apply. *

- [ ] Suitability for family
- [ ] The amount of time I have
- [ ] Proximity
- [ ] Accessibility
- [ ] Facilities
- [ ] Number of people (i.e. avoid crowds on long weekends)
- [ ] Other

24. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    Dedicated parking/parking lot (i.e. NOT the side of a road) *

    1 2 3 4
    ○ ○ ○ ○

25. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    Long-term parking/Over-night parking
    *

    1 2 3 4
    ○ ○ ○ ○

26. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    Truck/trailer parking
    *

    1 2 3 4
    ○ ○ ○ ○

27. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    Garbage bins at main entry/exit
    *

1	2	3	4
◯	◯	◯	◯

28. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    Benches at main entry/exit
    *

1	2	3	4
◯	◯	◯	◯

29. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    Picnic tables
    *

1	2	3	4
◯	◯	◯	◯

30. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    On-site maps or information boards
    *

1	2	3	4
◯	◯	◯	◯

31. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    Signage
    *

    1 2 3 4
    ○ ○ ○ ○

32. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    Washrooms
    *

    1 2 3 4
    ○ ○ ○ ○

33. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    Accessibility for individuals with disabilities *

1	2	3	4
◯	◯	◯	◯

34. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    Wildlife/plant management at access points *

1	2	3	4
◯	◯	◯	◯

35. On a scale of 1 to 4, how important are these to you in terms of the public access points that you use?
    1 = not important
    2 = somewhat important
    3 = important
    4 = very important

    Other *

1	2	3	4
◯	◯	◯	◯

36. If you selected "other" to the question above, please specify below:

37. In your opinion, how would you rate the public access points that you have used? *

- Excellent
- Good
- Average
- Poor
- Very poor

38. Overall, in your opinion, what do the existing public access points need more of? *

- [ ] Dedicated parking (i.e. NOT on side of road)
- [ ] Long term parking/over-night parking
- [ ] Truck/trailer parking
- [ ] Garbage bins at main exit/entry
- [ ] Benches at main exit/entry
- [ ] Picnic tables
- [ ] On-site maps or information boards
- [ ] Signage
- [ ] Washrooms
- [ ] Accessibility for individuals with disabilities
- [ ] Other

39. Overall, in your opinion, what do the existing public access points need less of? *

- [ ] Dedicated parking (i.e. NOT on side of road)
- [ ] Long term parking/over-night parking
- [ ] Truck/trailer parking
- [ ] Garbage bins at main exit/entry
- [ ] Benches at main exit/entry
- [ ] Picnic tables
- [ ] On-site maps or information boards
- [ ] Signage
- [ ] Washrooms
- [ ] Accessibility for individuals with disabilities
- [ ] Other

40. Overall, in your opinion, does anything need to be improved in terms of public access? *

41. What, in your opinion, is the number one concern with public access in the Muskoka River Watershed? *

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