

**MUSKOKA RIVER WATERSHED
INTEGRATED WATERSHED MANAGEMENT
EXISTING CONDITIONS LAND USE POLICY REVIEW**

Prepared for the District of Muskoka by:



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1.0 INTRODUCTION

The Muskoka River Watershed occupies an area of approximately 5100 square kilometres, extending from Algonquin Park in the east to the shores of Georgian Bay in the west, the watershed supports a diverse range of land use activities including settlement areas, recreational development, and natural resource activities as well as a vast expanse of forested areas, lakes and river systems.

The watershed encompasses lands within the District of Nipissing, District of Parry Sound, District of Muskoka and County of Haliburton. Land use within the watershed is governed by 2 upper tier Official Plans being the Official Plans for the District of Muskoka and County of Haliburton as well as and lower tier Official Plans. The far easterly headwaters of the watershed are located within the geographic District of Nipissing and more specifically, within the boundaries of Algonquin Park. Neither the District of Nipissing nor the District of Parry Sound have any upper tier governance and thus no Official Plan or upper tier policy framework. Figure 1 illustrates the municipal boundaries as distributed across the watershed.

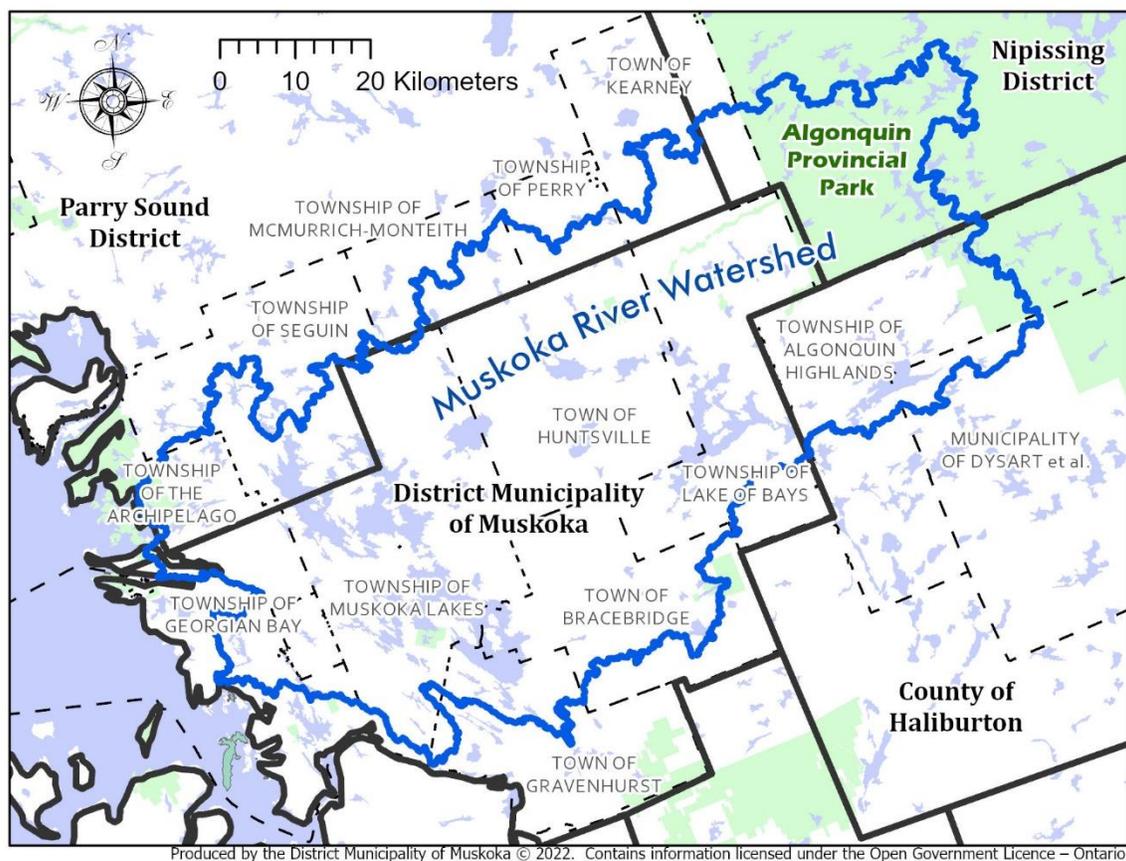


Figure 1: Upper and Lower Tier Municipalities Within the Muskoka River Watershed

The Muskoka River Watershed, including its component land and water based ecosystems, has increasingly been experiencing negative impacts due to a number of stressors including intensified development pressures, severe weather events, distribution of invasive species, and increased contaminant loads from land and water based activities. Such impacts have resulted in concerns for water quality and the overall ecosystem health of the watershed.

During the spring of 2019, the District encountered the most severe flooding in historic record across the Muskoka River Watershed, causing significant damage to private property and municipal infrastructure. This was preceded by significant flood events in 2008, 2013 and 2016, where again Muskoka experienced significant damage to personal property and infrastructure.

In response to some of the more recent severe flood events within the watershed as well as concerns for the watershed health generally, the Province of Ontario has funded a number of studies to examine the existing conditions in the Muskoka River Watershed. These studies will inform strategies to design a comprehensive approach to Integrated Watershed Management under which land-use decisions, environmental projects, infrastructure projects, and broader public policy options can be leveraged to address the overall health of the watershed.

A foundational element of the integrated watershed approach to watershed planning and management is the identification of existing conditions. The purpose of this report is to review all applicable Official Plans in the Muskoka River Watershed in order to identify current land use priorities and policy approaches across the watershed municipalities. More specifically, the scope of this Land Use Policy Review is to:

- 1) Review the current Official Plan policy frameworks that are currently in effect within the watershed;
- 2) Evaluate current land use policies within the watershed Official Plans and identify where the existing policy approaches are consistent and where there are differences in approach;
- 3) Assess and analyze approaches to Integrated Watershed Management as reflected in land use policies both within and beyond the Muskoka River Watershed;
- 4) Identify best practices amongst the watershed municipalities as well as in case studies beyond the watershed; and,
- 5) Provide recommendations for consideration in the development of a watershed-scale management framework based on identified best practices as reflected in land use policies in jurisdictions both within and beyond the Muskoka River Watershed.

In preparing this report, the following watershed Official Plans have been reviewed:

- District of Muskoka Official Plan (2019);
- County of Haliburton Official Plan (2017 Consolidated to January 2019);
- Town of Bracebridge Official Plan (2013);
- Town of Gravenhurst Official Plan (2016);
- Town of Huntsville Official Plan (2019);
- Township of Lake of Bays Official Plan (2016);
- Township of Muskoka Lakes Official Plan (2013) + New (adopted but not yet approved) Official Plan (2022);
- Township of Georgian Bay Official Plan (2014 Consolidated to March 2021);
- Township of Algonquin Highlands Official Plan (2005 Consolidated to January 2019);
- Municipality of Dysart et al. Official Plan (2018);
- Town of Kearney Official Plan (2014);
- Township of Perry Official Plan (2013);
- Township of McMurrich Monteith Official Plan (2007);
- Township of Seguin Official Plan (2007 Consolidated to 2015) + Draft Official Plan (2022); and,
- Township of the Archipelago Official Plan (1983 Consolidated to January 2019).

2.0 A LAND USE POLICY REVIEW OF THE MUSKOKA RIVER WATERSHED

The vast majority of the lands within the Muskoka River Watershed are within the jurisdiction of the District of Muskoka. A small portion of the headwaters are located in the County of Haliburton (primarily the Township of Algonquin Highlands) as well as within the geographic District of Parry Sound. Accordingly, lands within the watershed fall under the upper tier policy framework of the District of Muskoka and to a lesser degree, the County of Haliburton. There is no upper tier jurisdiction in the District of Parry Sound. It is the role of upper tier Official Plans to implement Provincial policies and address broad planning matters that affect all municipalities within the upper tier jurisdiction. Lower tier Official Plans apply such policies at a local level and must conform to both Provincial policy and the upper tier Official Plan.

2.1 Comparing Upper Tier Policy Frameworks

Watershed planning is a foundational principle in both the District of Muskoka Official Plan (2019) and County of Haliburton Official Plan (2017 Consolidated to 2019) however, the approach taken by each of the upper tiers is somewhat distinct. In general terms, the District of Muskoka Official Plan has integrated the tenets of watershed planning throughout the Official Plan and incorporated outcome oriented policies and metrics as well as detailed mapping that are applied District-wide. The County of Haliburton Official Plan includes goals, objectives and high level policies that are supportive of watershed planning, lake capacity and climate change however, these upper tier policies direct that such issues are to be addressed at the local level in the lower tier Official Plans. Similarly, the land use designations and mapping provided in the County of Haliburton Official Plan are not as detailed or refined as that provided in the District of Muskoka Official Plan. A summary of the key attributes of the two upper tier Official Plans is provided in **Table 1** below.

Table 1: Integrated Watershed Management Within the Applicable Upper Tier Official Plans

DISTRICT OF MUSKOKA	COUNTY OF HALIBURTON
Official Plan Date: June 2019	Official Plan Date: October 2017 (Consolidated to June 2019)
Location Within Watershed: The District of Muskoka occupies lands in all areas of the watershed including headwaters, mid-reach and the lower discharge areas of the watershed along the shores of Georgian Bay.	Location Within Watershed: The County of Haliburton occupies only the far southeast headwaters of the watershed primarily within the Township of Algonquin Highlands although also includes a very small portion of lands within the Municipality of Dysart et al.
Mapping: In terms of natural heritage features and hazard lands, both the District of Muskoka and County of Haliburton have similar mapping especially as it relates to natural heritage features and hazard lands identified within the Provincial Policy Statement. However, the District of Muskoka mapping is more detailed and more comprehensive possibly suggesting that the District may have more data available to feed into the mapping. The District has further identified and mapped 'Muskoka Heritage Sites' which collectively have the potential to form a Regionally Significant Natural Heritage System.	

DISTRICT OF MUSKOKA	COUNTY OF HALIBURTON
<p>OP Goals & Objectives: The District of Muskoka Official Plan includes a detailed range of ‘Guiding Principles’, ‘Primary Policy Directions’ that are the foundation of the Official Plan along with a set of detailed ‘Objectives’ relating to the natural environment, water, natural heritage and watershed management. The primary policy directions establish <i>“as a first principle that development activity be undertaken in a manner that conserves and enhances the features, functions, and interconnections of the natural environment...”</i>, that the OP <i>“establish a policy framework that is outcome-oriented and evidence based...”</i> and that fosters <i>“coordination and cooperation across municipal boundaries”</i>.</p>	<p>Goals & Objectives: The County of Haliburton Official Plan includes objectives that <i>“sustainable development of the natural environment is a paramount objective”</i>, avoidance of <i>“land use patterns that may cause environmental or public health & safety concerns”</i>, and that <i>“current environmental quality be maintained, protected and enhanced where possible”</i>. These are high level goals and objectives but not as detailed or refined as those provided in the Official Plan for the District of Muskoka.</p>
<p>Land Use Designations: Both the District of Muskoka and County of Haliburton have similar land use designations that are divided between urban and rural areas. However, the two Official Plans differ in terms of the emphasis and level of detail of the policy framework applied to waterfront and shoreline areas. The District of Muskoka Official Plan includes a stand-alone Waterfront Area land use designation which is separate and distinct from the Rural land use designation, Urban Centre land use designation or Settlement Area land use designation. Further, the District of Muskoka Official Plan includes policies for 6 ‘Special Policy Areas’ that have distinct development requirements. Although the County of Haliburton Official Plan includes a number of environmental and natural heritage policies that apply across the County, waterfront areas have not been addressed through a stand-alone land use designation and are instead, incorporated within the applicable rural and settlement area land use designations. There are no Special Policy Areas or equivalent within the County of Haliburton Official Plan. Both upper tier municipalities have a two-Zone system for flood lands.</p>	
<p>Policy Basis: The District of Muskoka Official Plan has a clear ‘Environment First’ approach to land use that is supported by a suite of detailed, comprehensive policies that are integrated throughout the OP and that apply District wide. The Official Plan includes policies that address:</p> <ul style="list-style-type: none"> - Watershed and Subwatershed Studies including both polices and a requirement that lower tier municipalities use watershed boundaries as the basis for long term planning - Lake System Health, Carrying Capacity of Waterbodies and Causation Studies - Lake Plans and/or Waterbody-Specific Policies as adopted by Lake Associations or within local Official Plans 	<p>Policy Basis: The County of Haliburton OP includes high level policy support for the protection of natural areas, environmentally responsible development, watershed-based planning, lake capacity studies and climate change however, there are no detailed or substantive policies to address these issues. In general, the Official Plan directs that such issues should be addressed in local Official Plans however, the upper tier policies do not include any policy direction for how that should be done. The Official Plan is prescriptive in regards to the retention of shoreline vegetation and references the County of Haliburton By-law 3505 being a “By-law to Conserve, Prohibit, Protect, Restrict</p>

DISTRICT OF MUSKOKA	COUNTY OF HALIBURTON
<ul style="list-style-type: none"> - Cumulative Impacts - Climate Change – both policies and a stated ‘climate change lens applied to development review and commenting’ - Identification, mapping and policy support for ‘Muskoka Heritage Sites’ which collectively have the potential to form a Regionally Significant Natural Heritage System - Resilient Ecosystems as a natural heritage objective - Characterization and policy directives for Adjacent Lands - Green infrastructure/Natural Capital Asset Planning - Green Development Standards and Design Standards for Sustainable Development at a site level - Policy support for Performance Checklists based on themes including a number of themes related to sustainability to be used when reviewing development applications - Detailed policies for Waterfront Areas including shorelines and backlot areas including criteria as to what lands fall within the Waterfront Area 	<p>and Regulate the Protection, Preservation and Removal of Trees on Shoreline Properties”.</p>
<p>Implementation: Throughout the Official Plan reference is made to a number of mechanisms to implement the policies of the upper tier OP. These are as follows:</p> <ul style="list-style-type: none"> - Lower Tier Official Plans - Lower Tier Zoning By-laws - Site Plan Control - Support for the Community Planning Permit System (CPPS) - Site level requirements identified through Site Evaluation Reports and site level Environmental Impact Studies (where required) - Lower Tier Tree-Cutting By-laws/Tree Preservation and/or Site Alteration By-laws - Lower Tier Septic Re-inspection Programs - Climate Change Lens in development review and commenting 	<p>Implementation: Throughout the Official Plan reference is made to a number of mechanisms to implement the policies of the upper tier OP. These are as follows:</p> <ul style="list-style-type: none"> - Lower Tier Official Plans - Lower Tier Zoning By-laws - Site Plan Control - Support for the Community Planning Permit System (CPPS) - Site level requirements identified through Site Evaluation Reports and site level Environmental Impact Studies (where required) - County of Haliburton By-law 3505 being a By-law to Conserve, Prohibit, Protect, Restrict and Regulate the Protection, Preservation and Removal of Trees on Shoreline Properties

DISTRICT OF MUSKOKA	COUNTY OF HALIBURTON
<ul style="list-style-type: none"> - Performance Checklists in development review - Lake Plans/Lake Stewardship Programs 	

2.2 Comparing Lower Tier Policy Frameworks

The upper tier Official Plans, in combination with Provincial directives including the policies of the Provincial Policy Statement (PPS), establish the framework for local planning at the lower tier level. Lower tier Official Plans more specifically provide the over-arching vision and policies that will guide land use over the long term within the lower tier municipality. Policies at this level are more specifically tailored to the local context and are implemented in the municipal Zoning By-law.

While the role of the upper tier municipality is one of coordination and to establish broader goals, objectives and metrics, lower tier municipalities are well positioned to implement integrated watershed planning within the local land use planning process and at a site level. The result is a multi-layered, collaborative approach between the upper tier and lower tier jurisdictions using the Muskoka River Watershed as the ecologically meaningful scale for integrated and long-term planning. Where there is no upper tier municipality, as is the case in the geographic District of Parry Sound, the lower tier municipalities have a greater role to play in implementation.

Integrated Watershed Management and planning considers all terrestrial and aquatic components of the watershed. Accordingly, all land use activities within the watershed have the potential to impact the natural heritage systems and ecological functioning of the watershed. Thus, this report provides a summary of the existing policy frameworks for the following:

- i) Lake capacity and water quality;
- ii) Natural heritage features;
- iii) Adjacent lands;
- iv) Naturally occurring hazard lands;
- v) Natural resources;
- vi) Development and lot creation in relation to the above; and,
- vii) Infrastructure.

The existing lower tier policy frameworks are summarized below.

Note: On October 12, 2022 the Council for the Township of Muskoka Lakes adopted a new Official Plan. This Official Plan is not yet approved and not yet in effect. However, the new Official Plan has provided a number of new policy directions and standards. These new policy standards have been denoted in this report as “(*New)” preceding the applicable standard. Until such time as the new Official Plan is approved and deemed to be in effect, the existing Muskoka Lakes Official Plan policies continue to apply.

2.2.1 Lake Capacity and Water Quality

All watershed Official Plans contain policies that address water quality and/or lake capacity. While there is great consistency amongst the lower tier municipalities within the District of Muskoka, there is

significant variance in the level of detail of such policies in the lower tier municipalities outside of Muskoka.

A. Water Quality Programs

The District of Muskoka assumes a leadership role in recreational lake capacity and water quality modelling within Muskoka. Such matters are also addressed through the development process in the lower tier municipalities. Outside of the District of Muskoka, lake capacity and water quality modelling are only addressed through the development process other than monitoring and modelling that may be undertaken by the Province.

The District of Muskoka has undertaken a multi-faceted Water Strategy that applies across all lower tier municipalities District-wide. As part of this Strategy, the District adopted the Lake System Health Program which establishes parameters to manage the impact of development on water resources. More specifically, the Lake System Health Program incorporates water quality monitoring, lake capacity modelling and the establishment of science-based quantitative metrics for recreational water quality. In combination, these elements establish thresholds for development. These thresholds for development are based on identified water quality indicators within the District Official Plan. The District approach to lake capacity modelling is implemented on a lake-specific basis within the broader watershed context. Outside of the District of Muskoka, only the Township of Seguin has implemented a similar approach to lake capacity and included water quality indicators within its Official Plan.

There is no upper tier lake capacity modelling or monitoring provided in the watershed municipalities outside of Muskoka. The County of Haliburton generally relies on any modelling or monitoring that may be undertaken by the Province (primarily in relation to Lake Trout lakes) although the County's Official Plan does include policies that endorse the Provincial Lakeshore Capacity Model as provided in the Provincial Lakeshore Capacity Assessment Handbook. Lake and development capacity are delegated to the lower tier municipalities by the upper tier Haliburton Official Plan. There is no upper tier municipality in Parry Sound and thus no administrative body to establish regional standards or benchmarks for lake capacity and development thresholds across the District.

B. Water Quality Metrics and Indicators

Phosphorus is the primary recreational water quality indicator relied upon for establishing lake capacity and development levels within the watershed Official Plans. Only the Official Plans for the District of Muskoka and the Township of Seguin incorporate empirical metrics to establish thresholds for phosphorus in establishing the capacity of a waterbody to support development. In this regard, both the District and all of its constituent lower tier municipalities in addition to the Township of Seguin incorporate an empirical metric at which a waterbody is deemed to be over threshold. This metric is consistent with the Provincial water quality objective of 20 µg/l total phosphorus. More specifically, the identified water quality indicators within the District of Muskoka are as follows:

- i) A long-term statistically significant ($p < 0.1$) increasing trend in total phosphorus concentration demonstrated by at least five (5) spring overturn phosphorus measurements obtained through the District of Muskoka water quality sampling program since 2001;

- ii) A long-term total phosphorus concentration of greater than 20 µg/L demonstrated by the average of five (5) most recent spring overturn phosphorus measurements obtained through the District of Muskoka water quality sampling program within the last ten (10) years ; and/or
- iii) A blue-green algal (cyanobacteria) bloom confirmed and documented by the Province and/or Health Unit.

Waterbodies are first, modelled for sensitivity to phosphorus and subsequently classified as having a high, moderate, or low sensitivity. Where the phosphorus loading exceeds acceptable levels, the waterbody is considered to be “over threshold” for phosphorus loading. Thus within the watershed municipalities, phosphorus is used as a quantifiable indicator to:

- (i) Establish the sensitivity of a waterbody having a low, medium or high sensitivity; and
- (ii) Establish the capacity of the waterbody to support development. In this regard, the waterbody is deemed to be under, near or over threshold for development.

Only the District of Muskoka Official Plan provides that while the identified water quality indicators in the watershed presently focus on phosphorus as a recognized and measurable gauge of recreational water quality, a long-term shift in focus to include a wider variety of indicators addressing multiple environmental stressors is both needed and anticipated.

C. Policy Applications

Phosphorus as a water quality indicator and the resultant determination of sensitivity and lake capacity has policy implications in almost all of the lower tier municipalities within the watershed. These indicators inform Official Plan policies regarding restrictions on development and/or lot creation where the waterbody is deemed to be over threshold as well as triggering development requirements where shoreline development may be possible, provided certain conditions are met. Collectively, where the lower tier Official Plan is prescriptive of such development requirements, as is the case for most of the lower tier municipalities in the District of Muskoka as well as the Town of Kearney and the Township of Perry, these requirements may include:

- Demonstration of no negative impact on the recreational water quality, capacity of the waterbody, or any associated natural heritage features and associated ecological functions as supported by a technical study;
- Increased development setbacks from the high water mark or other natural heritage feature on the site;
- Establishment of buffers or increased buffers including the retention of vegetation within such areas;
- Restrictions on the location of septic tile fields and building envelopes;
- Additional requirements for servicing such as requiring that development only proceed on full municipal services;

- Other mitigation measures as may be identified through a site specific evaluation or technical study such that any impacts may be mitigated to within acceptable limits; and,
- Specific implementation or requirements of development such as stormwater management techniques or construction mitigation plans.

Within most of the lower tier municipalities across the balance of the watershed, the lower tier Official Plan includes higher level policies requiring that lake capacity be addressed through the development process and that supporting studies may be required as assessed on a site specific basis.

Only the Town of Gravenhurst Official Plan includes required development criteria to address both water quality and water quantity. The Gravenhurst Official Plan provides policy direction for development activity that has the potential to impact water levels as a result of water-taking activities such as stream diversions, commercial water taking and bottling operations. In particular, the Gravenhurst policy requires that consideration be given to any potential impacts on a watershed scale.

Issues of water quality, water quantity, phosphorus loading and lake capacity are prevalent in lower tier Official Plans across the watershed. However, the Municipality of Dysart et al., Township of Perry and Township of Seguin have also included Official Plan policies that require such matters be considered on a watershed basis noting that lake systems may be divided into a number of watersheds or sub-watersheds that are connected to lakes and watercourses in other municipalities and whose waters flow into and through waterbodies in adjacent municipalities. In such cases, it is a policy objective that the municipality consult and coordinate with neighbouring municipalities in relation to development capacity of a shared waterbody or in joint watershed programs, where established. In the case of the Township of Perry and Township of Seguin in particular, the policy objective of such an approach is to protect and preserve lake water quality or, where necessary, remediate lake water quality on these shared lake systems.

2.2.1.1 Lake Trout Lakes

Lake Trout lakes are classified and monitored by the Province. All of the watershed Official Plans identify Lake Trout lakes within their respective municipal boundaries and provide policy direction in regards to development on such lakes. Three of the Parry Sound municipalities (Kearney, Perry, Seguin) include Official Plan policies to provide an empirical metric for the threshold of 'at capacity':

“Lake Trout lakes are considered to be at capacity for new development where the Mean Volume Weighted Hypolimnetic Dissolved Oxygen (MVWHDO) level is measured to be at or below 7.0 ppm, or the modeling of the impact of developing the existing lots of record with current planning approvals would lower the predicted MVWHDO to 7 ppm or lower.”

All of the municipalities with Lake Trout lakes (which is all except for Georgian Bay and McMurrich Monteith) prohibit lot creation within 300 metres of a Lake Trout lake that is at capacity except in accordance with the following general conditions:

- All new tile fields are set back at least 300 metres from the shoreline of the lake, or such that drainage from the tile fields would flow at least 300 metres to the lake;
- All new tile fields are located such that they would drain into the drainage basin of another waterbody that is not at capacity; and,

- To separate legally existing habitable dwellings, each on a lot capable of supporting a Class 4 sewage system, provided that the land use would not change.

Where development is permitted, the following additional criteria have been applied across various of the watershed municipalities:

- Prior to the approval of a development proposal, detailed studies will be required to demonstrate that the physical features, design and siting of the development will not have an adverse impact upon the quality of the lake and related lake trout habitat. (Algonquin Highlands);
- New development is connected to a municipal sewage treatment facility; (Muskoka, Dysart et al., County of Haliburton, Dysart et al., Kearney);
- Where it is demonstrated through the submission of a site specific soils investigation prepared by a qualified professional that there are undisturbed native soils over 3 metres in depth on the site and which meet Provincial requirements for chemical composition and hydrological conditions. Where lot creation or development is permitted subject to these criteria, planning tools must require long-term monitoring and maintenance of specific conditions. (Muskoka, Gravenhurst, Lake of Bays, Township of Perry);
- It is demonstrated through the submission of a site specific soils investigation prepared by a qualified professional in accordance with applicable provincial requirements that the proposal will not negatively impact lake trout habitat including water quality (Huntsville);
- The proposed new use, has a scale and density that is less than currently exists on site, and shall demonstrate a net reduction of the phosphorus loading on the lake. (Bracebridge); and,
- The proposed new use is the redevelopment of an existing use and has a scale and density that is less than the existing use, and shall demonstrate a net reduction of the phosphorus loading to the lake. (Dysart et al).

The Town of Gravenhurst Official Plan further provides that where lot creation is permitted in accordance with the criteria noted above, that the following additional criteria shall also be applied through a Zoning By-law Amendment and subsequently registered on title:

“Where lot creation satisfies one of the criteria above, the following requirements shall be implemented through a by-law amendment and in Section 51(26) Planning Act agreements registered on title in perpetuity:

- a) A 30.0 metre minimum undisturbed shoreline buffer and soil mantle, with the exception of a pervious pathway;*
- b) Stormwater management report and construction mitigation plan (including phosphorus attenuation measures such as directing runoff and overland drainage from driveways, parking areas, other hard surfaces to soak away pits, infiltration facilities);*
- c) Location of the tile-bed, in accordance with the recommendations of the site specific soils investigation;*

- d) *Require that, if additional fill material is needed for the construction of the tile bed, that it consists of silt-free, fine to medium grained non-calcareous soils (sediments) showing the presence of aluminium and iron;*
- e) *Securities in order to ensure that the requirements of the agreements are implemented;*
- f) *Where lot creation is permitted through a site specific soils investigation, monitoring will be reported to Town of Gravenhurst and the Ministry of Environment and will be undertaken in accordance with provincial monitoring requirements; and*
- g) *Other requirements, in accordance with the Official Plan."*

Almost all of the watershed municipalities require a minimum development setback of 30 metres from the shoreline/normal or controlled high water mark from a Lake Trout lake. In some cases, this is a specific requirement for a Lake Trout lake. In other cases, the 30 metre setback is applied to all shorelines and thus equally benefits a Lake Trout lake. All watershed municipalities further require lands within the 30 metre setback remain undisturbed and that natural vegetation be retained within this area.

Various of the watershed Official Plans also contain additional notable policies relating to Lake Trout lakes. These are as follows:

- The Township of Algonquin Highlands Official Plan provides a policy directive that the Township cooperate with neighbouring municipalities where Lake Trout lakes are located in more than one municipality to ensure that the development capacity of a cold water Lake Trout lake is appropriately monitored for the entire lake.
- The Municipality of Dysart et al. Official Plan provide specific policy direction that where the sensitivity status of a Lake Trout lake is identified as needs "to be confirmed", any such lake will be treated as an "at capacity" Lake Trout lake until such time as the Municipality has been advised otherwise by the Province.
- Both the Town of Kearney and the Township of Seguin give additional consideration to the status of lakes upstream from a Lake Trout lake and provide Official Plan policy direction that where a Lake Trout lake has been determined to be at capacity, the impact on the water quality from development on up-stream lakes must also be determined. The Township of Seguin Official Plan is even more specific directing that new development on lakes upstream from at capacity Lake Trout lakes may be permitted subject to modeling which confirms that there is a net reduction or no net increase in annual phosphorus loadings to the downstream Lake Trout lake. If the modeling confirms no net increase, then development may be permitted subject to the submission of a Site Evaluation Report and the highest standards for development.
- The Town of Kearney Official Plan prohibits use of fertilizers on lawns and gardens within 300 metres of an at capacity Lake Trout lake.

2.2.2 Natural Heritage Features

All Official Plans within the watershed include policies that protect natural heritage features and regulate development either within or in proximity of such features. In general terms, the minimum standard for protecting natural heritage features is established at the Provincial level through the Provincial Policy

Statement or other Provincial requirements. These standards function to either preclude development, establish minimum required setbacks and buffers, or place conditions on development. Where conditions on development are integrated within an Official Plan these are generally either:

- i) a number of policy tests that development must satisfy before being permitted such as the demonstration of no negative impact on a natural heritage feature; and/or
- ii) a requirement for more in-depth studies at a site specific level in order to determine the appropriateness of development and any mitigation measures that may be required.

A summary of the existing policy frameworks applying to various natural heritage features across the watershed is provided below. This includes existing condition summaries for:

- Shorelines;
- Wetlands;
- Fish habitat;
- Threatened and endangered species;
- Significant wildlife habitat; and,
- Deer wintering areas and aquatic moose habitat

2.2.2.1 Shorelines

One of the primary factors in achieving lake health is regulating development within the shoreline area such that development does not substantially impact the natural environment, habitat and trophic status of a waterbody or other waterbodies within the watershed. To this end, all lower tier Official Plans across the watershed regulate land uses within the shoreline. This includes Official Plan policies that: 1) establish shoreline buffers; 2) require the preservation of shoreline vegetation; 3) delineate shoreline activity areas; and/or, 4) require minimum setbacks for development.

A. Preservation of Shoreline Vegetation / Shoreline Activity Areas

All watershed Official Plans provide a policy structure to establish a minimum vegetative shoreline setback. In most watershed municipalities, these requirements are prescriptive however, in a smaller portion of municipalities the establishment of a shoreline vegetative setback is simply encouraged or recommended.

As shown in **Table 2**, most of the watershed Official Plans regulate both the percentage of the shoreline frontage that must remain in a natural vegetative state as well as the depth of the required vegetative setback.

All of the Official Plans that provide a policy directive for the percentage of the shoreline frontage that must remain in a natural vegetative state required that 75% of the linear shoreline frontage remain in a natural state. However, the Township of Muskoka Lakes Official Plan contains some Lake System Health policies that require the entire frontage of a waterfront lot to be maintained in a natural state while also containing policies to permit and limit the maximum cumulative width of shoreline structures. The Township of Algonquin Highlands and the Town of Kearney Official Plans distinguish between residential uses and other non-residential uses in applying this standard.

All watershed Official Plans provide a minimum depth for the vegetative shoreline setback regardless if the requirement to retain vegetation along shorelines is prescriptive or recommended. All lower tier Official Plans within the District of Muskoka require a minimum vegetative shoreline setback depth of 15 metres. All lower tier Official Plans within the County of Haliburton require a minimum vegetative shoreline setback depth of 30 metres. There is a greater variance across the lower tier Official Plans in Parry Sound with 3 of the Official Plans requiring a minimum vegetative shoreline setback depth of 30 metres with the remaining two Official Plans requiring a minimum vegetative shoreline setback depth of 20 metres and 7.5 metres respectively.

Other notable Official Plan policies relative to development in the shoreline area include:

- Lower tier Official Plans within the District of Muskoka provide policy guidance for scenarios where the standards for a minimum vegetative shoreline setback can not be met. In such scenarios, there is consistency across the District that a net improvement over the existing situation must be realized.
- The County of Haliburton Official Plan includes a policy to cross reference the requirements of the Official Plan with the requirements of the County's By-law 3505 being a By-law to Conserve, Prohibit, Protect, Restrict and Regulate the Protection, Preservation and Removal of Trees on Shoreline Properties in the County of Haliburton (Shoreline Tree Preservation By-law). A similar policy is also included within the lower tier Official Plan for the Municipality of Dysart et al.
- The Town of Gravenhurst Official Plan is the only Official Plan that directs that the actual width of a vegetation buffer will be established through the preparation and approval of an Environmental Impact Statement that concludes that the development can proceed without adversely impacting the shoreline features and a net improvement over the existing situation can be achieved.

B. Shoreline Development Setbacks

All of the watershed Official Plans address the protection of shorelines and establish minimum setback distances for development. However, while shorelines are addressed in all lower tier Official Plans, there is a great deal of inconsistency in term of the terminology used in reference to the shoreline setbacks. Across the various Official Plans applicable within the watershed, shoreline setbacks expressed as:

- Setbacks from the natural heritage feature being a cold water stream, warm water stream, or fish habitat;
- Setbacks for development be it primary development, septic systems – in particular tile beds, or locational criteria for accessory shoreline structures; or,
- A blanket setback from the normal or controlled high water mark.

In many cases, this setback is expressed in multiple ways within a single Official Plan both as a setback from the natural feature and as development criteria. This inconsistency occurs in many of the lower tier municipalities across all three of the upper tier jurisdictions.

Notwithstanding, the setback standards contained in the watershed Official Plans are fairly consistent with only slight variances. As shown on **Table 3**, the most prevalent shoreline setback is 30 metres

although there are some reduced setbacks such as 15 metres for warm water streams and 20 metres in select municipalities under specified circumstances. There are also a number of policy conditions under which shoreline setbacks may vary on a site specific basis. These include:

- Exceptions to prescribed shoreline setbacks (ie. shoreline accessory structures);
- Reductions to the stated shoreline setback if the criteria and tests incorporated within the Official Plan can be satisfied (ie. no negative impact);
- Increased setbacks where merited on a site specific basis due to such factors as soils or topography (ie. steep slopes);
- Custom shoreline setbacks as a result of site specific studies and evaluations; and,
- Alternate setbacks where an overall net improvement in vegetation or a net gain over an existing condition can be realized.

Despite the prevalence of the 30 metre shoreline setback, there is a great deal of inconsistency across the watershed in terms of how the shoreline setback is measured. A number of the Official Plans simply direct that the setback should be measured from the shoreline whereas others more specifically direct that the setback be measured from the normal or controlled high water mark (Algonquin Highlands, Dysart et al., Perry and Seguin).

While the shoreline setback distance of 30 metres is the most common within the lower tier Official Plans, the modifying conditions under which the setback is applied may vary. Further, the benchmark from which the shoreline setback is measured is not consistent leading to scenarios where inconsistent shoreline setback standards may be applied across the watershed. Thus, not only is there a lack of consistency across the watershed Official Plans in terms of how shoreline setbacks policies are integrated into the Official Plan document, but also a lack of consistency in how the minimum shoreline setback is measured across the watershed.

Table 2: Natural Shoreline Requirements and Shoreline Activity Areas

Muskoka	District of Muskoka	Bracebridge	Gravenhurst	Huntsville	Lake of Bays	Muskoka Lakes¹	Georgian Bay
Min Percentage of Shoreline Frontage	75%	75%	None identified	75%	75%	75% (existing) (*New – 100% entire frontage of lot)	75%
Min Depth of Natural Area	15 m	15 m	15 m Enhanced vegetative buffers – 10 m	15 m	15 m	15 m	15 m
Measured From	Shoreline	Water’s edge	Shoreline but subject to EIS recommendations	Shoreline	Shoreline	Frontage (existing) (*New – Normal high water mark)	Shoreline
Alternate Provisions Where Lot Constrained	Yes – net improvement over existing situation	Yes – where phosphorus management is implemented	None identified	Yes – net improvement over existing situation	Yes – net improvement over existing situation	Yes – net improvement over existing situation	Yes – net improvement over existing situation
Natural Area in Accordance as Required By Findings of Site Evaluation	No	No	Yes - EIS	No	No	No	No

¹ On October 12, 2022 the Council for the Township of Muskoka Lakes adopted a new Official Plan. This Official Plan is not yet approved and not yet in effect. However, the new Official Plan has provided a number of new policy directions and standards. These new policy standards have been denoted in this report as “(*New)” preceding the applicable standard.

Muskoka	District of Muskoka	Bracebridge	Gravenhurst	Huntsville	Lake of Bays	Muskoka Lakes¹	Georgian Bay
Best Effort – No Prescribed Requirements	n/a	n/a	n/a	n/a	n/a	Yes – additions to existing developed lots or redevelopment	Yes – additions to existing developed lots or redevelopment

Haliburton	County of Haliburton	Algonquin Highlands**	Dysart et al.
Min Percentage of Shoreline Frontage (** OP provides standards for shoreline activity area. These have been translated to preservation of vegetation requirements for comparison with other watershed municipalities.)	Shoreline activity to be focused within a defined area of the shoreline frontage of the lot and be minimized although no minimum standards provided.	Greater of: 75% / 85 m- Residential development 70% / 70 m- Commercial development or waterfront landings 50% / 55 m - marinas	None specified
Min Depth of Natural Area (* As established by <i>By-law 3505 being a By-law to Conserve, Prohibit, Protect, Restrict and Regulate the Protection, Preservation and Removal of Trees on Shoreline Properties</i> . Applies within all municipalities within the County of Haliburton.)	30 m* OP requires retention of natural vegetation, including trees (as per By-law 3505) in the full 30 metre setback	30 m*	30 m*
Measured From	High water mark	Normal or controlled high water mark	High water mark
Alternate Provisions Where Lot Constrained	- Qualifying exemptions identified in By-law 3505	None specified	None specified

Haliburton	County of Haliburton	Algonquin Highlands**	Dysart et al.
	- Written request for relief from By-law 3505 must be submitted to County for consideration	Written request for relief from By-law 3505 must be submitted to County for consideration	Written request for relief from By-law 3505 must be submitted to County for consideration
Natural Area in Accordance as Required By Findings of Site Evaluation	No	No	No
Best Effort – No Prescribed Requirements	n/a	n/a	Yes – encouraged to leave lands within the shoreline setbacks substantially undisturbed; where disturbed landowner encouraged to restore to natural state

Parry Sound	Kearney**	Perry	McMurrich Monteith	Seguin	Archipelago
Min Percentage of Shoreline Frontage (** OP provides standards for shoreline activity area. These have been translated to preservation of vegetation requirements for comparison with other watershed municipalities.)	Greater of: 75% / 85 m- Residential development – and- Total area of all shoreline structures shall not exceed the lesser of 5% of the shoreline activity area or 22.5 m 67%% - Commercial or institutional development or waterfront landings 50% - marinas	None specified	75%	None specified	None specified

Parry Sound	Kearney**	Perry	McMurrich Monteith	Seguin	Archipelago
Min Depth of Natural Area	30 m	30 m	7.5 m Natural, undisturbed buffer is recommended	20 m	30 m (Applies only to Lake Trout lakes)
Measured From	Shoreline	High water mark	Shoreline	High water level	Shoreline
Alternate Provisions Where Lot Constrained	None specified	None specified	n/a	None specified	None specified
Natural Area in Accordance as Required By Findings of Site Evaluation	No	No	No	No	No
Best Effort – No Prescribed Requirements	n/a	n/a	Restoration, preservation and protection of natural shoreline encouraged.	n/a	n/a

Table 3: Shoreline Setbacks

Muskoka	District of Muskoka	Bracebridge	Gravenhurst	Huntsville	Lake of Bays	Muskoka Lakes	Georgian Bay
High Water Mark ¹	n/a	n/a	30 m	20 m	30 m	n/a	20 m
Cold Water Lakes and Streams	30 m	30 m	30 m	30 m	30 m	30 m	30 m
Cool Water Lakes and Streams	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Warm Water Lakes and Streams	15 m	15 m	15 m	n/a	15 m	15 m	15 m
Fish Habitat ²	n/a	n/a	n/a	15 m	15 m	n/a	n/a
Trout Lakes – Development	30 m	n/a	30 m	30 m	30 m	30 m	n/a
Trout Lakes – Septic Tile Field	300 m	300 m	300 m	300 m	300 m	300 m	300 m
Development (Primary)	20 m	20 m	n/a	Urban – 15 m Rural – 30 m	30 m	20 m	20 m
Septic Systems – Leaching/Tile Bed	30 m	30 m	n/a	30 m	30 m	30 m	30 m
Waterfront Landing Parking Facilities	n/a	30 m	30 m	20 m	20 m	n/a	n/a

1. Primary Development and Septic Systems

2. Lands immediately adjacent to fish habitat or Type 1 Fish Habitat

Haliburton & Parry Sound	County of Haliburton	Algonquin Highlands	Dysart et al.	Kearney	Perry	McMurrich Monteith	Seguin	Archipelago
High Water Mark ¹	30 m	30 m	30 m 20 m ³	30 m	30 m	30 m	20 m	n/a
Cold Water Lakes and Streams	n/a	n/a	n/a	n/a	n/a	n/a	n/a	30 m
Cool Water Lakes and Streams	n/a	n/a	n/a	n/a	n/a	n/a	n/a	15 m
Warm Water Lakes and Streams	n/a	n/a	n/a	n/a	n/a	n/a	n/a	15 m
Fish Habitat ²	n/a	n/a	n/a	30 m	n/a	n/a	n/a	30 m
Trout Lakes – Development	n/a	n/a	n/a	n/a	n/a	n/a	n/a	30 m
Trout Lakes – Septic Tile Field	300 m	300 m	300 m	300 m	300 m	n/a	300 m	300 m
Development (Primary)	30 m	30 m	30 m 20 m ³	n/a	n/a	n/a	n/a	n/a
Septic Systems – Leaching/Tile Bed	30 m	30 m	30 m 20 m ³	30 m	n/a	30 m	20 m	n/a
Waterfront Landing Parking Facilities	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

1. Primary Development and Septic Systems
2. Lands immediately adjacent to fish habitat or Type 1 Fish Habitat
3. If lot was registered as of March 11, 2004

2.2.2.2 Wetlands

The policy directives for wetlands are essentially consistent across all lower tier Official Plans in the watershed:

- In accordance with the PPS, development and/or site alteration is not permitted in significant wetlands, Provincially Significant Wetlands or Significant Coastal Wetlands. This Provincial Policy Statement is implemented in municipalities across the watershed.
- Similarly across the watershed, lands adjacent to Provincially Significant Wetlands or Significant Coastal Wetlands are defined to be 120 metres. No development or site alteration shall be permitted on these adjacent lands unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated, through an EIS, that there will be no negative impact on the natural features or their ecological functions.
- Development may be permitted within or on lands adjacent to 'other' wetlands subject to an Environmental Impact Statement and/or wetland evaluation. Adjacent lands for 'other' wetlands are defined as 30 metres.

2.2.2.3 Fish Habitat

Almost all of the watershed Official Plans distinguish between the 3 different type of fish habitat being Type 1 (Critical), Type 2 (Important) and Type 3 (Unknown where there is no data or information). This categorization of fish habitat relates to the significance of the habitat and correspondingly, the degree of protection needed as well as to identify locations where additional information is required (Unknown Fish Habitat) prior to development being permitted. With reference to Type 3 Fish Habitat, studies are required to provide the data and information required to assess the potential impact of any proposed development.

As per the requirements of the PPS, all municipalities in the watershed either preclude development and site alteration in fish habitat or defer to the legislated requirements of higher jurisdictions (Provincial and Federal).

Most of the Official Plans in Muskoka and Parry Sound include policies that preclude lot creation where the entire shoreline frontage of the proposed lot abuts Type 1 Fish Habitat. Similarly, these same municipalities require that where the Type 1 Fish Habitat abuts only a portion of the shoreline that any new lot has enough shoreline frontage to provide for a shoreline activity area, docks or any permitted shoreline structures outside of the Type 1 Fish Habitat. New development including docking or accessory shoreline structures is not permitted. This equally applies to new development on existing lots. The policies of the Town of Huntsville in the District of Muskoka and the Town of Kearney in the District of Parry Sound provide good examples of this policy approach to protecting fish habitat and mitigating the impacts of development.

The Township of Seguin Official Plan includes an added policy approach that addresses restrictions on shoreline road allowances adjacent to Type 1 Fish Habitat. It is a policy objective of the Township of Seguin that shoreline road allowances adjacent to Type 1 Fish Habitat are generally retained in public ownership:

“Generally, Shoreline road allowances that abut Type 1 Fish Habitat should not be sold unless the Township and owner have entered into a Site Plan Agreement restricting the use and development of the lands abutting the Type 1 Fish Habitat.” (E.1.2.6)

Virtually all municipalities in the watershed require studies to demonstrate that any development or site alteration on lands in proximity of fish habitat will have no negative impact. These studies are generally identified as an EIS, Site Evaluation or a Fish Habitat Assessment.

Development setbacks from fish habitat are generally achieved through the more broadly applied development setbacks from the normal or controlled high water mark. However, 5 of the watershed municipalities (Huntsville, Lake of Bays, Georgian Bay, Kearney and Archipelago) also specifically include policies requiring a development setback from fish habitat. These setbacks range from 15 metres (warm water streams) to 30 metres (cold water streams). In almost all of the watershed municipalities, where aquatic setbacks are required, there are policy provisions for scenarios where on a site specific basis, such setbacks may be increased or decreased subject to a property specific Site Evaluation or EIS.

2.2.2.4 Threatened and Endangered Species

All watershed Official Plans preclude development within the habitat of threatened and endangered species except in accordance with Federal or Provincial legislation and requirements.

2.2.2.5 Significant Wildlife Habitat

None of the watershed Official Plans permit development and/or site alteration in significant wildlife habitat unless it has first been demonstrated by an EIS that there will be no negative impacts on the habitat or its ecological functions.

Most of the watershed Official Plans similarly do not permit development and/or site alteration on lands adjacent to significant wildlife habitat unless it has first been demonstrated by an EIS that there will be no negative impacts on the habitat or its ecological functions.

2.2.2.6 Deer Wintering Areas/Aquatic Moose Habitat

All of the Official Plans for the lower tier watershed municipalities include policies to provide guidance on development in relation to deer wintering areas. Approximately half of the watershed Official Plans contain more detailed policies that address the distinction and requirements between Stratum 1 and Stratum 2 deer habitat (Muskoka, Gravenhurst, Huntsville, Lake of Bays, Algonquin Highlands, Seguin and Archipelago). Other municipal Official Plans address deer wintering areas more generally (Bracebridge, Muskoka Lakes, Georgian Bay, Dysart, Kearney, McMurrich Monteith).

Across the watershed, development and site alteration is not permitted in deer wintering areas unless it can be demonstrated that the development would result in no negative impact as provided for by an EIS.

The Town of Gravenhurst, Township of Algonquin Highlands and Township of Archipelago further require that the conifer thermal cover be mapped in determining no negative impact.

A number of the lower tier Official Plan also include minimum lot area and minimum frontage requirements in relation to new lot creation in deer wintering areas. Such minimum lot requirements are consistent across all municipalities where included within Official Plans:

Minimum Lot Frontage – 90 metres

Minimum Lot Depth – 90 metres

Minimum Frontage for Lot with Narrow Fringe Along Shoreline – 120 metres

Official Plans that incorporate the above requirements include Gravenhurst, Huntsville, Lake of Bays, Muskoka Lakes (frontage only), Kearney, Algonquin Highlands (frontage only), Perry, McMurrich Monteith, Seguin, and Archipelago.

Access Roads - Access roads and driveways in Deer Wintering Areas shall avoid areas of conifer thermal cover and areas of deciduous browse within 30 to 50 metres of the conifer thermal cover. (Gravenhurst, Huntsville, Lake of Bays, Kearney, Archipelago)

The Township of Muskoka Lakes and the Township of Algonquin Highlands Official Plans further include requirements for retention of a shoreline buffer area in deer wintering areas. In particular, the Township of Algonquin Highlands requires that at least 80% of the shoreline frontage to a depth of 30 metres be maintained in its natural state in areas of identified deer wintering habitat.

The Town of Bracebridge further requires that lands within a deer wintering area be subject to site plan control.

Protection for aquatic moose feeding habitat is only addressed in some of the watershed Official Plans and is best addressed through the Parry Sound municipalities (Kearney, Seguin, Archipelago) which each include a policy that development and site alteration shall not be permitted in moose aquatic habitats or within 120 metres of the habitat, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

2.2.3 Naturally Occurring Hazard Lands

All Official Plans within the watershed include policies that regulate development either within or in proximity of naturally occurring hazard lands. Similar to natural heritage features, the minimum standards to regulate development in relation to naturally occurring hazard lands are generally established at the Provincial level through the Provincial Policy Statement or other Provincial requirements. Such policies apply to protect public health and safety. In addition to concerns for public health and safety, restricting development in such areas also provides positive impacts on the ecological systems within the watershed. Naturally occurring hazard lands addressed within lower tier Official Plans include narrow waterbodies, flood and erosion hazards and steep slopes. Also, similar to the policy approach for natural heritage features, policy directives for naturally occurring hazard lands function to either preclude development, establish minimum required setbacks and buffers, or place conditions on development.

2.2.3.1 Narrow Waterbodies

Narrow waterbodies are only comprehensively addressed in the lower tier Official Plans within the District of Muskoka as well as in the Official Plan for the Township of Seguin although are touched on at a high level in the Official Plans for the Town of Kearney and Township of Perry.

All of the lower tier Official Plans that address narrow waterbodies define what constitutes a narrow waterbody in the context of both a lake and a river. These definitions are all essentially consistent with only a slight variance in the case of Seguin. The Township of Muskoka Lakes takes a somewhat different approach in that it defines a narrow waterbody not simply based on the width of the waterbody from shoreline to shoreline but also the minimum length of the shoreline that the narrowness occurs, specifically for a minimum length of at least 100 metres along both shorelines.

All of the relevant Official Plans further prescribe a minimum lot frontage based on the narrowness of the waterbody. Most municipalities have relied on two categories of narrowness. In general terms, the most narrow of waterbodies (generally being less than 90 metres wide) requires a minimum lot frontage of 120 metres. A minimum lot frontage of 90 metres is required for the second category of waterbodies that are between 90 and 120 metres wide. In the Township of Georgian Bay also identifies a number of criteria to determine if the lot frontage should be further increased. The Township of Seguin Official Plan simply notes that where lot creation is proposed in narrow waterbodies, larger lot frontages shall be required.

Some municipalities include a policy directive that where only a portion of a lot is located on a narrow waterbody, the requirements for narrow waterbodies will be applied to the whole property, unless the siting of development and other appropriate measures can be implemented to the satisfaction of the Town in order to properly address the issues associated with development on a narrow waterbody. (Huntsville, Lake of Bays, Georgian Bay)

Approximately half of the Official Plans that address narrow waterbodies preclude shoreline development where such development could pose a hazard to navigation. (Gravenhurst, Huntsville, Lake of Bays, Georgian Bay) In most cases, a site evaluation report is required in support of any development for lands fronting on a narrow waterbody. (Bracebridge, Gravenhurst, Huntsville, Lake of Bays, Seguin)

The Township of Lake of Bays Official Plan specifically addresses narrow waterbodies within a community/settlement area and further identifies a number of site specific criteria that are required of any development along a narrow waterbody within this context including a minimum 20 metre setback for development unless there is an otherwise established building line.

Development on narrow waterbodies is subject to site plan approval in the Town of Bracebridge and the Township of Seguin.

Table 4 provides a summary of the narrow waterbody definitions and minimum required lot frontages across the lower tier municipalities within the watershed.

Table 4: Narrow Waterbodies

	Bracebridge	Gravenhurst	Huntsville	Lake of Bays	Muskoka Lakes ²	Georgian Bay	Seguin
Definition	<p>Where the width of the waterbody as measured shoreline to shoreline is:</p> <p>Lake – 30 m to 150 m</p> <p>River – less than 30 m</p>	<p>Where the width of the waterbody as measured shoreline to shoreline is:</p> <p>Lake – 30 m to 150 m</p> <p>River – less than 30 m</p>	<p>A navigable lake or watercourse where:</p> <p>a) the distance from shore to shore is 150 metres or less;</p> <p>b) in the case of a bay, the length of the bay will also be greater than 100 metres;</p> <p>c) the mouth of an enclosed bay would be considered a narrow waterbody, and the majority of the bay is less than 300 metres from shore to shore; or</p> <p>d) a portion of a river where the general distance from shoreline to shoreline is less than 30 m.</p>	<p>A navigable lake or watercourse where:</p> <p>a) the distance from shore to shore is 150 metres or less;</p> <p>b) in the case of a bay, the length of the bay will also be greater than 100 metres;</p> <p>c) the mouth of an enclosed bay would be considered a narrow waterbody, and the majority of the bay is less than 300 metres from shore to shore; or</p> <p>d) a portion of a river where the general distance</p>	<p>A navigable lake or river with a minimum distance from shoreline to shoreline of generally less than 150 metres for at least 100 metres along both shorelines. The shoreline configuration for a narrow bay is further defined as having a perpendicular distance generally along the bay’s axis from the shoreline to shoreline measurement to the end of</p>	<p>Where the width of the waterbody as measured shoreline to shoreline is:</p> <p>Lake – 30 m to 150 m</p> <p>River – less than 30 m</p>	<p>Where the width of the waterbody as measured shoreline to shoreline is:</p> <p>Lake – 50 m to 150 m</p> <p>River – less than 50 m</p>

² On October 12, 2022 the Council for the Township of Muskoka Lakes adopted a new Official Plan. This Official Plan is not yet approved and not yet in effect. However, the new Official Plan has provided a number of new policy directions and standards. These new policy standards have been denoted in this report as “(*New)” preceding the applicable standard.

	Bracebridge	Gravenhurst	Huntsville	Lake of Bays	Muskoka Lakes ²	Georgian Bay	Seguin
				from shoreline to shoreline is less than 30 m.	the bay of at least 100 metres.		
Min Lot Frontage	<p>Waterbody width of less than 90 metres = 120 metre frontage requirement</p> <p>Waterbody Width of 90 to 150 metres = 90 metre frontage requirement</p>	Where new lot creation is proposed adjacent to a Narrow Waterway, lot frontages may be increased	<p>Waterbody width of less than 90 metres = 120 metre frontage requirement</p> <p>Waterbody Width of 90 to 150 metres = 90 metre frontage requirement</p>	<p>Waterbody width of less than 90 metres = 120 metre frontage requirement</p> <p>Waterbody Width of 90 to 150 metres = 90 metre frontage requirement</p>	<p>Waterbody width of less than 75 metres = 120 metre frontage requirement (existing)</p> <p>(*New: Waterbody width of less than 75 metres: no new lot permitted)</p> <p>Waterbody Width of 75 to 100 metres = 90 metre frontage requirement (existing)</p> <p>(*New: Waterbody Width of 75 to 100 metres = 120 metre frontage requirement</p>	<p>Lakes - a lot <i>Frontage</i> of up to 120 metres may be imposed</p> <p>Rivers - a lot <i>Frontage</i> of up to 90 metres may be imposed</p> <p>In order to determine if the lot <i>Frontage</i> should be increased, regard shall be made for the severity of the narrowness of the channel and the impact of the development on:</p> <p>a) <i>Water Quality</i>; b) Density; c) Navigation and channel congestion; d) Views; and e) Other matters as deemed appropriate by the Township upon review of a site specific application.</p>	Where lot creation is proposed in narrow waterbodies, larger lot frontages shall be required.

2.2.3.2 Flood Hazards

Most municipalities in the watershed have implemented a one-zone approach to flood plain management. Only the Town of Bracebridge, Town of Gravenhurst and Town of Huntsville have implemented a two-zone approach to flood plain management. Under a two-zone approach, a distinction is made between the floodway and the flood fringe. The floodway is the portion of the lands prone to flooding where the depth and velocity of flooding would cause a danger to public health and safety or property damage. The flood fringe is the outer portion of the lands prone to flooding where the depth and velocity of flooding are generally less severe than in the floodway. This two-zone approach is applied only to rivers and tributaries. Lakes have a single, static flood line elevation.

The requirements of the Province supersede those of the municipality and must be applied through any planning application process. In instances where there is a conflict between the municipal Official Plan and the PPS or a gap in policy in the municipal Official Plan, the requirements of the Province prevail. Thus, all watershed Official Plans must address flood lands in accordance with Provincial requirements.

A. Provincial Policy Directives

The policies of the PPS are very prescriptive and provide that development shall generally be directed to areas outside of hazardous lands adjacent to the shorelines of the Great Lakes (in this context, Georgian Bay) as well as hazardous lands adjacent to rivers, streams and small inland lake systems. Hazardous lands include lands subject to flooding. The PPS further prescribes that institutional uses, essential emergency services and uses associated with the disposal, manufacture, treatment or storage of hazardous substances are not permitted on hazardous lands.

The PPS restricts development and site alteration within a floodway, dynamic beach hazard, and areas that would be rendered inaccessible during times of flooding. However, the PPS does provide that some uses which by their nature must be located within the floodway or passive non-structural uses which do not affect flood flows may be permitted. Marine related structures (such as docks) may be permitted in the floodway, subject to specific size and design criteria established in an implementing zoning by-law.

Where the two zone concept for flood plains is applied, the PPS provides that development and site alteration may be permitted in the flood fringe, subject to appropriate floodproofing to the flooding hazard elevation or another flooding hazard standard approved by the Minister of Natural Resources and Forestry.

Further, development and site alteration may be permitted in portions of those areas subject to flooding where the effects and risk to public safety are minor, could be mitigated in accordance with provincial standards, and where all of the following are demonstrated and achieved:

- i) development and site alteration is carried out in accordance with floodproofing standards, protection works standards, and access standards;
- ii) vehicles and people have a way of safely entering and exiting the area during times of flooding, erosion and other emergencies;
- iii) new hazards are not created and existing hazards are not aggravated; and

iv) no adverse environmental impacts will result.

B. Existing Flood Hazard Policies in Muskoka

The Ministry of Natural Resources and Forestry establishes the regulatory flood elevations for lands within the Muskoka River Watershed. Across the watershed, the flood hazard or regulatory flood elevation is defined as being the greater of either:

- the “100 year flood event”, which is the area that would be flooded, on average, once in 100 years; or,
- the “Regional Flood”, which is the area that would be flooded by a storm modeled on a particularly intense storm which occurred in Timmins in 1961, and could occur within the watershed.

This is the standard flood elevation used by the watershed municipalities unless more detailed studies have been undertaken for a specific area (such as the Magnetawan River Basin Regulatory Flood Levels Report (2002)) or unless the flood elevation has been delineated as a result of technical studies on a site specific/property specific basis.

The Official Plans for the Town of Huntsville and the Township of Georgian Bay make a distinction between the regulatory flood elevation and the normal or controlled high water mark. The regulatory flood elevation establishes a limit for flood lands that is used as a standard across the watershed in absence of more detailed, area or site specific studies. The normal or controlled high water mark is used as a benchmark from which development setbacks are measured. This benchmark is generally implemented at the zoning level.

In accordance with the policies of the PPS, development within the watershed municipalities is generally directed outside of hazard areas and floodways in particular with a few exceptions. Watershed management, flood/erosion control projects may be permitted within the floodway. Marine related structures (such as docks) may also be permitted in the floodway, subject to specific size and design criteria established in a lower tier implementing zoning by-law.

Where a two-zone floodplain management approach is established, the watershed Official Plans generally permit development in the flood fringe subject to the findings of a technical study to establish the limits of the flood lands and/or provided qualifying criteria can be met. These criteria include:

- the effects and risk to public safety are minor and can be mitigated;
- that development and site alteration may occur subject to appropriate floodproofing;
- safe entrance and egress is available during times of flooding or other emergencies;
- new hazards are not created nor existing hazards compounded;
- adequate provisions are made for the safe disposal of sewage; and
- no adverse environmental impacts would result.

Most of the watershed Official Plans identify select lake or area specific flood elevations for select geographic areas where more detailed studies have been undertaken and the floods elevation can more definitively be identified. Such areas represent a small portion of the municipality where such studies have been done.

Further, development is only permitted in accordance with the findings of a technical study. This is true across all watershed Official Plans. The purpose of such a study is to identify/confirm the limits of the floodplain, determine if development is appropriate and if it can be mitigated to within acceptable limits of impact and safety in accordance with all Provincial and/or Federal requirements. Where there is only a one-zone approach to floodplain management, development is assessed on this basis. The Township of Algonquin Highlands is unique in that it requires that any flood related technical studies undertaken in support of development must also confirm that development can occur in a safe manner with no impact to existing development up or down stream.

The Town of Kearney requires that any lands that are zoned to reflect potential susceptibility to flooding and/or erosion hazards are subject to site plan approval to ensure that all facilities, works, or other matters required to mitigate flooding effects are provided and maintained and to ensure that there are no increased flood-related hazards on other properties.

The District of Muskoka has in recent years, undertaken a comprehensive program to map flood plains. As a result, there are a number of locations in the District of Muskoka where more detailed flood plain mapping is now available such as in populated areas or areas identified as being vulnerable to flooding. Where this more detailed flood plain mapping is now available, it is important that lower tier municipalities use this mapping to revise local Zoning By-laws and apply such mapping at a site or development level. Alternatively, there are still many portions of the watershed primarily outside of the District of Muskoka, that do not benefit from detailed flood plain mapping. Management of the Muskoka River watershed would benefit from more comprehensive flood plain mapping across the entirety of the watershed.

2.2.3.3 Steep Slopes

Across the watershed, development on steep slopes or in areas of erosion is controlled. Development is not permitted on slopes that are subject to erosion (active or historic) or where slope failure is at risk of or has previously occurred. Where development is permitted, it is both limited and conditional.

Various of the Official Plans within the watershed apply development criteria that trigger the need for a site evaluation or technical study to determine the appropriateness of development and any mitigation measures necessary. These studies are required at various thresholds in terms of the steepness of the slope. These thresholds are as follows:

- 20% (McMurrich Monteith);
- 30% (Bracebridge, Huntsville, Lake of Bays); and,
- 40% (Gravenhurst, Muskoka Lakes)

In some municipalities the development criteria applied is more specific.

The Township of Muskoka Lakes Official Plan identifies steep slopes as an Area of Use Limitation and applies specific minimum frontages contingent on the steepness of the slope:

- 20% to 40% slope = minimum 60 metre lot frontage (*New – 90 metre water frontage);
- 40% to 60% slope = minimum 90 metre lot frontage (*New – 120 metre water frontage); and,
- 60%+ slope = minimum 120 metre lot frontage (*New – 150 metre water frontage).

The Municipality of Dysart et al Official Plan also identifies steep slopes as an Area of Use Limitation and prescribes a minimum lot size of 2 hectares and a minimum frontage of metres. However, these thresholds may be increased or decreased pending the findings of a site specific technical study. The Town of Kearney Official Plan provides that increased lot sizes may be required where development is proposed in an area with steep slopes.

A number of the watershed Official Plans include policies to address setbacks on steep slopes:

- Development should be setback at least 15 metres from the top of a defined bank. A greater or lesser setback from the top of the bank may be permitted where recommended in a site evaluation or a technical report. (Bracebridge, Huntsville, Lake of Bays)
- Development will be set back from areas exhibiting steep slopes or erosion. The setback distance will be determined on a site specific basis in consultation with a qualified specialist. A reduction of the setback distance will be considered in accordance with the findings of a technical study. (Algonquin Highlands, McMurrich Monteith)
- Development shall be sufficiently setback from the top of bank of slopes greater than 1 in 3. The development setback distance is determined in accordance with a slope stability study and/or other technical study and must address a set of prescribed criteria of the Official Plan. (Perry)
- Approximately half of the watershed Official Plans require that vegetation be substantially retained on slopes greater than 20%. Where vegetation cannot be substantially retained, a Site Evaluation Report shall be required. (Bracebridge, Gravenhurst, Huntsville, Lake of Bays, Muskoka Lakes, Georgian Bay, Algonquin Highlands). The Town of Bracebridge Official Plan specifically notes that vegetation is to particularly be retained on slopes adjacent to shorelines, in proximity of the ridgeline or in areas of unstable soils both before and after construction. The Town of Gravenhurst Official Plan specifies that existing vegetation is to be retained. The Town of Seguin Official Plan provides that development should be sited to limit the removal of vegetation.
- Almost all of the watershed municipalities require studies as a condition of development in areas of steep slopes. These studies may be triggered by the steepness of the slope in the area of proposed development or in cases where vegetation cannot be retained on slopes greater than 20%. The range of studies identified within the watershed Official Plans include a Site Evaluation, Technical Report, EIS, Geotechnical Study or Slope Stability Analysis.
- The Official Plans of the Town of Bracebridge, Township of Seguin and Township of Perry require that development in areas of steep slopes are subject to site plan approval.

2.2.4 Adjacent Lands

All watershed municipalities contain policies that define and prescribe the extent of adjacent lands in relation to natural heritage features. The policy objective for adjacent lands is to protect natural heritage features by controlling development and the potential impacts of development in proximity of such features. This includes triggering studies to demonstrate no negative impacts of development or to establish protective setbacks, to require the retention of a vegetative buffer, or to implement site plan control within the area in proximity of a natural heritage feature.

The PPS includes both a policy and definition to guide land use on lands adjacent to natural heritage features. The PPS provides that:

“Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4 [significant wetlands, coastal wetlands], 2.1.5 [significant wildlife habitat, ANSIs], and 2.1.6 [fish habitat] unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.”

The PPS defines adjacent lands within this context, to be lands contiguous to a specific natural heritage feature or area where it is likely that development or site alteration would have a negative impact on the feature or area. The extent of the adjacent lands may be recommended by the Province or based on municipal approaches which achieve the same objectives. The PPS policy for adjacent lands as well as the Provincial definition applies to lands within all watershed municipalities.

All watershed Official Plans contain policies that require development only be permitted on lands adjacent to identified natural heritage features/areas if it can be demonstrated that the proposed development will result in no negative impact on the adjacent natural heritage feature or its ecological functions. This requirement applies to a range of natural heritage features as detailed on the attached chart.

Most of the watershed Official Plans include a definition, consistent with the PPS definition, of what constitutes ‘adjacent lands’. Further, as shown on **Table 5**, all municipalities identify the extent of the lands surrounding a natural heritage feature that are considered to be adjacent. The extent of the adjacent lands as expressed in the watershed Official Plans are generally consistent and implement the standards of the MNRF Natural Heritage Reference Manual which provides guidance for implementing the natural heritage policies of the Provincial Policy Statement. The prescribed distances for adjacent lands are also provided on the attached chart.

In addition to the natural heritage features identified on the attached chart, the Municipality of Dysart further includes an additional category for adjacent lands being “all other [natural heritage] features” and provides for a 50 metre radius around such features.

Table 5: Adjacent Lands

	ADJACENT LANDS						
	District of Muskoka (All municipalities)	County of Haliburton (All municipalities)	Parry Sound Lower Tier Municipalities				
Natural Heritage Feature			Kearney	Perry	McMurrich Monteith	Seguin	Archipelago
Provincially Significant Wetlands and Significant Coastal Wetlands	120 m	120 m (Significant Wetlands)	120 m	120 m	120 m	120 m	120 m
Other Wetlands	30 m	n/a	60 m	30 m	n/a	50 m	120 m (Locally Significant Wetlands)
Provincially Significant Wildlife Habitat	120 m	120 m (Significant Wildlife Habitat)	120 m	120 m	n/a	120 m	120 m
ANSI – Life Science	120 m	120 m	n/a	n/a	n/a	120 m	n/a
ANSI – Earth Science	50 m	50 m	n/a	n/a	n/a	50 m	n/a
Fish Habitat	120 m	120 m	120 m	120 m (Significant Fish Habitat)	n/a	120 m	120 m (Type 1 Fish Habitat)
Fish Habitat on Trout Lakes	300 m	300 m	300 m	300 m	n/a	300 m	300 m
Muskoka Heritage Areas/Sites	120 m	n/a	n/a	n/a	n/a	n/a	n/a

n/a = no prescribed measurement for what constitutes 'adjacent lands'

2.2.5 Natural Resources

All watershed lower tier Official Plans include policy directives addressing natural resources. The two key natural resource policy areas include forestry and aggregates. Accordingly, the existing policy frameworks for these resources are summarized below. Within the lower tier Official Plans, mining is only addressed to a far lesser degree and agriculture even less. As a result, no policy summary has been provided for these resources.

2.2.5.1 Forestry

The District of Muskoka Official Plan recognizes forests as a renewable resource and as a component of green infrastructure that can contribute to stormwater management, erosion control, climate change mitigation as well as providing wildlife habitat. The District Plan encourages lower tier policies to develop/implement tree preservation by-laws and site alteration by-laws to protect forest resources.

The County of Haliburton Official Plan framework is more prescriptive and definitive in approach. The policies of the County Official Plan provide that the clearing of forested areas is not permitted except in conformity with the County Forest Management By-law and the County Shoreline Tree Preservation By-law. The County Official Plan further requires that forest operators undertake sustainable approaches and are encouraged to develop sustainable forestry plans.

Most of the lower tier watershed Official Plans acknowledge and permit forestry as a renewable resource and economic input to local economies. The level of detail contained within the various lower tier watershed Official Plans is varied with the Official Plan policies addressing a number of conditional policies that direct how forestry may occur. This includes that:

- Forestry uses occur in a manner that minimizes impacts on natural heritage features and functions including requirements for sustainable forestry and appropriate management techniques in order to protect water resources and natural habitat (Bracebridge, Gravenhurst, Huntsville, Lake of Bays, Dysart et al, Kearney, Seguin). The Town of Kearney Official Plan specifically expresses what is considered ‘sustainable forest management’ being “*management regimes applied to forest lands which maintain the productive and renewal capacities as well as the genetic, species, and ecological diversity of forest ecosystems*”; and,
- Official Plan policies that preclude forestry operations in certain areas including requiring setbacks from shorelines or more specifically prohibiting clear cutting within 500 metres of shorelines including wetlands, streams, rivers, and creeks, precluding forestry uses in the Waterfront or Community designations or Rural/Waterfront interface, no cutting of live timber on islands, and maintenance of appropriate vegetation buffers (Gravenhurst, Lake of Bays, Muskoka Lakes, Dysart et al, Archipelago, Seguin).

The need for reforestation or restoration is addressed in only 2 of the watershed municipalities. In this regard, reforestation is encouraged to occur as soon as possible after logging in particular to re-establish natural corridors (Lake of Bays, Algonquin Highlands)

Many of the lower tier Official Plans also provide for implementation mechanisms beyond the Official Plan in order to better regulate forestry uses. This includes references or required compliance with:

- By-Laws under the Municipal Act (Tree Cutting By-law (Gravenhurst Muskoka Lakes, Kearney), good forestry practices by-law (Lake of Bays), and County of Haliburton Tree Harvesting By-law 3196 and County of Haliburton By-law 3505 (Dysart et al));
- Zoning By-law Amendment (Muskoka Lakes);
- Legal agreements/ municipal agreements (Muskoka Lakes);
- Timber Management Plans as approved by the Ministry of Natural Resources and Forestry (Archipelago); and/or
- Compliance with the Endangered Species Act and Fisheries Act, the Migratory Birds Act and other legislation which protects natural heritage features, functions and the species that depend on such features or functions as habitat (Perry).

2.2.5.2 Aggregates

Both the District of Muskoka Official Plan and County of Haliburton Official Plan include policies that recognize the need to protect aggregate uses and resources for the long term, include criteria for subsequent development once the aggregate resource has been exhausted, and acknowledge the role of the Province/need to comply with the Aggregate Resources Act in regulating this use

The District of Muskoka Official Plan provides additional policy directives to address the environmental impacts and considerations of aggregate operations as follows:

- The District Official Plan contains a policy that the District does not support the establishment of new aggregate operations in the Waterfront Area designation. This applies to lands within 150 metres of a shoreline or more if such lands are determined to be functionally related to the shoreline in case-specific instances;
- Where aggregate uses are established or proposed, the District Official Plan includes policies to encourage that extraction be carried out in a manner that minimizes negative social, economic and environmental impacts and mitigates negative impacts;
- The District Plan contains policies that support final and progressive rehabilitation of aggregate operations in order to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible; and,
- The District Plan further requires that lower tier Official Plans include a set of prescribed application requirements for proposed aggregate operations. Specifically, these requirements require that the following be addressed by the proponent of any new aggregate operations: natural heritage features and ecological functions, quality/quantity of ground and surface water, groundwater recharge areas, and wells used for drinking water.

The County of Haliburton Official Plan includes policy direction that remediation of aggregate/mining operations must be completed to the satisfaction of the Province and further directs that the rehabilitation of wayside pits be addressed in lower tier Official Plans

All of the lower tier Official Plans address aggregate resources. In general terms, all of the lower tier Official Plans address the need for proper management of the aggregate resource as well as rehabilitation post-extraction however, the scope and details of the policies varies amongst the municipalities. The policies of the lower tier Official Plans can be clustered amongst five key groupings:

- 1) Environmental Consideration – all of the municipalities to some degree, address the sustainable management aggregate resources such that the aggregate is extracted in an environmentally sound manner. There are varying degrees of detail in the policies in regard to this. In some cases, this is simply a high level statement of support for sound environmental practices. In some of the municipalities, this statement is extended to specifically require that negative environmental impacts be minimized and mitigated (Bracebridge, Huntsville, Lake of Bays, Muskoka Lakes, Algonquin Highlands). More detailed still, the Town of Bracebridge and Town of Gravenhurst policies require the protection of natural heritage features as well as ground and surface water resources. The Township of Seguin is the only municipality to specifically require that the cumulative impacts of both existing and proposed aggregate operations be considered in order to ensure that mitigation measures appropriately address the full scope of impacts of a new aggregate operation. While there is a Provincial interest and role in aggregate as a non-renewable resource, only the Township of the Archipelago Official Plan, weighs environmental considerations in tandem with the need for aggregate resources: *“Existing licenced pit and quarry operations and deposits of sand and gravel will be protected wherever possible, subject to the paramount concern of environmental impact and protection of that recreational land use base along waterbodies.”*
- 2) Locational Criteria – Various of the lower tier Official Plans identify areas where aggregate operations are either not permitted or are discouraged:
 - Precluded within identified Official Plan designations
 - Waterfront Area designation (Gravenhurst, Lake of Bays, Muskoka Lakes and Georgian Bay)
 - Environmentally Sensitive or Shoreline designations (McMurrich Monteith)
 - Urban Centre/Community or Rural Settlement designations (Gravenhurst, Lake of Bays, Georgian Bay)
 - Precluded within identified natural heritage features
 - Provincially Significant Wetlands or Habitat of Threatened/Endangered Species (Bracebridge)
 - Stratum I or Stratum II deer wintering habitat (Kearney) or permitted only in deer wintering habitat if no negative impact can be demonstrated (Huntsville)
 - Within specific named Heritage Sites (Lake of Bays)
 - Further still, some of the lower tier Official Plans require setbacks for aggregate operations from specific land uses or areas
 - 150 metres from waterbodies and recreational areas (Archipelago)
 - 2 km from Waterfront designation (Muskoka Lakes)

- 1000 metres from Waterfront designation (Algonquin Highlands)
 - 1000 metres from existing residential dwelling (Georgian Bay, Algonquin Highlands)
 - 1000 metres from settlement area boundary (Algonquin Highlands)
- 3) Rehabilitation – All of the lower tier Official Plans address rehabilitation of aggregate operations to varying level of detail:
- require rehabilitation (Muskoka Lakes, Dysart et al, Kearney, Archipelago, McMurrich Monteith);
 - require ‘progressive and final rehabilitation’ (Bracebridge, Gravenhurst, Huntsville, Lake of Bays, Seguin and Perry);
 - require rehabilitation to a compatible after use which may include agriculture, natural heritage or recreation (Georgian Bay);
 - if a site previously existed in a natural state, requirement that natural self-sustaining vegetation and hydrologic features be re-established and restored (Perry); and,
 - require site development plan/rehabilitation plan and/or municipal agreements to ensure rehabilitation (Algonquin Highlands, Seguin).
- 4) Implementation – most of the lower tier Official Plans specifically address implementation mechanisms that may be used to regulate aggregate operations including Official Plan Amendments, Zoning By-law Amendment, site plan/conditions of approval, development permit/conditions of approval, municipal agreements, compliance with the Aggregate Resources Act as well as municipal inputs to the terms of Provincially issued aggregate licences and conditions
- 5) Application Requirements – in most of the watershed municipalities new aggregate operations are only permitted subject to an Official Plan Amendment and/or Zoning By-law Amendment and site plan or development permit. Similarly, most lower tier Official Plans identify application criteria that must be addressed as part of any planning application to permit a new aggregate operation. The Town of Bracebridge and the Township of Seguin Official Plans further identify certain performance criteria or metrics which must be satisfied in order for an application for a new aggregate operation to be approved.

All lower tier Official Plans permit wayside pits and quarries in accordance with the Provincial Policy Statement (2020) that *“Wayside pits and quarries, portable asphalt plants and portable concrete plants used on public authority contracts shall be permitted, without the need for an official plan amendment, rezoning, or development permit under the Planning Act in all areas, except those areas of existing development or particular environmental sensitivity which have been determined to be incompatible with extraction and associated activities.”*

2.2.6 Development and Lot Creation

All lower tier Official Plans within the watershed include a broad spectrum of development and lot creation policies. As noted earlier in this report, the effect of such policies is to preclude development, establish setbacks or to implement policy tests and development criteria. Official Plan approaches to

development have been integrated into this report through the existing summaries for lake capacity, natural heritage features, naturally occurring hazard lands and adjacent lands. A summary of existing policy approaches to lot creation is provided below.

2.2.6.1 Lot Creation

Both the District of Muskoka and County of Haliburton Official Plans establish the broad policy framework for lot creation at the upper tier level. The District of Muskoka Official Plan policies require consideration for impacts on waterbodies as a criterion for lot creation and further establish metrics for the retention of vegetation along shorelines for new lot development (75% of the linear shoreline frontage to a depth of 15 metres). All lot creation is subject to site plan control. Causation Studies may be a determinant for lot creation. The Haliburton Official Plan also contains metrics for the retention of shoreline vegetation along all waterbodies (retention of natural vegetation in the full 30 metre setback from the high water mark of a body of water including rivers and streams) and requires a site evaluation report in support of any lot creation.

At the lower tier level, almost all of the watershed Official Plans address impacts on waterbodies/water quality as a general determinant in considering lot creation however, the policies vary slightly in focus:

- waterbody and/or watershed must be able to sustain the impact of additional development (including lot creation) (Bracebridge, Gravenhurst);
- phosphorus impacts on water quality can effectively be mitigated (Muskoka Lakes, Dysart et al);
- lake capacity generally to accommodate development (including lot creation) (Archipelago, Seguin, Kearney);
- lake capacity specifically that lot creation must not exceed a lot to lake surface area ratio of 1 lot for each 1.6 hectares of lake surface area (Dysart et al);
- lot creation only permitted where development can proceed without negatively impacting water quality (Lake of Bays, Georgian Bay);
- default to District policies where development (including lot creation) may have an impact on recreational water quality (Huntsville); and
- policy framework where the municipality may require a Lake Trophic Assessment prior to any planning approval including lot creation.

All lower tier Official Plans contain lot requirements that function to control density and activity levels along the shoreline. This includes policies that provide for minimum lot sizes and minimum lot frontages in the Waterfront or Shoreline designation and policies that require natural, vegetative buffers along the linear shoreline frontage of the lot. Such policies also prescribe the minimum depth of vegetative shoreline buffer.

As shown on **Table 6**, lot requirements vary considerably across the watershed. The range of each of the key metrics of minimum lot size, minimum lot frontage, and minimum required vegetative shoreline buffer are summarized below. These are the general ranges although in some cases there may be the odd

outlier.

- Minimum lot size of waterfront lots – 0.4 ha to 1.0 ha
- Minimum lot size of island lots – 0.2 ha to 1.5 ha
- Minimum lot size of backlots – 1.0 to 4.0 with backlots being discouraged in the Township of Seguin and only permitted by way of Zoning By-law Amendment
- Minimum lot frontage of waterfront lots – 60 m to 90 m
- Minimum lot frontage of island lots – most municipalities to not stipulate a minimum lot frontage although of those that do, the minimum lot frontage ranges from 60 m to 60 m
- Minimum lot frontage of backlots – 60 m to 200 m
- Minimum natural/vegetative buffer – 75% to 90% of the linear shoreline frontage
- Minimum depth of the natural/vegetative buffer – 15 to 30 metres (* In general terms, the lower tier municipalities in Haliburton and Parry Sound require a wider depth of the natural vegetative buffers than the lower tier municipalities in Muskoka.)

All lower tier municipalities identify constraint areas where lot creation is not permitted or place restrictions/conditions on the circumstances under which lot creation may occur. This includes lot creation on lands adjacent to fish habitat, narrow waterbodies, high sensitivity waterbodies, lakes over threshold, or on Lake Trout lakes as well as hazard lands (flooding, erosion, steep slopes), and areas of significant wildlife habitat including deer wintering areas, threatened or endangered species.

Across the lower tier municipalities, the approach varies in terms of the level of detail of the Official Plan policies that regulate lot creation in relation to the identified constraint areas. These policy approaches can vary by municipality, geography within the municipality (ie. more specific policy direction for particular lakes or communities and can include lake or area specific plans and requirements) or by the constraint being regulated (ie. fish habitat, narrow water body, Lake Trout lakes, deer wintering areas)

Approaches used by the lower tier municipalities include:

- restrictions on lot creation (ie. no new lots may be permitted on lakes that are over threshold);
- lot creation permitted in accordance with performance criteria or conditions (ie. requirement for setbacks from natural features, increased lot sizes in proximity of narrow waterbodies or deer wintering areas, lot creation only permitted if on full municipal services, new lot line may not divide a natural feature);
- lot creation permitted only where supported by studies to demonstrate/identify outcomes (ie. EIS/site evaluation/ water quality assessment/ fish impact assessment to determine no negative impact on fish habitat in waters adjacent to a proposed new lot);

- inclusion of criteria in Official Plan for evaluating lot creation (ie. the lot is of a sufficient size and has sufficient frontage to provide for development outside of the constraint area or to sufficiently mitigate impacts) (Bracebridge, Gravenhurst);
- use of evidenced-based scientific ranges and targets as metrics to evaluate lot creation (ie. lot creation is not permitted on a Lake Trout lake where the Mean Volume Weighted Hypolimnetic Dissolved Oxygen (MVWHDO) level is measured to be at or below 7 ppm, or the modeling of the impact of developing the existing lots of record with current planning approvals would lower the predicted MVWHDO to 7 ppm or lower (Perry, Kearney, Seguin);
- identified implementation mechanisms (ie. requirement for site plan control, development permit, development agreements, tree cutting by-law);
- lake/area specific policies (ie. more detailed area specific requirements for lot creation in accordance with local conditions)

All lower tier Official Plans in the watershed (with the exception of only 1) address phosphorus loading and the need to manage phosphorus through lot creation and development controls.

Table 6: Lower Tier Lot Requirements - General

	Minimum Lot Size	Minimum Frontage
District of Muskoka		
Town of Bracebridge Waterfront Area		
Waterfront Lot	0.4 ha	60 m
Island Lot	0.8 ha	Not stipulated
Backlot	2.0	120 m
Shoreline Natural/Vegetative Buffer	n/a	75% of linear frontage to a depth of 15 m
Town of Gravenhurst Shoreline Area		
Waterfront Lot	0.8 ha	60 m
Island Lot	0.6 ha	60 m
Backlot	1.0	150 m
Shoreline Natural/Vegetative Buffer	n/a	Urban Mixed Use Waterfront Area – natural vegetation protected within 15 m of shoreline Waterfront Area – Site alteration and disturbance of vegetation within 20 metres of shoreline shall be limited
Town of Huntsville Waterfront Area		
Waterfront Lot	1.0 ha	60 m
Island Lot	0.4 ha	Not stipulated
Backlot	4.0 ha	134 m
Shoreline Natural/Vegetative Buffer	n/a	75% of linear frontage to a depth of 15 m
Township of Lake of Bays Waterfront Area		
Waterfront Lot	0.8	60 m
Island Lot	0.2	Not stipulated
Backlot	4.0 ha	134 m
Shoreline Natural/Vegetative Buffer	n/a	75% of linear frontage to a depth of 15 m

	Minimum Lot Size	Minimum Frontage
Township of Muskoka Lakes Waterfront Area ³		
Waterfront Lot (*New Lake Categories) Category 1 – Large Lakes Category 2 – Medium Lakes/Rivers Category 3 – Smaller Lakes/Rivers	0.4 ha (existing) (*New – according to lake category) Category 1 – 0.8 ha Category 2 – 0.8 ha Category 3 – 0.8 ha	60 m (existing) (*New – Category 1 – 90 m Category 2 – 90 m Category 3 – 120 m
Water Access Lot	0.8 ha (*New – 1 ha)	90 m (*New – 120 m)
Backlot	2.0 ha	200 m
Shoreline Natural/Vegetative Buffer	n/a	75% of linear frontage to a depth of 15 m to 20 m depending on if in settlement or rural waterfront area (New: 100% entire width of lot to a depth of 15 m)
Township of Georgian Bay Waterfront Area		
Waterfront Lot	0.8 ha	120 m
Island Lot – Georgian Bay	1.0 ha	Not stipulated
Island Lot – Inland Lake	0.8 ha	Not stipulated
Backlot	Not stipulated	200 m
Shoreline Natural/Vegetative Buffer	n/a	75% of linear frontage to a depth of 15 m

³ On October 12, 2022 the Council for the Township of Muskoka Lakes adopted a new Official Plan. This Official Plan is not yet approved and not yet in effect. However, the new Official Plan has provided a number of new policy directions and standards. These new policy standards have been denoted in this report as “(*New)” preceding the applicable standard.

	Minimum Lot Size	Minimum Frontage
County of Haliburton		
Township of Algonquin Highlands Waterfront Area		
Waterfront Lot	0.4 ha	60 m
Island Lot	Not stipulated	Not stipulated
Backlot	2.0 ha	90 m
Shoreline Natural/Vegetative Buffer	n/a	75% of linear frontage to a depth of 30 m
Municipality of Dysart et al. Waterfront Area		
Waterfront Lot	0.4 ha	60 m
Island Lot	0.4 ha	60 m
Backlot	12.0 ha	100 m
Shoreline Natural/Vegetative Buffer	n/a	80% of linear frontage to a depth of 30 m
District of Parry Sound		
Town of Kearney Shoreline Area		
Waterfront Lot	1.0 ha	60 m
Island Lot	Not stipulated	Not stipulated
Backlot	1.0 ha	60 m
Township of the Archipelago	<p>Minimum Lot Size and Minimum Lot Frontage - varies by neighbourhood</p> <p>Shoreline Natural/Vegetative Buffer – none specified. Policy direction that new development and redevelopment adjacent to the shoreline shall be sensitive to the preservation of tree cover and native vegetation to prevent erosion, siltation and possible nutrient migration and maintain the complex ecological functions of the shoreline and littoral zone environment.</p>	

	Minimum Lot Size	Minimum Frontage
Township of Perry		
Waterfront Lot	1.0 ha	90 m
Island Lot	1.5 ha	120 m
Backlot	4.0 ha	135 m
Shoreline Natural/Vegetative Buffer	n/a	<ul style="list-style-type: none"> - Site alteration and disturbance of vegetation within the 30 metre setback shall be limited to minor alterations to accommodate access trails, docks, water pumping equipment or restoration work; - 90 percent of the front 30 metres of a lot should be maintained in a natural vegetative state. -
Township of Seguin Shoreline Area		
Waterfront Lot	1.0 ha	90 m
Island Lot	1.5 ha	120 m
Backlot	It is a policy directive that backlots are discouraged and only permitted by Zoning By-law Amendment.	
Shoreline Natural/Vegetative Buffer	n/a	75% of linear frontage to a depth of 20 m
Township of McMurrich Monteith Shoreline Area		
Waterfront Lot	0.4 ha	60 m
Island Lot	0.8 ha	No frontage stipulated
Backlot	2.0 ha	90 m
Shoreline Natural/Vegetative Buffer	n/a	75% of linear frontage to a depth of 7.5 m

Table 7: Lower Tier Lot Requirements – Narrow Waterbodies

Municipality	Definition of Narrow Waterbody	Lot Creation Requirements for Narrow Waterbodies
Muskoka	No policies. Directs that lower tier municipal Official Plans address narrow waterbodies	
Bracebridge	Areas on a river where the distance from shoreline to shoreline is less than 30 metres, or areas on standing waterbodies, where the distance from shoreline to shoreline is 150 metres or less	Where the distance of the narrow waterbody from shore to shore is: (i) 90 m to 150 m - minimum required frontage of 90 m (ii) less than 90 m - minimum required frontage of 120 m (iii) Appropriate lot line configurations or greater lot line frontages may be required to address the constraints of a particular narrow waterbody or to address other constraints
Gravenhurst	Areas on waterbodies where the distance from shoreline to shoreline is less than 150 metres or where the distance from shoreline to shoreline on a river is less than 30 metres	Where new lot creation is proposed adjacent to a Narrow Waterway, lot frontages may be increased to ensure that the density, water quality, navigation, aesthetics, channel congestion and views are not negatively affected.
Huntsville	means a navigable lake or watercourse where: (a) the distance from shore to shore is 150 metres (500 feet) or less; (b) in the case of a bay, the length of the bay will also be greater than 100 metres (330 feet); (c) the mouth of an enclosed bay would be considered a <i>narrow waterbody</i> , and the majority of the bay is less than 300 metres (1,000 feet) from shore to shore; or (d) a portion of a river where the general distance from shoreline to shoreline is less than 30 m.	Where the distance of the <i>narrow waterbody</i> from shore to shore is: (i) greater than 90 m - minimum shoreline frontage of 90 m (ii) less than 90 m - minimum shoreline frontage of 120 m

Municipality	Definition of Narrow Waterbody	Lot Creation Requirements for Narrow Waterbodies
Lake of Bays	<p>A narrow waterbody is defined as a navigable lake or watercourse where:</p> <ul style="list-style-type: none"> a) the distance from shore to shore is 150 metres (500 feet) or less; b) in the case of a bay, the length of the bay will also be greater than 100 metres (330 feet); c) the mouth of an enclosed bay would be considered a narrow waterbody, and the majority of the bay is less than 300 metres (1,000 feet) from shore to shore; or d) a portion of a river where the general distance from shoreline to shoreline is less than 30 m 	<p>Shoreline lot frontage will be increased where the distance of the narrow waterbody from shore to shore is:</p> <ul style="list-style-type: none"> (i) 90 metres or greater - a minimum shoreline frontage of 90 m; (ii) less than 90 metres - a minimum shoreline frontage of 120 m
Muskoka Lakes	<p>A narrow waterbody is defined as a navigable lake or river with a minimum distance from shoreline to shoreline of generally less than 150 metres for at least 100 metre along both shorelines. The shoreline configuration for a narrow bay is further defined as having a perpendicular distance generally along the bay's axis from the shoreline to shoreline measurement to the end of the bay of at least 100 metres</p>	<p>The following shall constitute minimum water frontage requirements for lot creation:</p> <ul style="list-style-type: none"> (i) a water frontage of 90 metres in areas of narrowness 75 to 150 m across; (ii) a water frontage of 120 metres in areas of narrowness less than 75 metres across.
Georgian Bay	<p>Means:</p> <ul style="list-style-type: none"> a) A waterbody on a lake which has a minimum distance of less than 150 metres from shoreline to shoreline, b) A waterbody on a river which has a minimum distance from shoreline to shoreline of less than 30 metres. 	<p>Where a narrow waterbody exists, an increase in lot water frontage shall be required. The following provisions shall be utilized as guidelines in directing development on narrow waterbodies:</p> <ul style="list-style-type: none"> (i) Lakes - lot frontage of up to 120 metres may be imposed; (ii) Rivers - lot frontage of up to 90 metres may be imposed;

Municipality	Definition of Narrow Waterbody	Lot Creation Requirements for Narrow Waterbodies
Haliburton		
Algonquin Highlands	No policies	
Dysart et al	No policies	
Parry Sound		No upper tier Official Plan
Kearney	Not defined	Increased lot sizes may be required for lands adjacent to narrow bays and peninsulas.
Seguin	Narrow waterbodies are identified as areas on a river where the distance from shoreline to shoreline is less than 50 metres, or areas on lakes where the distance from shoreline to shoreline is 150 metres.	Where lot creation is proposed in narrow waterbodies, larger lot frontages shall be required New shoreline structure development shall be subject to the preparation of a Site Evaluation Report to identify the location of development on the property in a manner that will minimize the risk to navigation safety and environmental features to the satisfaction of the Township.
Archipelago	No policies	
Perry	Channels with a width of less than 120 metres	Larger lots may be required for lands on narrow channels with a width of less than 120 metres.
McMurrich Monteith	No policies	

2.2.7 Infrastructure

Natural capital asset planning and green infrastructure are an approach to asset planning and development that seek to provide for the structural needs of communities by building on natural elements and ecological systems. Examples of naturally occurring natural capital assets include wetlands that store, filter and release water slowly or forest and tree canopy cover that provide wind breaks, slope stability, uptake of water and cooling impacts. Green infrastructure are the mechanisms to capture the beneficial qualities of natural processes either at a site or system level and include such mechanisms as rain gardens, bioswales or naturalized stormwater management ponds. Engineered green infrastructure is man-made infrastructure that is designed to be environmentally supportive such as permeable pavement, green roofs, rain barrels and low impact development standards.

Both the District of Muskoka and the County of Haliburton Official Plans include policies that are supportive of natural capital asset management or green infrastructure. In the case of the District OP, this is identified as 'natural capital asset planning' and 'strategic asset management'. These are supportive policy statements that describe the concept and provide that the area municipalities 'may' establish a framework for the consideration of natural capital assets. The District of Muskoka extends this one step further by including a policy to strongly encourage the use of ecosystem valuation tools as part of development proposals to assign a monetary value to ecosystem-based services. The Haliburton OP uses the terminology 'green infrastructure' and equally describes what is meant by green infrastructure and includes a policy that local municipalities may provide opportunities for green infrastructure.

The concept of natural capital asset planning/ green infrastructure is not explicitly carried down into lower tier Official Plans. The terminology 'natural capital asset planning' only appears in the District of Muskoka Official Plan and does not occur in any of the lower tier municipalities. Similarly, the concept of 'green infrastructure' only occurs in the lower tier Official Plans of the Town of Huntsville, Township of Lake of Bays, and Township of Algonquin Highlands. In the case of the Town of Huntsville, green infrastructure is referenced in only one policy in relation to climate change adaptation and the need for a green infrastructure approach in relation to stormwater management. In the case of Lake of Bays, green infrastructure is identified as a criteria for community design and the issuance of development permits. In the case of the Township of Algonquin Highlands, the Official Plan includes policy support for development and management practices that address climate change mitigation and adaptation including the promotion of green infrastructure.

While the majority of the lower tier Official Plans do not include policies that explicitly address natural capital asset management or green infrastructure, most Official Plans do include policies that satisfy some aspect of this concept including naturalization of stormwater management facilities, retention of tree canopies, requirements or support for energy efficient site and building design standards and programs, renewable energy systems and active transportation infrastructure.

2.2.7.1 Stormwater Management

Stormwater management is an element within the cascading framework of watershed planning. Stormwater management plans are informed by subwatershed plans and occur at the tributary level or within more specifically defined geographic or site level areas. Stormwater management approaches can be used to address water quality and quantity of runoff, take into account and mitigate cumulative effects, and retrofit existing conditions by forwarding no negative impact or net gain objectives. This can be

achieved by requiring that stormwater runoff be treated before being outflowed back into natural systems or through a ‘treatment train’ approach. A treatment train approach to stormwater management incorporates a hierarchy of mechanisms and best practices that incorporate at source treatment, conveyance and end of pipe solutions.

The District of Muskoka Official Plan requires that stormwater management be addressed through the development approval process. More specifically, the District Official Plan identifies a number of outcomes to be achieved in regards to stormwater management:

- (i) Minimize, or, where possible, prevent increases in contaminant loads;
- (ii) Minimize changes in water balance and erosion;
- (iii) Not increase risks to human health and safety and property damage;
- (iv) Maximize the extent and function of vegetative and pervious surfaces;
- (v) Promote stormwater management best practices, including stormwater attenuation and re- use, and low impact development; and
- (vi) Consider the impacts of climate change in the design of stormwater facilities.

The County of Haliburton OP does not include any such detailed outcomes but does identify stormwater management as a component of green infrastructure.

At a lower tier level, there is a great deal of variance amongst the Official Plan stormwater management policies in terms of both the scope of these policies and the relative level of detail. Only the Town of Gravenhurst, Town of Huntsville and Township of Lake of Bays have integrated the identified outcomes for stormwater management as included in the District Official Plan. The Township of Lake of Bays Official Plan has extended the District list and integrated added performance outcomes. Further, only the Official Plans for the Town of Bracebridge, Town of Huntsville and Township of Muskoka Lakes contain policies that identify various methods or examples for green infrastructure approaches to stormwater management – even amongst these three Official Plans there is differing levels of detail with the Town of Huntsville having the most detailed policy example for green infrastructure approaches to stormwater management.

Many of the lower tier Official Plans contain policies either requiring or encouraging best practices for stormwater management with the goal of protecting water quality, quantity and erosion control. There is consistency in this regard within the District of Muskoka lower tier municipalities (with the exception of the Township of Muskoka Lakes). However, the inclusion of policy support for best practices in stormwater management is the exception rather than the rule in the Haliburton and Parry Sound municipalities with only the Township of Algonquin Highlands (Haliburton) and Town of Kearney (Parry Sound) including policy support for best practices. More uniformity with policy support for best practices for stormwater management in the Municipality of Dysart et al and the Parry Sound municipalities would provide an avenue to strive to enhanced green infrastructure through development review in these municipalities. Many of the Official Plans cited the Ministry of the Environment, Conservation and Parks “Stormwater Management Practices Planning and Design Manual” (2003) as the benchmark standard for stormwater management reports.

The approach to green infrastructure and asset management, including stormwater management is inconsistent across the watershed municipalities. Integration of these concepts in a more formal way, including more committed terminology within Official Plans would aid in establishing goals, objectives and policies to better establish these concepts and integrate target outcomes and metrics to be used in planning, decision-making and development.

2.3 Implementing Policy

Official Plan policy is only as effective as the mechanisms to implement it. Some Official Plans provide direction on implementation mechanisms within policy documents while others are silent on the matter. Regardless, the following implementation mechanisms were collectively identified within various of the watershed Official Plans:

Planning Act Mechanisms

- Official Plan Amendments/Secondary Plans/Zoning
- Lake or Area Specific Plans
- Site Plan Control/ Site Plan Agreements
- Development Permits – 3 of the watershed municipalities (Lake of Bays, Huntsville, Perry) have implemented a Community Planning Permit System that is a blending of the more traditional zoning and site plan approval processes. The Community Planning Permit System is described generally in Appendix A to this report.
- Taking of securities to ensure various conditions of development are implemented
- Municipal development review and approvals function with an increased lens of Integrated Watershed Management principles or an ecosystem approach

Municipal Act Mechanisms

- Tree Cutting By-law or equivalent – generally such by-laws are implemented at the lower tier level however, the County of Haliburton has implemented a by-law being the *Protection, Preservation and Removal of Trees On Shoreline Properties By-law No 3505* that applies County-wide. This By-law applies to all lands within 30 metres of the high water mark of a navigable waterway and prohibits the destruction or injuring of trees within this area. This By-law applies specifically to trees and not to vegetation generally.
- Site Alteration By-law or equivalent

Site/Development

- Stormwater Management Plans – required in support of a development application with recommendations being implemented as a condition of development approval
- Construction Mitigation Plans - required in support of a development application with recommendations being implemented as a condition of development approval
- Phosphorus Management Measures at a property specific level
- Nutrient Management Plan for agricultural uses

Municipal Programs

- Septic Reinspection Program
- Phosphorus Off-Set Program – the District of Muskoka Official Plan includes a policy stating that, *“the District of Muskoka explore with the Area Municipalities the potential introduction of a phosphorus offset program. Such a program would typically require proponents to demonstrate how all development-generated phosphorus can be controlled on-site. Any remaining phosphorus load that cannot be controlled would trigger an offset action, such as a financial contribution that would be used by the municipality to reduce phosphorus loading in other parts of the watershed.”* This is a unique policy approach within the watershed. As of the writing of this report, it does not appear that such a program has been established.
- Remedial Action Plans – both of the watershed municipalities bordering Georgian Bay have implemented Official Plan policies to provide support for and contribute to a remedial action plan process to improve water quality. In the case of the Township of Georgian Bay, the Official Plan directs that provisions be made for the protection of the Severn Sound ecosystem in accordance with the objectives of the Severn Sound Remedial Action Plan. Severn Sound was identified as a Great Lakes Area of Concern. It was delisted in 2003 however, continued environmental stewardship and responsible land use planning practices remain an objective to maintain the improved water quality of Severn Sound. The Township of the Archipelago Official Plan, similarly includes policy support to facilitate the development of a Lake Capacity Model within a Remedial Action Plan for Sturgeon Bay in concert with other municipal strategies and in conjunction with other government agencies. The focus of the Action Plan is to identify the means required to improve water quality in Sturgeon Bay, including development standards, public education, remediation of existing pollution sources and environmental enhancement works. Water quality monitoring and initiatives to improve water quality in Sturgeon Bay and have been ongoing for many years.

Community Partnerships

- Stewardship programs and water quality monitoring

The implementation mechanisms noted above are identified through various of the existing Official Plans and collectively, implement Official Plan directives through a combination of legislative means, municipal programs, site level development requirements and community partnerships. This list is a summary of various of the implementation mechanisms employed across the watershed however not all mechanisms identified above have been incorporated in all Official Plans.

2.4 Key Findings and Observations of Existing Conditions

As a result of a review of the various watershed Official Plans, the following is a summary of the existing policy frameworks that guide land use within the watershed:

- 1) Consistency across the watershed is challenged in that the watershed does not fall within a singular upper tier jurisdiction. Accordingly, while there is a considerable amount of consistency in policy approaches across the municipalities within the District of Muskoka, there is considerably less consistency across municipalities outside of the District. This is further challenged in that there is no upper tier municipality in the District of Parry Sound to fill the coordinating role of an upper tier municipality.

- 2) Outside of the minimum policy requirements of the Provincial Policy Statement, there is a great deal of variability in the strength of the policies contained within the watershed Official Plans. In some cases, this is a matter of terminology between mandatory requirements relying on terminology such as “shall” and “must” and support for a policy direction relying on more permissive terminology such as “may”, “encourage” or “support”. In other cases, it is a matter of broader policy intent versus a policy directive or a policy intent to achieve a best effort. The challenge is that in absence of a coordinating watershed plan that encompasses all municipalities within the watershed boundaries, it is difficult to establish consistent, foundational goals and objectives or policies to implement them.
- 3) Similarly, there is a variance in the level of detail contained in various of the watershed Official Plans. For example, while all watershed Official Plans address requirements for the protection of fish habitat, not all Official Plans distinguish between the 3 types of fish habitat - Type 1 (Critical), Type 2 (Important) and Type 3 (Unknown where there is no data or information). This could be due to the vintage of the Official Plan or the degree to which municipalities have the staffing and resources to further develop and administer these policies.
- 4) Mapping resources that support policy are significantly varied across the watershed, particularly in regards to flood plain mapping. Over the past 3 years, the District of Muskoka has participated in the National Disaster Mitigation Program and other related initiatives to improve flood plain mapping within the District. It is anticipated that by the end of 2022, the majority of flood plains within the District of Muskoka will be mapped. Alternatively, while municipalities within the District of Muskoka will benefit from improved mapping, there remain other municipalities within the Muskoka River Watershed, primarily beyond the District of Muskoka boundaries, where better flood plain mapping is still required.
- 5) Consistency is needed in the application of the metrics implementing setback requirements. This is true of shoreline setbacks in particular. While all watershed Official Plans address shoreline setbacks, the measurement of these setbacks as directed by lower tier Official Plans, varies significantly. Examples include setbacks that are measured from the shoreline, water’s edge, high water mark, or regulatory flood elevation. This has the effect of creating inconsistency across the municipalities in terms of the actual shoreline setback, reference point from which the shoreline setback is measured, variability of the setback with fluctuating water levels as well as interpretations in establishing the setback.
- 6) At present, the only water quality indicator being modelled and monitored within the watershed is phosphorus. This is true of municipalities across the watershed where water quality and monitoring is being undertaken.
- 7) There is a great deal of inconsistency in terms of how cross jurisdictional issues are addressed within the watershed Official Plans. Some municipalities have very clearly addressed the need to work in conjunction with other jurisdictions and level of government including First Nations. Other watershed Official Plans simply have statements of support to work with neighbouring municipalities, while yet others are simply silent on the matter. More consistency is needed across the watershed Official Plans to facilitate an evolution of inter-jurisdictional relations from being that of consultation, to cooperation, to coordination, to partnership level initiatives.

- 8) While the policy test of 'no negative impact' is well established in the watershed Official Plans, only a few of the watershed Official Plans have raised the threshold to extend the no negative impact test to include the concept of 'net gain' or 'improvement to existing conditions' through the development process.
- 9) There remain some areas that existing policy frameworks generally, do not address. In broader terms this is the evolution of the planning approach from goals and policies driven by 'sustainability' to policy frameworks that are driven by 'resilience'. A planning approach driven by resilience is an integrated, more holistic approach that requires building adaptive capacity into environmental, economic, social and cultural systems and the synergies between such factors. Such an approach is not an end destination 'Plan' but an approach that is layered through policy frameworks, decision-making processes and regulatory mechanisms across disciplines. A greater focus on resilience through the land use planning process is a key component of such an approach. Currently, only the District of Muskoka Official Plan, Town of Huntsville Official Plan and the newly adopted but not yet approved Township of Muskoka Lakes Official Plan incorporates references to resilience within the lower tier policy frameworks.
- 10) At a more specific level, the existing Official Plan frameworks generally do not provide policy guidance or development requirements for:
 - Development in proximity of shallow waterbodies where shallow waterbodies are defined as waterbodies measuring less than 3 metres deep at a distance of 30 metres from the shoreline; or
 - Excess soil management policies in terms of soil that is generated by or surplus to a construction/development site and must be stored, moved to a new location or reintegrated into the site. The integration of such policies within Official Plan frameworks may also require lower tier municipalities to review and update existing Site Alteration By-laws and/or Fill By-laws passed under the Municipal Act.
- 11) The term 'Integrated Watershed Management' is used only sparingly within the higher level vision statements, guiding principles, goals or objectives of the watershed Official Plans. These introductory sections of the Official Plans provide the pillars upon which the subsequent policy directives are established. IWM provides for an integrated consideration of environmental, economic, social and cultural needs of the community. The distinguishing characteristic of IWM is that consideration and management of these factors relies on the application of these concepts across jurisdictional boundaries on a watershed scale. This is generally not expressed within the land use priorities (vision statements, guiding principles, goals and objectives) that anchor the policies of the lower tier Official Plans. Across all watershed municipalities, there is a need to incorporate, or in some cases better incorporate, Integrated Watershed Management principles into the vision, goals and objectives of the watershed Official Plans.

3.0 ASSESSING INTEGRATED WATERSHED MANAGEMENT PRINCIPLES ACROSS THE MUSKOKA RIVER WATERSHED

One of the key approaches which may assist to address concerns for the ecosystem health and management of the Muskoka River Watershed is the advancement and implementation of an Integrated Watershed Management (IWM) approach. IWM is a holistic, geographically-based approach for managing development, natural resources and ecosystem health at a watershed scale. It is an adaptive, comprehensive process that integrates planning for land and water across jurisdictions and is founded on a science/evidence based, outcome oriented approach to assessing and managing watershed impacts and cumulative effects.

A foundational element of the IWM approach is the identification of the existing conditions within the Muskoka River Watershed. As the Muskoka River Watershed extends beyond the political boundaries of the District of Muskoka, the focus of this report is on the entirety of the watershed regardless of administrative or municipal boundaries. In order to assess the degree to which IWM has been integrated across the watershed, each of the Official Plans were reviewed against four of the key principles of IWM being:

- 1) A watershed-based, ecosystems approach to planning and management;
- 2) Interjurisdictional coordination;
- 3) Outcome-oriented, evidence-based approach to assessing land use and managing impacts; and,
- 4) Establishment of monitoring programs and feedback loops.

3.1 Incorporating Integrated Watershed Management in the Planning Framework - Establishing Land Use Priorities

Municipal land use priorities are articulated through the vision statement, principles, goals and objectives of Official Plans. These are the foundations that help to structure the local level policy framework. Thus, in order to truly apply IWM, the priorities of IWM should be expressed within these foundational sections of an Official Plan.

The term 'Integrated Watershed Management' is used only sparingly within the higher level vision statements, guiding principles, goals or objectives of the watershed Official Plans however, many of the Official Plans identify the need to strive for 'sustainability'. IWM and sustainability as expressed in many of the lower tier Official Plans, share similar foundational constructs being an integrated consideration of environmental, economic, social and cultural needs of the community. However, the distinguishing characteristic of IWM is that consideration and management of these factors relies on the application of these concepts across jurisdictional boundaries on a watershed scale. This is generally not expressed within the land use priorities (vision statements, guiding principles, goals and objectives) that anchor the policies of the lower tier Official Plans.

While the concept of 'sustainability' is referenced in many Official Plan vision statements, guiding principles, goal and objective statements, the application of this concept is inconsistent. In some cases the identified sustainability principles are high level and very broad whereas in other cases, the focus is more specifically on the continued health of the environment, the need to respond to climate change, or

to maintain environmental and natural heritage features in order that they may continue to support the tourism and economic development objectives of the municipality.

Further, not all municipalities have policies that provide a directive for how sustainability should be implemented within the land use framework. The Town of Bracebridge is one municipality that provides an example for how this objective can be interwoven through the policy framework and decision-making process. The Town of Bracebridge Official Plan specifies that all new and future development shall have regard for the principles of economic, environmental, social, and cultural sustainability. This goal statement is implemented by supporting policies that specifically direct that all decisions relating to future land use, public works and expenditures shall be made having consideration for the environment, economy and community. The Official Plan also includes policies that provide direction to Council that all decision-making by Council will consider four pillars of sustainability being economic sustainability, environmental sustainability, social sustainability and cultural sustainability.

Few of the Official Plans for the watershed municipalities provide guidance on how to balance the sometimes competing priorities of sustainability as it is defined. However, this is clearly articulated in the Official Plans of the District of Muskoka and the Township of Seguin which have a stated 'environment-first' philosophy. In the case of Seguin, the Official Plan specifies that this means that the environment will be given priority over economic or social development when making all land use and public works decisions and that the Official Plan considers the natural environment, social environment and visual environment as components of the overall environment first philosophy.

Only the Town of Huntsville Official Plan has extended the concept of sustainability to also incorporate the concept of 'resilience' being the capacity to adapt to and overcome internal and external pressures and stresses including strengthening essential functions, managing change and recovering from unforeseen events. The Huntsville Official Plan identifies three pillars of resiliency – environmental resiliency, economic resiliency and resiliency in infrastructure.

Within the existing cascading policy framework, the District of Muskoka Official Plan contains policies that require watershed planning that apply to both District matters and requiring such an approach at the lower tier level. In the County of Haliburton Official Plan, watershed planning is expressed as a preferred approach to land use. There is no upper tier jurisdiction in Parry Sound although the Township of Seguin has the strongest policy approach in this regard. Thus, there is a lack of consistency across the upper level policy frameworks to establish IWM a policy priority.

Accordingly, application of a watershed approach varies across the lower tier municipalities although collectively, the lower tier policy frameworks do incorporate elements of a systems approach (ie. natural heritage systems) along with some Official Plan policies that are supportive of IWM priorities. Examples include policies that address cross-watershed and interconnected impacts including:

- ♦ water quality versus water quantity impacts;
- ♦ impacts that are cumulative;
- ♦ impacts that are transitory from one geography to another;
- ♦ impacts between systems such as ground/surface water interface or terrestrial/coastal terrestrial to aquatic/coastal ecosystems; and,
- ♦ land use distinctions based on location within the watershed.

In general terms, individual municipalities focus on various elements of these systems. The focus of local approaches, strength of the policies and specifically language of the policies is varied across lower tier municipalities in the watershed (ie. the use of the words 'shall' or 'must' versus 'should' or 'supports').

3.2 Bridging Interjurisdictional Challenges

IWM is an area-based approach for managing development, natural resources and ecosystem health at a watershed scale. In the case of the Muskoka River Watershed, this incorporates 13 individual lower tier municipalities that stretch from the headwaters all the way down to the lower discharge areas along the shores of Georgian Bay. Similarly, the range of land uses and associated impacts, both cumulative and transient, stretch across the watershed. As a result, strong interjurisdictional coordination and cooperation amongst the watershed municipalities is key to the success of watershed initiatives.

Most of the lower tier Official Plans within the watershed include some policy basis acknowledging the need for interjurisdictional cooperation. The distinction amongst them is the level of detail provided. In some cases, the policy statements are simply high level statements of support. In other cases, the need for interjurisdictional cooperation is extended to that of coordination and in some cases to very specific requirements such as establishing the shared development capacity of a lake. Still further, some Official Plans (specifically the County of Haliburton and the Township of the Archipelago) acknowledge the need to work not only with neighbouring municipalities but also across various levels of government including First Nations groups.

The most detailed Official Plan to address interjurisdictional matters across municipalities and levels of government is the Township of the Archipelago in the District of Parry Sound which includes as a stated policy directive that *"coordination and cooperation among municipal, provincial and federal governments and First Nations and Metis groups is essential"*. There are numerous additional policies within the Archipelago Official Plan that frame this approach more as a partnership than simply coordination.

Both of the upper tier municipalities include policies requiring the lower tier municipalities to at varying levels of detail, coordinate with neighbouring municipalities. However, the District of Muskoka takes a far more active role in providing leadership on a number of cross-jurisdictional and cross-watershed matters than the County of Haliburton which generally downloads such matters to the lower tiers.

Interjurisdictional matters are addressed within one of two primary policy areas that are the guiding force of the District of Muskoka Official Plan. Policy Direction B provides a policy priority to establish a framework for coordination and cooperation amongst area municipalities and establishes the District's coordinating role to provide leadership on planning and development matters that cross municipal boundaries (ie. site plan guidelines, lake health system, water quality monitoring, monitoring growth). The District Official Plan also requires lower tier municipalities to work with neighbouring municipalities and minimize cross-jurisdictional and cross-watershed impacts. However, the District Official Plan does not specifically speak to cross-boundary coordination with municipalities outside of the District. The Official Plan for the Township of Lake-of-Bays however, does specifically include a policy directive to work with the Township of Algonquin Highlands in the neighbouring County of Haliburton. The strength of the policy focus on interjurisdictional coordination within the lower tier Official Plans is generally inconsistent across the watershed. In general terms, the District level policy direction for coordination across municipal boundaries does not strongly translate into the Official Plan policies of the District's lower tier municipalities.

The County of Haliburton Official Plan recognizes the control and regulation of the federal and provincial governments in regulating the Trent-Severn water system. This is reflected in its policy framework to coordinate across various levels of government as well as amongst the lower tiers. The County Official Plan also includes a policy mechanism requiring lower tier municipalities to jointly allocate development capacity of lakes in circumstances where one lake is divided between multiple municipalities. Similar to the Lake-of-Bays Official Plan, the neighbouring Township of Algonquin Highlands Official Plan in the County of Haliburton includes a reciprocal policy to coordinate with the Township of Lake-of-Bays in the District of Muskoka. The Haliburton Official Plan further acknowledges the role for ‘partnership actions’ outside of the Official Plan framework.

3.3 Forwarding An Evidence Based and Outcome Oriented Approach

IWM is an adaptive approach to comprehensively plan and manage land and water resources on a watershed scale. It is not a static process. IWM is a continually evolving process based on a science/evidence based, outcome oriented approach to assessing, planning and managing watershed impacts and cumulative effects. In this regard, scientific data or evidence is used to establish baseline conditions and set a framework for monitoring impacts over both time and geography. Such an approach requires quantifiable metrics and identified thresholds that can be translated into tangible benchmarks to measure progress over time. Scientific data and evidence can be used to inform policy that may in turn establish target outcomes, priorities, and development requirements based on the science of the conditions of the watershed.

A. A Scientific Evidence Based Approach

The Lake System Health Program implemented by the District of Muskoka is a good example of an evidence based approach to watershed management. The program is overseen by the District and applied to all lower tier municipalities within Muskoka. The key elements of the program are as follows:

- The program is coordinated and undertaken by the District based on established priorities and applies across the District;
- Benchmark phosphorus levels within specific waterbodies are used to establish baseline conditions which are then modelled to determine the sensitivity of the waterbody to phosphorus; and,
- The resultant waterbody sensitivity establishes thresholds for development along the waterbody.

Over time, this data can be used to identify trends and form the basis of a feedback loop to monitor changes to water quality over time and provide additional inputs to waterbody modelling both up and down stream to address transitory impacts. As noted in the District of Muskoka Official Plan, the Lake System Health Program relies only on phosphorus as an indicator of recreational water quality. Greater benefits could be realized by expanding the current approach beyond only this one indicator. Lake capacity and modelling are addressed in greater detail in Section 3.2.1 of this report.

The Lake System Health Program is applied consistently across the District of Muskoka as it is the District of Muskoka that provides leadership on this approach both practically by undertaking the water quality testing and modelling and by integrating parameters for this approach within the policies of the District Official Plan. All lower tier municipalities within the District must conform to the upper tier Official Plan. Beyond the District of Muskoka, only the Township of Seguin has incorporated a similar approach to water

quality and lake capacity modelling based on phosphorus as the primary indicator. As an example of a comprehensive evidence based approach, the overall application of this process is not uniform across the watershed and is limited only to waterbodies within the District of Muskoka and the Township of Seguin.

Lake specific or area specific studies are incorporated within lower tier Official Plans across the watershed and provide another opportunity to integrate the principles of IWM within the planning process. In some cases, these lake or area specific studies have been undertaken by the lower tier municipality and are the result of a Secondary Plan process at the local level. In other cases, such plans have been developed as a stewardship initiative or as a result of the development process. While a less consistent approach than the more formal Lake System Health Program that has been put in place by the District of Muskoka, these lake or area specific plans provide an opportunity to integrate a more evidence based approach to the planning process.

Another example of an evidence or science based approach that is applied on a more micro level across the watershed is the requirement for site specific technical studies in support of a development application. Both upper and lower tier Official Plans across the watershed require such studies under a number of circumstances where a better understanding of existing conditions is required as part of the development application process. The findings of such studies may be used to preclude development in certain areas, place restrictions on development, or identify mitigative measures required as a condition of development approval. Frequently, such findings are implemented through both zoning and the site plan approval process. Instances where technical studies are required as a result of a development application are noted in the existing conditions summary contained in Section 3 of this report.

B. An Outcome Oriented Approach

Outcome oriented policies integrated within Official Plan documents provide a target, or desired end result or condition. In many of the watershed Official Plans there is a requirement that in considering various natural heritage features, development may only be permitted where it can be demonstrated that there will be no negative impact to the natural heritage feature or its ecological functions as a result of the proposed development. In this regard, the requisite technical studies inform policy as to the appropriateness of the development proposed and any mitigative measures that may be required to remedy impacts to within acceptable parameters.

While applied on a micro or property specific scale, the no negative impact test is a common requirement within Official Plans across the watershed and it is an example of an outcome oriented approach to planning policy. Taken collectively, this has the potential to provide positive outcomes for the watershed although it is not representative of a comprehensive or coordinated approach and has the potential to vary across the lower tier municipalities in terms of thresholds and accepted impacts. Only municipalities in the District of Muskoka extend the no negative impact test to that of realizing a net gain or improvement over existing conditions as a requirement of development approval. In particular, the threshold of net gain is applied to policies regulating development in proximity of shorelines and the retention of shoreline vegetation.

Similarly, policies requiring a prescribed length of shoreline frontage to retain vegetation and the requirement that the resultant vegetative buffer maintain a prescribed minimum width is another example of an outcome oriented policy. Such policies integrate performance metrics or minimum standards with the outcome being to establish a setback for development from the shoreline of a waterbody. Such policies are required by a number of the lower tier watershed Official Plans including all

lower tier municipalities within the District of Muskoka, the Town of Kearney and the Township of McMurrich Monteith. In other lower tier municipalities, there are requirements for shoreline buffers however such policies lack the detail or metrics that are contained in the example noted above. Shoreline buffers and setbacks are addressed in greater detail in Section 3.2.2.1 of this report.

In general, there is a lack of consistency in the application of an evidenced or science based, outcome oriented approach across the watershed. The policies of the municipalities in the District of Muskoka are the most evolved in this regard along with the Township of Seguin. The Town of Kearney is another notable example of where the lower tier Official Plan has made strides in this regard. However, there is a fairly narrow scope in which this approach has been applied (water quality, lake capacity and shorelines). There remain opportunities to expand on this approach across other elements of watershed planning and management as well as the need to extend this approach across all watershed municipalities.

3.4 Cumulative Effects

Evaluation and management of cumulative effects on a watershed scale is one of the foundational elements of Integrated Watershed Management. Cumulative effects are impacts caused by land use and activities across the watershed that are both incremental and transitory across time, geography and between environmental systems. Further, such effects are often dynamic and transformative, varying over time.

There is a synergy or additive effect between individual watershed impacts that collectively result in cumulative effects. Individual impacts may be direct or indirect. Further, an identified impact may individually be minor however, such impact in combination with other impacts, stressors or natural processes may contribute to more significant or complex cumulative effect that must be managed within the context of the broader watershed.

A comprehensive strategy to address cumulative effects is implemented through a number of means including identification and management of cumulative effects as a priority within policy and decision-making frameworks, establishment of benchmark/existing conditions data, ongoing monitoring and reporting, interjurisdictional cooperation, and funding to support such programs and initiatives.

Both the District of Muskoka and the County of Haliburton Official Plans require that lower tier municipalities consider cumulative impacts/effects through the development approvals process as well as in addressing phosphorus levels through the District's Lake Health System or lake capacity assessments in the County of Haliburton. Although there is upper tier direction in this regard, this has not translated into comprehensive Official Plan policies at the local level. Both the Town of Huntsville Official Plan and the Township of Lake of Bays Official Plan include policies requiring the consideration of cumulative impacts in regards to shoreline development. Various of the lower tier Official Plans also identify cumulative impacts in association with private services. The newly adopted (but not yet approved) Official Plan for the Township of Muskoka Lakes provides the most comprehensive policy approach to managing cumulative effects including requiring as a policy directive, that cumulative effects be addressed through any required EIS, natural heritage study or other studies required through the development approvals process.

3.5 Monitoring and Reporting

Monitoring and reporting are critical elements to better understand the health of the watershed, track

progress on watershed initiatives and identify potential future matters that may need to be addressed. Monitoring and reporting structures provide the necessary link to integrate IWM within the land use planning system and provide a feedback loop between policy directives and the management of lands within the watershed.

The District of Muskoka Official Plan addresses monitoring in essentially four ways. It includes policies that:

- 1) Identify matters where the District will be responsible for ongoing monitoring (Lake Trout lakes, recreational water quality – through the Lake System Health program, the presence and extent of invasive species, population growth, demographic statistics, development activity, and monitoring of scientific research and pilot projects in relation to water quality). The monitoring programs of the District focus on recreational water quality which does not include fisheries or health impacts such as drinking water quality;
- 2) Require review and monitoring of the effectiveness of Official Plan policies including policy support to maintain an information system in cooperation with area municipalities that would allow for appropriate analysis of the changes in the social, economic, environmental and technological conditions in the District;
- 3) Provide permissive policies that expressly permit lower tier municipalities to request monitoring on a property specific basis to ensure compliance with a registered site plan, community planning permit, or comprehensive development plan; and,
- 4) Support stewardship activities including that lake plans and lake stewardship programs can be used to monitor “water quality, carrying capacity and general lake management”. Such programs could be more broadly used to monitor and report on a range of aquatic and terrestrial watershed indicators.

While the District Official Plan does include various monitoring requirements largely in relation to water quality matters, it does not prescribe any reporting requirements for such matters.

The County of Haliburton Official Plan generally does not address monitoring beyond requiring monitoring the general policy direction and implementation of the Official Plan.

A review of the lower tier Official Plans indicate that policy requirements for monitoring have been implemented at the local level under a number of key circumstances:

- 1) Monitoring of Official Plan policies and development (lot creation, building permits, change of land use);
- 2) Monitoring required/prescribed as part of a study or report – specifically a water quality impact assessment, Environmental Impact Study (EIS) or stormwater management study/plan;
- 3) Monitoring required for specific natural heritage features (Lake Trout lakes, high sensitivity waterbodies, over-threshold waterbodies, hazard lands (Town of Kearney) or deep soils native to a site where monitoring is required to ensure the long term maintenance of conditions (Township of Perry). The Town of Huntsville Official Plan rounds out such requirements with an additional

permissive policy providing additional flexibility and direction that the municipality may monitor various matters within the Town including the preservation and integrity of natural heritage features and areas;

- 4) Monitoring required as a condition of development approval or lot creation as well as monitoring of existing septic systems and private waste disposal systems; and,
- 5) Activity specific monitoring such as for major recreational uses (Township of McMurrich Monteith), golf courses specifically (Township of Muskoka Lakes), and aquaculture (Township of the Archipelago).

The Township of Muskoka Lakes Official Plan is the only Official Plan that provides specific requirements for monitoring of golf courses including a number of prescribed matters that must be addressed to the satisfaction of the Township (water quality; protection of shorelines; impact on Heritage Areas and Provincially significant wetlands; and access as it relates to District and Township facilities) along with the requirement that monitoring reports be peer reviewed by the municipality.

The Township of the Archipelago is the only Official Plan to address the need and function of monitoring generally: *“This Official Plan, despite the absence of absolute and clear cut technical data, must provide policy that safeguards the water resource as far as possible in light of its importance to the Township of The Archipelago. To this end, the Official Plan has no alternative but to use careful and tight controls and constant monitoring to measure cause-effect relationships.”*

The watershed municipalities are reasonably consistent in requiring monitoring in reference to:

- Water quality associated with Lake Trout lakes, high sensitivity waterbodies, over-threshold waterbodies;
- Monitoring as a prescribed element of water quality impact assessments, environmental impact studies, and stormwater management studies/plans; and,
- Ongoing monitoring of development activity at the lower tier level as well regular review cycles of the Official Plan in accordance with the Planning Act requirements.

There were some notable distinctions where municipalities built flexibility into the policy framework in terms of the circumstances where monitoring may be required (Huntsville), being more prescriptive in terms of what should be included in a monitoring report (Muskoka Lakes) or to address generally the need and function of monitoring requirements (Archipelago). However, there is an overall lack of detail on reporting requirements to follow-up on the findings of any monitoring processes.

Most lower tier municipalities also included policies that support Lake Management Plans and encouraged stewardship groups to establish monitoring programs as part of lake specific initiatives as well as expressing support for upper level monitoring programs managed by the Province or the District of Muskoka. Only the Township of Algonquin Highlands extends this support to make a policy commitment to use the results of these monitoring programs in reviewing its Official Plan policies and development applications.

4.0 BEYOND MUSKOKA – COMPARATIVE CASE STUDIES

Consideration of other examples of watershed planning approaches offer insights into how other jurisdictions within the Province have framed and incorporated integrated watershed planning principles into current practices. The comparative case studies were chosen based on having similar characteristics to the Muskoka River Watershed being near-north or northern case examples; being representative of strong cross-jurisdictional and inter-agency models; or demonstrating best practices in development of either an Integrated Watershed Management Plan or implementing Official Plan framework. The comparative case studies are as follows:

- 1) Mattawa River Integrated Watershed Strategy (2015) / City of North Bay Official Plan (Consolidated to 2018);
- 2) City of Greater Sudbury Watershed / Subwatershed Planning and Management & Official Plan (Consolidated to 2022);
- 3) McVicar Creek Watershed Protection and Rehabilitation Plan / Thunder Bay Remedial Action Plan/ City of Thunder Bay Official Plan;
- 4) Mississippi River Watershed Plan (2021) / City of Ottawa Official Plan (2021); and,
- 5) Nottawasaga River Integrated Watershed Plan (2019) / County of Simcoe Official Plan (2016).

Key highlights of the case studies are provided below. A more detailed summary of each case study is provided in the tables that follow.

Good Template for Integrated Watershed Plan

- Mattawa River Integrated Watershed Strategy (2015)
- Mississippi River Watershed Plan (2021)
- Nottawasaga River Integrated Watershed Plan (2019)

Incorporating Integrated Watershed Planning Principles (Outcome Oriented, Evidence Based)

- North Bay Official Plan – incorporates principles of integrated watershed planning, policies are outcome oriented with detailed metrics, clear goals and objectives, monitoring frameworks
- Sudbury Official Plan – Lake Quality Monitoring Program
- Thunder Bay process is very outcome oriented, scientific, evidence based process with quantitative, measurable metrics, monitoring and reporting
- Nottawasaga Valley Integrated Watershed Management Plan – adaptive strategic priorities
- Official Plans for North Bay, Sudbury, Ottawa – integrate cascading structure of watershed plan management

Bridging Planning Frameworks, Initiatives & Demonstration Projects

- North Bay Pilot project ‘Minimal Impact Lots’
- Thunder Bay – demonstration projects (greening and naturalization of McVicar Creek)
- Nottawasaga Valley Integrated Watershed Management Plan – bridge between policy initiatives in particular natural capital and ecosystem services

Partnerships

- Ottawa - Indigenous Engagement (Indigenous Engagement Plan)
- Ottawa – stakeholder partnerships
- Nottawasaga Valley Integrated Watershed Management Plan - Agency Partnerships – CA as strong supporting role to municipalities
- Thunder Bay - Stewardship and Partnerships – very integrated municipal/community partnership (EarthCare Sustainability Plan)

Administration

- Sudbury City led process (watershed planning and planning policy)
- Sudbury - Administration – municipal frameworks – City department to administer Lake Quality Program
- Thunder Bay - Inter-jurisdictional – integrating multiple processes and agencies – federal, provincial, local (IJC Area of Concern / Remedial Action Plan)
- Ottawa - integrating multiple processes and agencies – federal, provincial, inter-provincial and local
- Nottawasaga Valley Integrated Watershed Management Plan - template framework to implement strategic actions
- Nottawasaga Valley Integrated Watershed Management Plan – integration into planning documents, business plans, strategic plans, operational plans of key implementation agencies and organizations

Planning Mechanisms

- Ottawa - good example of integration into policy frameworks (policy and mapping)
- Sudbury - Community Improvement Plans
- North Bay, Ottawa – good Official Plan templates acknowledging that the District of Muskoka Official Plan is already very comprehensive

4.1 Mattawa River Integrated Watershed Strategy / City of North Bay

Table 8: Case Study	Mattawa River Integrated Watershed Strategy (2015) / City of North Bay Official Plan (Consolidated to 2018)
Implementing Organization:	North Bay / Mattawa Conservation Authority (NBMCA)
Watershed Plan or Strategy:	Yes – “NBMCA Integrated Watershed Management Strategy” (2015) Strategy may be viewed at this link: https://www.nbmca.ca/media/1077/nbmca-integrated-watershed-management-strategy_final-20150708_web.pdf?v=636849776608130000
Organizational Structure:	Watershed Strategy developed by the NBMCA with input from the NBMCA Integrated Watershed Management Strategy Steering Committee. Steering Committee membership included representation from NBMCA (various departments), 4 area municipalities (various departments), First Nations Groups, Provincial Ministries (Ontario Ministry of Agriculture, Food and Rural Affairs; Ministry of Natural Resources and Forestry; Ministry of Municipal Affairs and Housing, and Ministry of Environment, Conservation and Parks) as well as the North Bay Parry Sound District Health Unit.
Implementing Mechanisms	
Summary of Integrated Watershed Management Strategy:	<ul style="list-style-type: none"> - 2 phase approach with first phase being a Technical Watershed Background Report and the second phase being the Integrated Watershed Management Strategy - Time horizon for Strategy is 20 years - Strategy identifies watershed partners and roles for each in implementing the watershed strategy/watershed management - Identifies and provides overview of all subwatersheds (20) within the larger Mattawa River Basin - Identifies hierarchy of options/approach for watershed management: <ol style="list-style-type: none"> 1. Ad hoc/no plan; 2. Stormwater management plan (tributaries); 3. Subwatershed hydrology/flood and erosion control study (tributaries/subwatershed); 4. Shoreline management plan (subwatershed shorelines); 5. Comprehensive management plan (subwatersheds, watershed); and 6. Integrated management plan (subwatersheds, watershed)

Table 8: Case Study	Mattawa River Integrated Watershed Strategy (2015) / City of North Bay Official Plan (Consolidated to 2018)
Summary of Integrated Watershed Management Strategy continued...	<ul style="list-style-type: none"> - Identifies watershed needs, issues and information gaps - Establishes and ranks program priorities according to scale (subwatershed or watershed); priorities are a listing of very specific tasks - Provides implementation plan and details implementation strategy (detailed listing of tasks) in 5 year increments over 20 year time horizon - Establishes a performance evaluation framework to be completed at end of each 5 year cycle - Identifies monitoring needs (ie. long term aquatic habitat monitoring including water temperature, phosphorus, dissolved oxygen and pH) - Identifies potential implementation barriers and possible remedies
Supporting Programs	<ul style="list-style-type: none"> - Watershed report cards on a 5 year cycle that report on surface water quality, groundwater quality, wetlands, and forest conditions) - Septic reinspection programs - Various monitoring programs (Drinking Water Source Protection Plan, partnership with Provincial monitoring programs for water quality and quantity, lake monitoring program and benthos biomonitoring network) - 'Restore Your Shore' program providing native shoreline species to landowners seeking to naturalize their shoreline
Partners	Federal departments, Provincial agencies, First Nations Groups, and non-governmental organizations
Number of Municipalities in Watershed:	10 municipalities and 15 unorganized townships
Municipal/Policy Connections	
Spotlight on Policy: City of North Bay Official Plan	<ul style="list-style-type: none"> - The City of North Bay Official Plan recognizes the interconnected nature of the elements of the watershed and supports watershed management through a number of policies and development controls that have been incorporated within the Official Plan - Trout Lake subwatershed managed by NBMCA. First comprehensive watershed plan for the subwatershed was completed in the mid 1980's. - North Bay Official Plan includes entire policy section dedicated to land use controls for the Trout Lake subwatershed (Trout

Table 8: Case Study	Mattawa River Integrated Watershed Strategy (2015) / City of North Bay Official Plan (Consolidated to 2018)
<p>Spotlight on Policy: City of North Bay Official Plan continued ...</p>	<p>Lake is also source for municipal drinking water thus also subject to policies of Source Protection Plan)</p> <ul style="list-style-type: none"> - Majority of Trout Lake subwatershed is outside of designated settlement area although the west end of Trout Lake is within the settlement area - Official Plan places development restrictions on lands within the subwatershed including generally prohibiting the creation of new lots which front on Trout Lake or on a stream flowing into Trout Lake, enforcing larger setback distances from the shoreline of Trout Lake or a stream flowing into Trout Lake, discouraging the removal of natural vegetation within the setback zone, enforcing appropriate stormwater management policies which minimizes flows, erosion, siltation and nutrients, and by strictly regulating lot design features - Land use controls are designed to maintain or improve existing water quality - The Official Plan is outcome oriented in that it provides that, <i>“Effective watershed management will be achieved when predicted average nutrient concentrations will maintain or reduce existing nutrient levels in Trout Lake. This shall occur under a scenario where all existing lots or parcels of record are developed and steady state nutrient loading is occurring.”</i> - The Official Plan incorporates performance indicators and quantitative metrics: <i>“Currently a measured ice-free seasonal average phosphorus level of 7 ug/L combined with a late summer volume weighted dissolved oxygen measure of 8 mg/L represents required long-term indicators of the overall health of Trout Lake and which defines one of the City of North Bay's minimum water quality objectives.”</i> - Specific policies related to shoreline preservation require: (1) that shoreline vegetation be preserved to a minimum depth of 15 metres; (2) that maintenance of the natural vegetative buffer may be undertaken such as the removal of snags, dead trees and noxious plants however replanting with trees, shrubs and/or flowers native to this area is required; and (3) where the natural vegetative community has been removed or disturbed by construction, replanting of trees and shrubs of a species and caliper suitable to the City is required. - Official Plan provides specific directives to ‘Council or its designate’ in considering minor variances to the established policy standards for lands within the Trout Lake watershed including instructions for circulation to specific agencies and departments of the City, requirement for staff site visit and

Table 8: Case Study	Mattawa River Integrated Watershed Strategy (2015) / City of North Bay Official Plan (Consolidated to 2018)
<p>Spotlight on Policy: City of North Bay Official Plan continued</p>	<p>timing (specifically at a time when deep snow will not obscure ground conditions and when a visual and technical assessment can be undertaken); and inclusion of minimum criteria which must be satisfied for approval of a minor variance.</p> <ul style="list-style-type: none"> - Official Plan includes specific site plan requirements for lands within the Trout Lake subwatershed including matters to be addressed through site plan application and site plan application requirements/studies - Official Plan provides for specific controls on the placement and size of accessory structures to be implemented through the zoning - Official Plan policies provide for ongoing monitoring within the subwatershed including in association with watershed partners (NBMCA, agency partners as well as landowners/the public): <i>“In order to provide useful historical sampling data and for effective management controls for the lake, the City shall continue to commit reasonable resources, along with other partners, to the task of regular water quality sampling”</i> and <i>“The City of North Bay is also committed to conducting research, either directly or indirectly, in areas such as alternative septic system technology that can significantly reduce waste water nutrient levels with the objective of attaining provincial approval of technologies that can be applied on a watershed basis.”</i> - Official Plan provides for a ‘Minimal Impact Lots Pilot Program’ - <i>“As of January 8, 2001,28 the City may allow the creation of up to 23 new minimal impact lots within the watershed of Trout Lake to facilitate the studying of phosphorus abatement septic technology or technologies through municipal pilot testing. The City may contribute resulting information from the City's pilot testing to the Province for the Province's use, if appropriate, for the Provincial Phosphorus Removal Technology Pilot Program. The new minimal impact lots must meet other rural or lakefront residential policies as set out in this Plan and all development approvals must be obtained. The objective of the City's best management practices is to achieve development where the total phosphorus impact of the whole development would be equivalent to or less than the total phosphorus impact if the original parcel were developed as a single lot serviced by a conventional septic system in the Rural or Lakefront Residential designation. These 23 lots will be counted as individual development lots in the context of the provincial Lakeshore Capacity Model and will reduce the remaining development capacity that the province has identified for</i>

Table 8: Case Study	Mattawa River Integrated Watershed Strategy (2015) / City of North Bay Official Plan (Consolidated to 2018)
Spotlight on Policy: City of North Bay Official Plan continued	<i>Trout Lake as a contingency and to protect against the technology failing to meet objectives in the continuum of time or from an owner removing the technology from service.”</i>
Key Highlights	<p>Key highlights of the North Bay case study include:</p> <ul style="list-style-type: none"> - It is an Ontario near-north case study; - It identifies a cascading structure for watershed plan management to be applied a various levels: integrated management plan, comprehensive management plan, shoreline management plan, Subwatershed hydrology/flood and erosion control study, stormwater management plan to individual site/property level management - Identifies and prioritizes watershed management needs and provides an implementation plan to achieve priorities over a prescribed time horizon - Establishes a performance evaluation framework based on a monitoring program to assess progress and provide a feedback loop to consider watershed management priorities and actions - City of North Bay Official Plan provides strong policy support for watershed planning with detailed metrics and development requirements - Official Plan provides for ‘Minimal Impact Lots Pilot Project’ to study phosphorus abatement septic technology or technologies through municipal pilot testing

4.2 City of Greater Sudbury Watershed/Subwatershed Planning & Management / Sudbury Official Plan

Table 9: Case Study	City of Greater Sudbury Watershed / Subwatershed Planning and Management & Official Plan (Consolidated to 2022)
Implementing Organization:	City of Greater Sudbury (Single Tier City)
Watershed Plan or Strategy:	<p>Subwatershed study initiated but as yet incomplete. Only in Phase 2 of 5 phases.</p> <p>No Watershed Plan/Strategy of larger Vermilion River catchment. Vermilion River study is generally tied to the Greater Sudbury Source Protection Area Assessment (2014 revised 2017) with a focus on drinking water.</p>
Organizational Structure:	<p>City of Greater Sudbury is the lead agency to undertake subwatershed studies within the City’s boundaries with financial support from the Ministry of Environment, Conservation and Parks. This includes Ramsay Lake Subwatershed Study and Master Plan (2022) and the Junction Creek Subwatershed Study (2019). Also notable is the water quality modelling, monitoring and various supporting water quality programs administered under a specific department/group within the municipality that is dedicated to water quality matters.</p> <p>The Nickel District Conservation Authority jurisdiction includes watersheds of Wahnapiatae River (portion of), Vermilion River (all), and Whitefish River (portion of) within the City however, its primary program focus is that of flood control; hazard land management; environmental planning; coordinating drinking water source protection planning and providing environmental education programs</p>
Implementing Mechanisms	
Summary of Watershed Management Strategy:	<p>Three types of watershed-based plans can be developed in various areas of the City, each with a different focus.</p> <ol style="list-style-type: none"> 1. The provincially approved Greater Sudbury Source Protection Area Source Protection Plan includes all of the Vermilion, Wanapitei and Whitefish River watersheds and includes both municipal surface water and ground water systems. This Source Protection Plan identifies and addresses threats to vulnerable areas within these watersheds associated with drinking water supplies.

Table 9: Case Study	City of Greater Sudbury Watershed / Subwatershed Planning and Management & Official Plan (Consolidated to 2022)
Summary of Watershed Management Strategy continued...	<p>2. Subwatershed plans that focus on flooding and water quality due to stormwater can be developed based on watersheds of moderate size. (Junction Creek Watershed Study and Master Plan and Ramsay Lake Subwatershed Study and Stormwater Master Plan)</p> <p>3. Lake specific plans that focus on lake-based recreational and natural heritage issues that, in some cases, involve only the watershed of the lake in question, which can be relatively small.</p> <p>Lake Water Quality Program (water quality modelling and monitoring on a lake/waterbody specific basis) undertaken in accordance with approach provided in Hutchinson Environmental Services Ltd. in its 2015 report entitled “<i>Development and Applications of a Water Quality Model for Lakes in the City of Greater Sudbury</i>”.</p>
Partners	City of Greater Sudbury, Nickel District Conservation Authority, stewardship groups
Number of Municipalities in Watershed:	1 – City of Greater Sudbury
Municipal/Policy Connections	
Spotlight on Policy: City of Greater Sudbury Official Plan	<ul style="list-style-type: none"> - Greater Sudbury is contained within three main watersheds: Vermilion River, Wanapitei River and Whitefish River Watersheds, which drain the eastern and western parts of the city. Within these three main watersheds are 25 subwatershed units. - The Official Plan takes a broad perspective on the watershed approach - All agencies and stakeholders involved with water regulation and stewardship may be cooperatively involved in the development of watershed-based plans. - Once a watershed-based plan is received and, where needed, approved by the City, the City will implement the recommendations of the plan where it has the ability to do so through existing programs, the development review process and other mechanisms, and will encourage other parties to do the same. Where necessary, the Official Plan will be amended to implement watershed plans - The City will maintain a lake water quality model and monitoring program and will review both on an ongoing basis. The model has been developed to assess the recreational water quality of lakes as it relates to phosphorus only and does not include factors to

Table 9: Case Study	City of Greater Sudbury Watershed / Subwatershed Planning and Management & Official Plan (Consolidated to 2022)
<p>Spotlight on Policy: City of Greater Sudbury Official Plan continued</p>	<p>assess fisheries values. The model will assist in the development of lake-specific watershed plans and the site plan control guidelines</p> <ul style="list-style-type: none"> - Certain lakes within the City require special management consideration due to phosphorus enrichment. These lakes are divided into two management categories based on the measured or modeled degree of influence of phosphorus on the lakes: Enhanced Management 1 and Enhanced Management 2 in accordance with the modelling approach provided in Hutchinson Environmental Services Ltd. in its 2015 report entitled <i>“Development and Applications of a Water Quality Model for Lakes in the City of Greater Sudbury”</i>. - The assessment of water quality as provided for in the Hutchinson methodology is to provide technical guidance for Official Plan policies to guide the development and redevelopment of un-serviced shoreline lots that are protective of water quality, technically sound, defensible, and which meet the intent of the Provincial Water Quality Objectives and Provincial Policy Statement. - Official Plan policies include quantitative metrics and thresholds to be used as indicators of water quality and in placing waterbodies within one of the 2 categories identified above. - These criteria address the sensitivity of lakes to nutrient enrichment but reduce the uncertainty associated with predicting phosphorus concentrations in individual lakes. They were used to classify area lakes into three categories of protection for planning policies (“Enhanced”, “Moderate” and “Standard”) - Enhanced Management 1 - The City will undertake a causal study on individual lakes to determine the source of the phosphorus enrichment unless the source is already established. Lot creation or land use changes that result in a more intensive use are not permitted where 1) municipal wastewater services are not available and 2) any portion of the leaching bed is or would be within 300 metres of the shoreline of a lake. This policy also applies to the nearest upstream lake(s) and connecting watercourse(s). - Enhanced Management 2 - Lot creation or land use changes that result in a more intensive use may only proceed on shoreline lots where a site-specific assessment demonstrates that the development will not negatively impact water quality and outlines the circumstances under which development should occur. Specific development requirements identified through the assessment will be implemented through site plan control. - Subwatershed plans will identify measures for stormwater quantity and quality control at a subwatershed scale in order to

Table 9: Case Study	City of Greater Sudbury Watershed / Subwatershed Planning and Management & Official Plan (Consolidated to 2022)
Spotlight on Policy: City of Greater Sudbury Official Plan continued	<p>provide a coordinated strategy for stormwater management for all development within individual subwatersheds.</p> <ul style="list-style-type: none"> - Priority for subwatershed plan development will be based on existing stormwater problems, sensitivity of the receiving waterbody, and/or development pressure. A list of priority areas for subwatershed plan development is included in the Official Plan. Subwatershed plans will be developed as funding permits for subwatersheds which are ranked in order of priority. - All subwatershed plans will incorporate the primary objective of no net increase in peak flow rates, unless a more stringent criterion has been identified. Subwatershed plans will also assess means of stormwater quality control to ensure the protection of urban subwatersheds and provide opportunities to improve the quality of receiving waterbodies. - Watersheds may be identified as a Community Improvement Area. Currently 2 such Community Improvement Areas listed with primary list in Official Plan: Whitson Lake and Nepahwin Lake watersheds. The following matters must be identified in the watershed Community Improvement Plan: <ul style="list-style-type: none"> a. location in relation to the watershed; b. drainage basin and related watercourses; c. size and shape of the lake; d. distinct areas or neighbourhoods on larger lakes; e. number and location of islands and narrow waterbodies; f. topography, shoreline features and hazards and Natural Environment features; g. ecological improvements; h. allocation of water quality capacity; i. cultural heritage features; j. existing land uses; k. access; and, l. development potential and capacity
Supporting Programs	<p>City of Greater Sudbury Lake Water Quality Program</p> <ul style="list-style-type: none"> - Shoreline Home Visit Program (a complimentary, confidential, and one-on-one program designed to advise residents of healthy shoreline living practices. During the visit, trained City staff will tour your property with you and provide solutions to help protect, conserve, and restore the ecological health of your property, shoreline, and lake) - Phosphorus Monitoring Initiatives (annually on 64 lakes and results provided in Annual Reports) - Aquatic Vegetation Survey and Mapping Initiative (identify and map native and invasive aquatic plant species that are found in many Sudbury area lakes)

Table 9: Case Study	City of Greater Sudbury Watershed / Subwatershed Planning and Management & Official Plan (Consolidated to 2022)
Supporting Programs continued...	<p>Stewardship Groups to Participate in lake monitoring in partnership with the City</p> <p>Regreening Program to rehabilitate area landscapes and watersheds that were affected by historical mining and smelting operations. The Regreening Program involves adding crushed dolomitic limestone and fertilizer, seeding with grasses, planting trees and transplanting forest floor flora.</p> <p>Love Your Lake Program developed by Watersheds Canada and the Canadian Wildlife Federation. The program assesses each property on a lake and provides each landowner with a report detailing their shoreline health and recommendations for they can take to improve lake health. Within the City of Greater Sudbury, 9 lakes have been assessed, including Ramsey Lake and Minnow Lake.</p> <p>Natural Shoreline Demonstration project established on Ramsey Lake by a partnership of the City of Greater Sudbury, Science North, and the Source Water Protection Program. Tours of the demonstration project are available, as are workshops to encourage homeowners to improve their shoreline health.</p>
Key Highlights	<p>Key highlights of the Sudbury case study include:</p> <ul style="list-style-type: none"> - It is an Ontario near-north case study; - It is an example where the municipality has taken the lead on completing watershed plans as an input to the planning process; - City identifies the need for 3 types of watershed-based plans that can be developed in various areas of the City, each with a different focus: Greater Sudbury Source Protection Plan (focus is on drinking water); subwatershed studies (focus on management of water quality and quantity); and, lake specific plans that focus on lake-specific watersheds (ie. Ramsay Lake); - Lake Water Quality Program (water quality modelling and monitoring on a lake/waterbody specific basis) is integrated within the planning process and specifically, within the policy directives of the Official Plan; - The City has established an internal department dedicated to implementing the Lake Water Quality Program; - Provides an added measure in the toolkit for watershed planning by identifying watersheds as potential areas for development of a Community Improvement Program and

Table 9: Case Study	City of Greater Sudbury Watershed / Subwatershed Planning and Management & Official Plan (Consolidated to 2022)
	prescribes the information that must be included in such a plan as it applies to a watershed.

4.3 McVicar Creek Watershed Protection and Rehabilitation Plan / Thunder Bay Remedial Action Plan/ City of Thunder Bay Official Plan

Table 10: Case Study	McVicar Creek Watershed Protection and Rehabilitation Plan (2014) / Thunder Bay Remedial Action Plan (ongoing) / City of Thunder Bay Official Plan (2019)
Implementing Organization:	City of Thunder Bay / Lakehead Region Conservation Authority (LRCA)
Watershed Plan or Strategy:	<p>Yes - A number of rivers, tributaries and associated watersheds extend through the City including the Kaministiquia River, Neebing River, McIntyre River, Current River and McVicar Creek.</p> <p><i>McVicar Creek Protection and Rehabilitation Plan (Watershed Plan):</i> https://www.thunderbay.ca/en/city-hall/resources/Documents/McVicar-Creek-Protection-and-Rehabilitation-Plan.pdf</p>
Organizational Structure:	<p>Project led by City of Thunder Bay with input from a Steering Committee including Lakehead Region Conservation Authority (LRCA), Ministry of Natural Resources and Forestry, Lakehead University, Thunder Bay Stewardship Council, EcoSuperior (non-profit organization) initiated under the Great Lakes Water Quality Agreement, Thunder Bay Area of Concern with financial support provided by Environment Canada.</p>
Implementing Mechanisms	
Summary of Integrated Watershed Management Strategy:	<ul style="list-style-type: none"> - Outcomes of this project are intended to ensure that the gains realized through Remedial Action Plan (RAP) implementation are maintained, and progress towards restoration and ultimate delisting of Thunder Bay as an Area of Concern (AOC) continues. - The overall goal of the McVicar Creek Protection and Rehabilitation Plan is a healthy and sustainable watershed that contributes to the economic, environmental, and social vitality of the city, while serving as a precedent for Thunder Bay and the greater Lakehead community. - The McVicar Creek Protection and Rehabilitation Plan is a new paradigm for the city – one that recognizes 1) that the Harbour and the tributaries that feed it are the lifeblood of the community and 2) that sound investment in preserving and rehabilitating these resources will provide returns twofold. The steering committee members offered two guiding principles in the development of this precedent:

Table 10: Case Study	McVicar Creek Watershed Protection and Rehabilitation Plan (2014) / Thunder Bay Remedial Action Plan (ongoing) / City of Thunder Bay Official Plan (2019)
Summary of Integrated Watershed Management Strategy continued...	<ol style="list-style-type: none"> 1. Restoration: The most effective protection and reinstatement of stream health occurs with community support at the watershed scale. 2. Rehabilitation: Awareness of and connection to Thunder Bay’s natural resources is fundamental to the vitality of these resources and the community. <ul style="list-style-type: none"> - The McVicar Creek Protection and Rehabilitation Plan addresses the following: <ul style="list-style-type: none"> - Problem identification - Review of existing data and past work including data gap analysis - Identification of key issues (lacking surface and ground water protection, stormwater runoff, stream crossings, channel alteration and manipulation) - Identify and prioritize strategies / response (better stormwater management practices, low impact development, implementation of comprehensive monitoring program, improve mapping and spatial data, develop comprehensive watershed management model (hydrologic and hydraulic model(s)). - Identify key projects and programs to complement response strategies (greening streets, sediment control and street sweeping, raingarden pilot program, stream daylighting projects, low impact development practices, and passage of a Stormwater Management By-law) - Identify potential partners and roles
Supporting Programs	<ul style="list-style-type: none"> - Activities of the Thunder Bay Remedial Action Plan - Ongoing monitoring and assessment reports of tributaries by the LRCA - LRCA Watershed Report Cards - A number of ongoing restoration and rehabilitation stewardship programs across jurisdictions (federal AOC, Provincial and municipal) to address shoreline/riparian habitats and wildlife habitats - Shoreline Protection Program (LRCA – landowners receive up to 100 native plants along with an individualized planting plan and planting installation support by LRCA staff; focused on lands within the AOC so in terms of river systems would apply to lands at the mouth of the river - Green Infrastructure Monitoring (LRCA) - Landowner Tree Seedling Assistance Program - Superior Stewards Program (naturalize private lands)

Table 10: Case Study	McVicar Creek Watershed Protection and Rehabilitation Plan (2014) / Thunder Bay Remedial Action Plan (ongoing) / City of Thunder Bay Official Plan (2019)
Partners	City of Thunder Bay, Environment Canada, Lakehead Region Conservation Authority (LRCA), Ministry of Natural Resources and Forestry, Lakehead University, Thunder Bay Stewardship Council, EcoSuperior (non-profit organization)
Number of Municipalities in Watershed:	1 – City of Thunder Bay
Municipal/Policy Connections	
Spotlight on Policy: City of Thunder Bay Official Plan	<ul style="list-style-type: none"> - The Official Plan broadly supports the use of the watershed planning process to promote development and land use practices. Policy directive that the preparation of watershed and sub-watershed plans, for areas sensitive to, or likely to be affected by, development, redevelopment or climate change, will be supported. - The Official Plan indirectly acknowledges need for funding in that watershed and subwatershed plan will be completed subject to funding availability. Where funding is available, it is the Official Plan directive that the City participate, to the fullest extent practical, in the preparation of these plans in co-operation with the Federal Department of Fisheries and Oceans, the Ministry of the Environment, Conservation and Parks, the Ministry of Natural Resources and Forestry, the Lakehead Region Conservation Authority, other groups or agencies, and adjacent First Nations and municipalities, where affected. - There is a strong focus on source water protection and climate change with watershed planning being a mechanisms to help address such goals. The Official Plan <i>“seeks to guide the City to become environmentally sustainable, healthy, safe, livable, vibrant, connected, strong, prosperous, and resilient to the impacts of climate change.”</i> - The Official Plan represents the land use related goals and objectives of Council. These goals and objectives are identified through several documents, including but not limited to, the City’s Strategic Plan and other documents related to environmental protection and enhancement, climate adaptation, active transportation, culture, urban design, healthy communities, and food systems. This includes the City’s EarthCare Sustainability Plan 2014-2020. - Select of the key Official Plan guiding principles:

Table 10: Case Study	McVicar Creek Watershed Protection and Rehabilitation Plan (2014) / Thunder Bay Remedial Action Plan (ongoing) / City of Thunder Bay Official Plan (2019)
Spotlight on Policy: City of Thunder Bay Official Plan continued ...	<ul style="list-style-type: none"> i) Environment Sustainability - The City is committed to maintaining a healthy ecological relationship between human activity and the environmental resources upon which it depends. Protecting and enhancing the natural environment through wise management and efficient land use patterns will promote environmental sustainability. ii) Resilient and Adaptable - The City will develop local solutions to global issues to improve the resilience of the community. This includes meeting targets for greenhouse gas reduction to mitigate climate change, while adapting to the effects of future climate change <ul style="list-style-type: none"> - Select of the four key approaches for the Official Plan: <ul style="list-style-type: none"> Environmental Sustainability Approach - This Plan has been developed using an approach that integrates environmental, economic, social and cultural factors to achieve a balanced policy framework that promotes sustainability, and seeks to avoid, minimize, or mitigate impacts on the natural environment. Climate Adaptation Approach - his Plan has been developed using a Climate Adaptation approach which seeks to reduce vulnerabilities and build the resilience of infrastructure and the natural environment. Both natural systems and human potential for resiliency must be addressed in adapting to climate change impacts and ensuring a healthy local environment. This includes protecting and enhancing biodiversity, and air and water quality - Official Plan is supported by City’s EarthCare Sustainability Plan 2014-2020. This Plan is a second generation sustainability plan for the City that has been developed to <i>“take a comprehensive and integrated approach, recognizing that environment, economy, society and culture are linked to each other.”</i> - The Plan identifies a number of key environmental and sustainability issues. Each issue is addressed through an identified goal, rationale for why it matters, objectives, and recommended actions. Recommended actions are broken down between those actions that may be taken by the City of Thunder Bay and those actions that may be taken by the community. - It is a goal of the Sustainability Plan <i>“To ensure that water resources in the local watershed are protected and enhanced through the engagement of various stakeholders.”</i> <p>Objectives:</p>

Table 10: Case Study	McVicar Creek Watershed Protection and Rehabilitation Plan (2014) / Thunder Bay Remedial Action Plan (ongoing) / City of Thunder Bay Official Plan (2019)
Spotlight on Policy: City of Thunder Bay Official Plan continued ...	<p>A. By 2020, integrated approaches to improve the management of water, wastewater, and storm water based on best practices are supported.</p> <p>B. By 2020, water conservation, stewardship and water management practices for healthy watersheds are promoted to the community.</p> <p>C. Adaptation and readiness plans are promoted to mitigate potential environmental impact due to climate</p> <ul style="list-style-type: none"> - Amongst others, one of the recommended actions for the City of Thunder Bay as reflected in the Official Plan is to develop watershed restoration plans to document and prioritize areas for adaptation, restoration and protection of waterbodies. - Amongst others, one of the recommended actions for the community is to complete actions necessary to address Beneficial Use Impairments, as listed in the Remedial Action Plan for the Thunder Bay Area of Concern. Impairments to be addressed include issues associated with water quality, sediment quality, aquatic and terrestrial habitat, Fish and Wildlife. - EarthCare is a unique partnership between the City of Thunder Bay, stakeholders and the community. The City of Thunder Bay website describes this partnership as follows: <i>“EarthCare has a unique governance model that drives success by embedding it internally within the Corporation of the City of Thunder Bay, and externally across the broader community. Working groups work directly with City staff and have the ability to advise Council through the <u>EarthCare Advisory Committee</u> of Council. Thus, working group members are able to help guide the City of Thunder Bay's on-the-ground work (administration and operations) and decision-making for long-term planning.</i> <i>Working Groups:</i> <ul style="list-style-type: none"> • <i>Take action to implement the EarthCare Sustainability Plan 2014-2020;</i> • <i>Build capacity by connecting different individuals, organizations, and government agencies to form partnerships that enable action;</i> • <i>Learn from one another on best practices;</i> • <i>Work collaboratively to apply for funding and take on projects;</i> • <i>Leverage the Sustainability Plan to guide the City's Administrators/Councillors in fulfilling the EarthCare mission.</i>

Table 10: Case Study	McVicar Creek Watershed Protection and Rehabilitation Plan (2014) / Thunder Bay Remedial Action Plan (ongoing) / City of Thunder Bay Official Plan (2019)
Spotlight on Policy: City of Thunder Bay Official Plan continued ...	<p><i>EarthCare has Working Groups made up of a variety of stakeholders from across the community representing all sectors: residential, commercial, industrial, and institutional. The Sustainability Coordinator guides the implementation of the Sustainability Plan, helps the Working Group Chairs with administration, acts as a liaison with the EarthCare Advisory Committee and is the link between the community and City administration.”</i></p> <p>The results of this collaborative partnership, such as the Sustainability Plan, are adopted by Council and identified as one of the City’s supporting policy documents.</p>
Key Highlights	<p>Key highlights of the Thunder Bay case study include:</p> <ul style="list-style-type: none"> - It is a northern Ontario, Great Lakes case study; - It is a good example of inter-jurisdictional programs and actions that involves all levels of government; - Clear goals and objectives are identified; - The watershed approach is very outcome oriented in that ultimately, the planning and restoration of the watershed health is a tool to remediation of the water quality in the Thunder Bay AOC where McVicar Creek outflows to Lake Superior; - The approach is very evidenced based and relies on scientific methods and monitoring; - Clear and quantitative metrics are identified; - Numerous demonstration projects (ie. greening of McVicar Creek) supporting watershed planning and management - It is a good example of integrating community stewardship within municipal processes and decision-making and representative of a partnership between community and the local government with tangible outcomes such as the Council-adopted EarthCare Sustainability Plan

4.4 Mississippi River Watershed Plan / City of Ottawa Official Plan

Table 11: Case Study	Mississippi River Watershed Plan (2021) / City of Ottawa Official Plan (2021)
Implementing Organization:	City of Ottawa / Mississippi River Conservation Authority (MRCA)
Watershed Plan or Strategy:	<p>Yes – “<i>Mississippi River Watershed Plan 2021</i>” which may be viewed at this link: https://mvc.on.ca/watershedplan/ or https://mvc.on.ca/wp-content/uploads/2022/03/MVCA-MississippiWatershedPlan_Final.pdf</p> <p>“<i>Mississippi River Watershed Plan Indigenous Engagement Plan 2021</i>” which may be viewed at this link: https://mvc.on.ca/indigenous-engagement/</p>
Organizational Structure:	<p>Watershed Strategy developed by the MRCA with input from the Public Advisory Committee and Indigenous engagement in accordance with the <i>Mississippi River Watershed Plan Indigenous Engagement Plan 2021</i>. The Mississippi Valley Conservation Authority (MVCA) worked in cooperation with watershed municipalities, residents, government organizations, non-governmental organizations, and representatives from the agriculture, development, environment, forestry, hydropower producers, lake communities and special interest groups, to prepare this Watershed Plan.</p>
Implementing Mechanisms	
Summary of Integrated Watershed Management Strategy:	<ul style="list-style-type: none"> - Three prong approach: <ul style="list-style-type: none"> • Background technical work to review existing conditions and assess changes over time (where possible) resulting in 4 background documents - physical environment; people and property; natural systems; and asset management; • Meaningful engagement including formation of Public Advisory Committee, engagement with indigenous groups through the development of a Watershed Plan Indigenous Engagement Plan 2021/22 early on in the process as well as stakeholder and public involvement activities/events; and, • Development of the watershed plan - Time horizon for Watershed Plan is 20 year with recurring 5 year reviews - Watershed plan process is based on 6 key steps:

Table 11: Case Study	Mississippi River Watershed Plan (2021) / City of Ottawa Official Plan (2021)
<p>Summary of Integrated Watershed Management Strategy continued...</p>	<ol style="list-style-type: none"> 1) Understand the watershed – existing conditions, identify issues and stressors 2) Consult with the community 3) Identify local issues 4) Develop strategies to address issues 5) Implementation actions 6) Monitor, report and update the Watershed Plan <ul style="list-style-type: none"> - Foundation of the Watershed Plan is through an understanding of the watershed from environmental, social, economic and cultural perspectives. - Key stressors included climate change impacts, high growth and development impacts, water quantity challenges and storage limitations, water quality and source water protection concerns; aging and inadequate infrastructure, stresses on natural features and systems - Building upon the Background Reports, a series of Discussion Papers were developed to help stimulate public engagement discussions. The papers focused on eight topics: Agriculture, Growth and Development, Forestry, Municipal Infrastructure, Natural Systems, Tourism, Water Management, and Waterfront Properties. They presented general information about each topic and listed associated challenges and opportunities along with some draft actions to address the identified challenges. A total of 34 strategic actions were identified - Provides an overview of aquatic and terrestrial landscapes and human landscape - Identification of 8 primary watershed goals based upon the issues raised in the background reports, through input received from the PAC, and through a technical review by a number of partners including municipal staff, provincial and federal agencies. Watershed goals are as follows: <ol style="list-style-type: none"> 1) To collaborate with watershed partners in promoting an integrated and consistent approach to the health and management of the watershed and water resources. 2) To increase our resiliency and adaptive response to climate change. 3) To support environmentally sustainable growth and economic development. 4) To use and manage both surface water and groundwater wisely to meet current and future needs under normal and extreme conditions. 5) To minimize risks to human life and property due to flooding, erosion, and unstable slopes and soils. 6) To sustain or improve current water quality for all users.

Table 11: Case Study	Mississippi River Watershed Plan (2021) / City of Ottawa Official Plan (2021)
Summary of Integrated Watershed Management Strategy continued...	<ul style="list-style-type: none"> 7) To maintain, enhance, or restore natural features and systems for all users. 8) To support learning and environmental stewardship. - For each of the watershed goals, the Watershed Plan provides an overview and strategic direction to forward those goals that includes: <ul style="list-style-type: none"> • Watershed Goal • Objectives • Overview of the Issue • Challenges • Strategic Actions and Directions • Partners • Implementation Considerations and Options • Key Tools • Monitoring Requirements
Supporting Programs	<ul style="list-style-type: none"> - Watershed report cards on a 5 year cycle that report on monitoring, surface water quality, wetland coverage, and forest conditions - Septic System Reinspection Programs - City Stream Watch (monitor and report on urban streams and creeks – volunteers) - Watershed Watch (environmental monitoring and awareness program – volunteers) - Reforestation and tree planting programs - Shoreline naturalization program (site visit for assessment and determine landowner goals for planting, develop a custom shoreline planting plan including recommendations of native trees and shrubs based on the shoreline conditions and discussions of landowner preferences, plants provided and planting advice/assistance provided) - Webinars – “Watershed Lunchtime Talks” about various aspects of the watershed (water management, waterfront properties, natural systems, land development)
Partners	First nations groups, watershed municipalities, Provincial and federal government agencies and organizations, non-governmental organizations, and residents
Number of Municipalities in Watershed:	11 municipalities

Table 11: Case Study	Mississippi River Watershed Plan (2021) / City of Ottawa Official Plan (2021)
Municipal/Policy Connections	
Spotlight on Policy: City of Ottawa Official Plan	<ul style="list-style-type: none"> - The City of Ottawa Official Plan recognizes that land use is both driven by, and has an impact on, the City’s overall health, economy, environment and sense of community. The Plan contains the City’s goals, objectives and policies intended to manage and direct physical change, and the effects of this change on Ottawa’s social, economic, built and natural environment. As such, the policies of the Official Plan work to provide an integrated framework with identified big policy moves, goals, objectives and cross cut issues that are essential to the achievement of the Official Plan goals and objectives and that are implemented through policies across multiple sections of the Official Plan. The integration of watershed planning and subwatershed planning is one such process that responds to a number of the City goals and objectives. - Five strategic directions or ‘Big Policy Moves’ establish the policy foundations of the Official Plan. Big Policy Move # 4 of the Official Plan is to <i>“Embed environmental, climate and health resiliency and energy into the framework of our planning policies”</i>. Again, watershed planning and subwatershed planning feed into this foundational strategic direction. - The Official Plan articulates the role of watershed and subwatershed plans and explicitly integrates partnership with area conservation authorities through inclusion of the policy directive that <i>“watershed and subwatershed plans be prepared and updated by the conservation authority or the City, as applicable, to guide growth, intensification and development, where the City deems necessary for the long-term protection of the environment.”</i> - The Official Plan provides that the City, in consultation with local conservation authorities, will prioritize areas for watershed or subwatershed planning, based upon such factors as the condition of the natural environment, development pressure, changing land uses or the recommendations of higher-level studies. In general, conservation authorities will lead the development of watershed plans using terms of reference developed in accordance with Council-approved guidance documents. - The City will lead the development of subwatershed plans using terms of reference developed in accordance with Council-approved guidance documents. These terms of reference shall include consideration of future climate conditions. The City has

Table 11: Case Study	Mississippi River Watershed Plan (2021) / City of Ottawa Official Plan (2021)
<p>Spotlight on Policy: City of Ottawa Official Plan continued ...</p>	<p>completed 8 subwatershed studies with another 2 currently in progress.</p> <ul style="list-style-type: none"> - The Official Plan includes a very specific inventory and detailed mapping of the watersheds and subwatersheds within its boundaries. These are identified in Annex 8A (Watersheds and Subwatersheds) and Annex 8B (areas with approved Subwatershed Studies and Environmental Plans). - The Official Plan has integrated watershed and subwatershed planning into the community building and land use planning process including the following requirements: <ul style="list-style-type: none"> i) The protection of groundwater features and their hydrologic functions will occur by preparing and implementing the recommendations of watershed plans, subwatershed plans and site-specific groundwater assessments consistent with Council-approved direction; ii) An environmental management plan or subwatershed study, including the identification of natural heritage features and the natural heritage system independent of the developable area is required as part of any Secondary Plan process or Local Area Plan process; iii) Development must conform to approved servicing plans including subwatershed studies or environmental management plans; iv) Stormwater management shall satisfy the requirements of approved subwatershed studies, environmental management plans and master servicing studies; and, v) New local area plans and new development will be supported by an approved environmental management plan and subwatershed study. - The Official Plan is supported by a number of other Plans that also feed into the goals of Integrated Watershed Management: <ul style="list-style-type: none"> i) Ottawa River Action Plan: The City is working to reduce the impact of both combined sewage overflows and storm water on the Ottawa River. The <i>Ottawa River Action Plan (ORAP)</i> consists of 17 individual projects aimed at enhancing the health of the Ottawa River and protecting Ottawa’s water environment for future generations. ii) Environmental Action Plans (for various settlement areas and local areas) iii) Climate Change Master Plan 2020 iv) Urban Forest and Greenspace Master Plan (2006)

Table 11: Case Study	Mississippi River Watershed Plan (2021) / City of Ottawa Official Plan (2021)
Key Highlights:	<p>Key highlights of the Ottawa case study include:</p> <ul style="list-style-type: none"> - Is an eastern Ontario case study - Implementation of meaningful input from indigenous communities with development of Indigenous Engagement Plan as one of the initial steps in the watershed planning process (MRCA); - Relies on a 3 prong approach including technical/existing conditions studies, meaningful community engagement, and finally development of watershed plan; - Watershed Plan is very clearly formulated to provide an action plan based on 8 primary watershed goals. Each goal is supported with corresponding objectives, overview of the issue, challenges, strategic actions and directions, identifies potential partners, implementation considerations and options, key tools and monitoring requirements; - The City of Ottawa Official Plan integrates policy approaches for watershed planning throughout Official Plan and in Official Plan mapping (see following pages for mapping excerpts); - The Official Plan articulates the role of watershed and subwatershed plans and explicitly integrates partnership with area conservation authorities in Official Plan policies; - The Official Plan provides for the application of watershed planning in both rural, settlement and urban areas; - The Official Plan provides that the City, in consultation with local conservation authorities, will prioritize areas for watershed or subwatershed planning.

Figure 2: City of Ottawa Annex 8A Watersheds and Subwatersheds

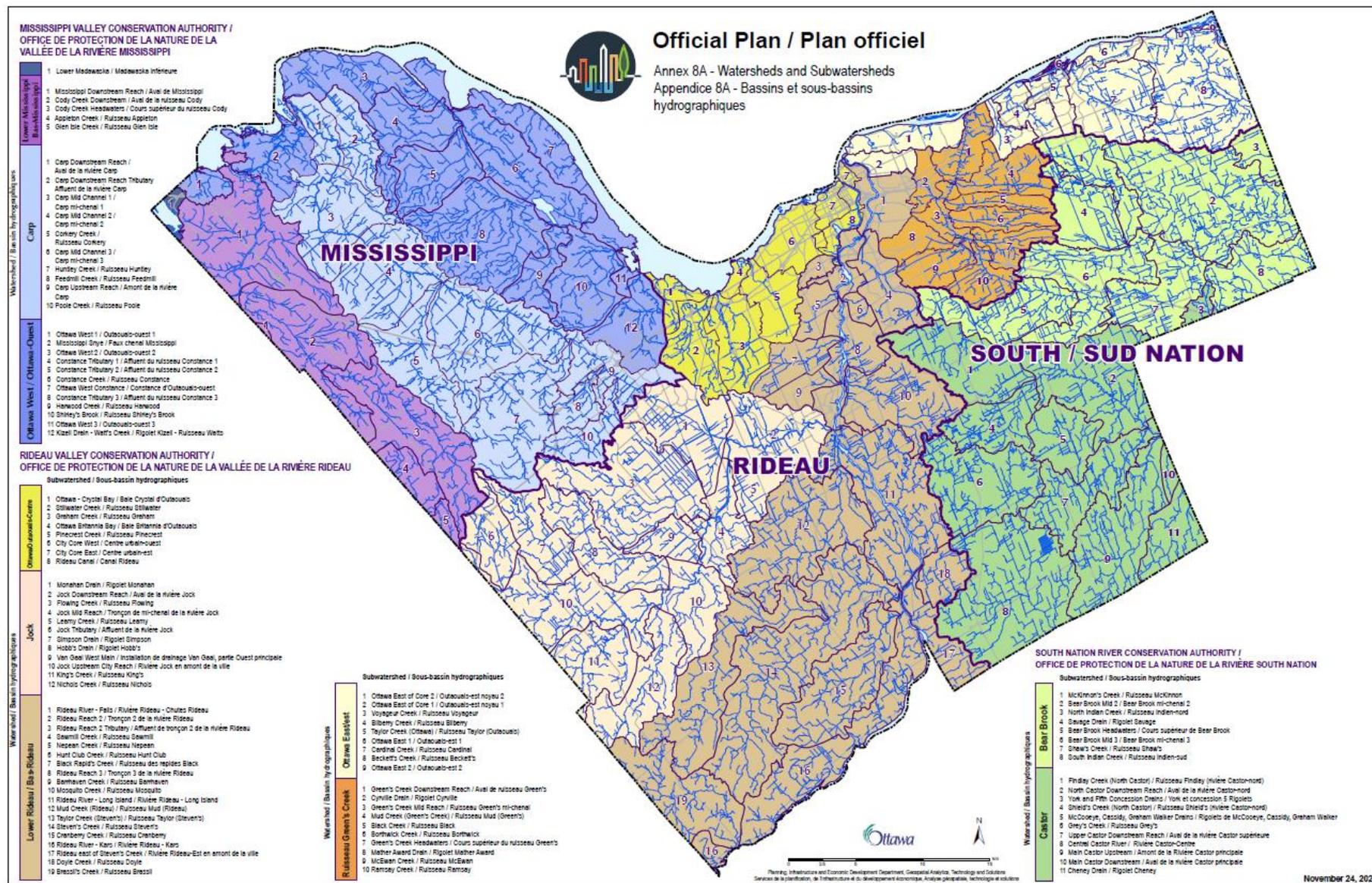
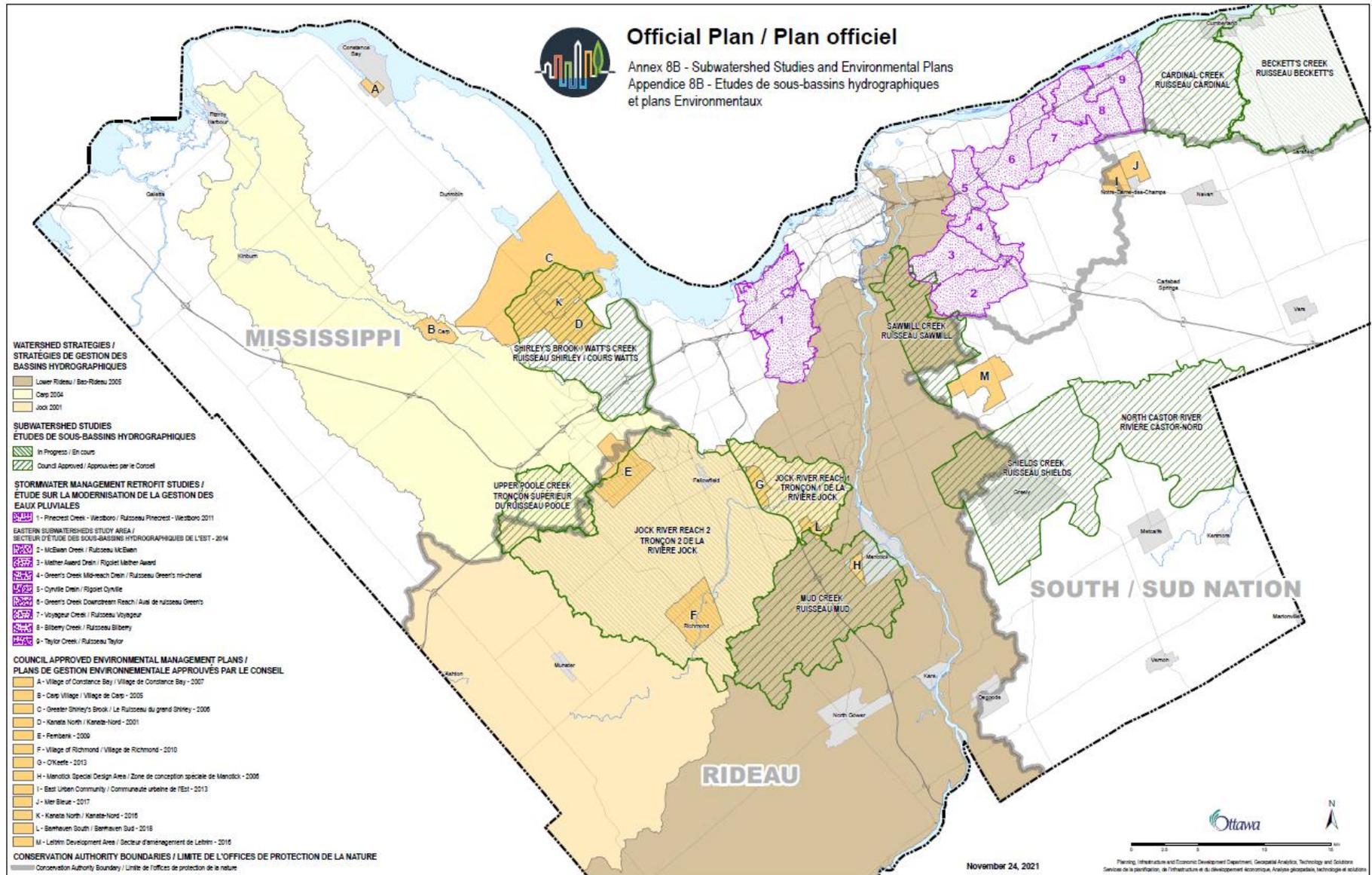


Figure 3: City of Ottawa Annex 8B Subwatershed Studies and Environmental Plans



4.5 Nottawasaga River Integrated Watershed Plan / County of Simcoe Official Plan

<p>Table 12: Case Study</p>	<p>Nottawasaga River Integrated Watershed Plan (2019) / County of Simcoe Official Plan (2016)</p>
<p>Implementing Organization:</p>	<p>Nottawasaga Valley Conservation Authority (NVCA)</p>
<p>Watershed Plan or Strategy:</p>	<p>Yes – “Nottawasaga Valley Integrated Watershed Management Plan (2019)” which may be viewed at this link: https://www.nvca.on.ca/planning-permits/integrated-watershed-management</p>
<p>Organizational Structure:</p>	<p>Prepared by NVCA staff with input from multiple stakeholders. Funding for the 2019 IWMP was provided by the Federation of Canadian Municipalities (FCM) Municipal Climate Implementation Fund with additional in-kind contributions from the Nottawasaga Valley Conservation Authority (NVCA) and its 18 municipal partners.</p> <p>The NVCA worked in cooperation with watershed municipalities, residents, the development industry, government organizations, non-governmental organizations, the agricultural community, special interest groups, and bordering conservation authorities to prepare the Integrated Watershed Plan.</p>
<p>Implementing Mechanisms</p>	
<p>Summary of Integrated Watershed Management Strategy:</p>	<ul style="list-style-type: none"> - Time horizon for Integrated Watershed Plan – 20 years with regulate review and updates every 5 years - The Integrated Watershed Management Plan was developed from a process of: <ul style="list-style-type: none"> - understanding (technical background reviews/existing conditions) <ul style="list-style-type: none"> - identify key issues and stressors - strategies to address issues - implementation (local actions to achieve implementation) - monitor, report and update strategies - Key issues: <ul style="list-style-type: none"> - Water quality and quantity - Flooding - Erosion - Stormwater Management - Natural Heritage - Policy and Protocols

Table 12: Case Study	Nottawasaga River Integrated Watershed Plan (2019) / County of Simcoe Official Plan (2016)
<p>Summary of Integrated Watershed Management Strategy continued...</p>	<ul style="list-style-type: none"> - For each of the key issues, an overview and identified stressors are provided to explain the significance of that issue to the Nottawasaga Valley watershed. The strategic goal to address the issue is then stated followed by the target outcomes and specific strategic actions to be implemented as well as partners to implement those actions. - Identified need for strong communication among the implementors of the strategy and that each partner incorporates the implementation measures into their respective planning, funding and capital works programs. - Includes statements of mission, vision, what is valued and ultimately a watershed goal: <i>“The goal of the IWMP is to provide a 20-year framework that coordinates, directs and provides guidance to current and future policy decisions related to watershed planning including natural heritage, water resource conservation, natural hazard management, climate change, biodiversity and resilience planning.”</i> - Provides an overview of natural capital/ecosystem services within the watershed - Key Issue #6 – need for the strategies and actions of the Watershed Implementation Plan to be reflected in local planning and regulatory approval requirements. - Key Issue #6 Goal – <i>“Identify and implement planning and policy tools at the local level that proactively and collaboratively address current and anticipated future impacts to natural heritage and natural hazard features and functions from climate change, and urban and rural development.”</i> - Key Issue #6 Identified Outcome – <i>“To support and enable a coordinated and integrated approach to watershed management that mitigates the potential cumulative impacts of development and climate change on the natural heritage system and incorporates natural hazard management to provide for the creation of more resilient communities.”</i> - Key Issue #6 – Strategies: <ul style="list-style-type: none"> - Develop and implement subwatershed plans; - Provide local governments with assistance in incorporating environmental policy statements and guidelines (including the IWMP) into their planning documents; - Implement NVCA’s Climate Change Action Plan and Strategy.

Table 12: Case Study	Nottawasaga River Integrated Watershed Plan (2019) / County of Simcoe Official Plan (2016)
<p>Summary of Integrated Watershed Management Strategy continued...</p>	<ul style="list-style-type: none"> - Partnership amongst municipal stakeholders in particular (as well as landowners) was key to the process and key to implementation: <i>“Strong and collaborative partnerships will be necessary to ensure the successful implementation of this IWMP. The stakeholders that came together to develop the Plan are clearly engaged and committed to enhancing the health and resiliency of the Nottawasaga Valley watershed. Through the stakeholder engagement process, areas of common interest were discovered among the participants leading to the potential for new and exciting collaborations.”</i> - The implementation strategy will need to include direction on reporting and review required under the adaptive management approach. - The Integrated Watershed Management Plan provides a framework for implementation including that for each strategic action, an action plan should be developed. Such action plans should identify the lead agency, implementing partnerships, monitoring and evaluation, information needs and management, funding requirements and communication and education considerations. - Strategic actions should be prioritized however the Integrated Watershed Management Plan notes that <i>“prioritizing the recommended strategies will be fluid and based on environmental and policy changes including funding sources, state of the natural resources, stressors and the needs of the communities within in the watershed.”</i> - The Plan further provides that the strategic actions as identified need to be integrated not only into planning documents but also into the business plans, strategic plans and operational strategies of each of the agencies/organizations that have been identified with an implementation role. To accomplish this, there needs to be strong support/endorsement of the IWMP and a concerted effort by all agencies to convert the strategies into actions.
<p>Supporting Programs</p>	<ul style="list-style-type: none"> - Landowner grants – Healthy Waters Program, Rural Water Quality Program, Tree Planting/Forestry - Nottawasaga River Restoration Program - Land Securement Strategy

Table 12: Case Study	Nottawasaga River Integrated Watershed Plan (2019) / County of Simcoe Official Plan (2016)
Partners	Watershed municipalities (upper and lower tier); Ministry of Environment Conservation and Parks; Ministry of Municipal Affairs and Housing; Niagara Escarpment Commission; Simcoe Muskoka District Health Unit.
Number of Municipalities in Watershed:	18 lower tier municipalities + CFB Borden
Municipal/Policy Connections	
Spotlight on Policy: County of Simcoe Official Plan	<ul style="list-style-type: none"> - The majority of the Nottawasaga Watershed is located within Simcoe County - The watersheds of Georgian Bay, Severn Sound and Lake Simcoe, the Oro Moraine, Oak Ridges Moraine and the Niagara Escarpment all represent examples of these broader natural areas located within Simcoe County. Accordingly, the policies of the Official Plan provide particular focus on environmental analyses and policy development to be undertaken in the context of the requirements of these broader planning areas and systems. - The Official Plan requires coordination and integration of planning policies and planning application decisions that impact more than one municipality, upper tier or lower tier, or natural systems including watersheds. Consultation with appropriate agencies, as applicable, is encouraged on matters related to watersheds, natural heritage systems, hazardous lands and shoreline conservation. - The Official Plan promotes watershed-based planning including the assessment of cumulative effects of water use. - The Official Plan requires that land use planning and development within the County protect, improve or restore the quality and quantity of water and related resources and aquatic ecosystems on an Integrated Watershed Management basis. - Proposals for major growth and major development must be reviewed on a watershed management basis. - The Official Plan requires that flood plain management shall occur on a watershed management basis giving due

Table 12: Case Study	Nottawasaga River Integrated Watershed Plan (2019) / County of Simcoe Official Plan (2016)
Spotlight on Policy: County of Simcoe Official Plan continued ...	<p>consideration to the upstream, downstream, and cumulative effects of development.</p> <ul style="list-style-type: none"> - It is an Official Plan directive that the County will work with local municipalities, Conservation Authorities, Source Protection Authorities, Parks Canada-Trent-Severn Waterway, and other Provincial agencies in the development of watershed and sub-watershed management plans. This may include the determination of cumulative flooding risks and impacts and the determination of a river system's capacity to assimilate effluent from point and non-point sources.
Key Highlights:	<p>Key highlights of the Simcoe County case study include:</p> <ul style="list-style-type: none"> - Is a central Ontario, Great Lakes case study - Integrated Watershed Plan is very clearly formulated to identify key issues and stressors, develop strategies to address issues, implementation, and the critical follow up steps of monitoring and reporting - There is a strong focus on implementation, monitoring and reporting. This includes establishing a template framework to execute on strategic actions - The integration of watershed goals, objectives and strategic actions within local planning documents as well as into business plans, strategic plans, and operational strategies of each of the agencies and organizations that have been identified with an implementation role is key. - There is a strong focus on establishing partnerships with local municipalities. - The Integrated Watershed Plan forwards the NVCA as having a strong leadership role to promote inter-agency partnerships through coordination and supporting/ involvement with local municipalities to incorporate watershed goals, objectives and actions into local planning documents and through the NVCA role as a commenting agency in planning processes. - The Integrated Watershed Plan is dynamic in that strategic actions are prioritized however the Plan provides that such priorities will be fluid over the course of time in accordance with environmental and policy changes, funding sources, state of the natural resources, stressors and community needs. - The Integrated Watershed Plan provides a bridge between watershed planning principles and planning for

Table 12: Case Study	Nottawasaga River Integrated Watershed Plan (2019) / County of Simcoe Official Plan (2016)
	<p>resilience and climate change by addressing the importance of natural capital and ‘ecosystem services’.</p> <ul style="list-style-type: none"> - The Simcoe County Official Plan provides for watershed planning at a local level and through the development application process. - There are a number of natural heritage systems features that occur within Simcoe County that have specific corresponding policy frameworks (Niagara Escarpment Plan, Oak Ridges Moraine Conservation Plan, Lake Simcoe Protection Plan, Severn Sound Remedial Action Plan). The detailed policy framework of the Simcoe County Official Plan is generally structured around these area specific requirements.

5.0 SUMMARY AND RECOMMENDATIONS

The purpose of this Land Use Policy Review is to review all applicable Official Plans in the Muskoka River Watershed in order to identify current land use priorities and policy approaches across the watershed municipalities. More specifically, the goal of this project is to review the practices and policies that are currently in place and to identify where the policy approaches are consistent and where there are differences in approach. Finally, this report provides recommendations for consideration in the development of a watershed-scale management framework based on identified best practices as reflected in land use policies in jurisdictions both within and beyond the Muskoka River Watershed.

The recommendations of this report have been grouped into 3 integrated themes:

- 1) Forwarding a watershed-wide organizational model;
- 2) Developing an Integrated Watershed Plan for the Muskoka River Watershed; and,
- 3) Official Plan policy approaches and opportunities.

5.1 Forwarding a Watershed-Wide Organizational Model

Administration of an Integrated Watershed Management approach within the Muskoka River Watershed is challenged in that the watershed occupies lands governed by a number of jurisdictions including indigenous communities as well as 2 upper tier municipalities and 13 lower tier municipalities all of which have Official Plan policy frameworks, Zoning By-laws and nuanced site plan and development requirements. As a result, there is a need for a coordinating, watershed-wide organizational body to provide leadership on watershed-wide interests and initiatives. In this regard, the following recommendations are offered:

1. A watershed-wide organizational model is required to develop a Muskoka River Integrated Watershed Management Plan and, in turn, implement it. Any such governance model will require funding source(s) to provide for the development of an Integrated Watershed Plan as well as to develop further flood plain mapping and related studies across the watershed, including those municipalities beyond the District of Muskoka. Funding may also be required for additional resources, practices and/or programs related to Integrated Watershed Management implementation.
2. In forming a watershed-wide organizational model, a mandate, goals, objectives and partnership actions should be identified at the outset. One of the primary goals of this watershed-wide organization would be to move beyond interagency consultation, cooperation and coordination to interagency partnership to address cross-boundary and cumulative impacts at a municipal policy and technical level as well as opportunities for cross-connector opportunities.
3. The watershed-wide organization should seek ways to optimize interjurisdictional opportunities including establishing a municipal working group that would include senior staff from all member watershed municipalities that would meet on a regular monthly/quarterly basis. The role of this group would be to discuss policy, regulatory, and technical issues being implemented by municipalities. This municipal working group would provide a technical governance complement to the work undertaken by the watershed-wide organization

4. To support Integrated Watershed Management regardless of what governance model is adopted, a centralized database of watershed information is required. This District of Muskoka already has existing data sharing initiatives, including GeoHub and Waterweb. Additional technical information from across the watershed including data collected from environmental monitoring programs, reports, mapping, land use, development applications, and/or lot creation data should be compiled, centralized, and built in partnership with and be accessible to all watershed municipalities. Much of this information already exists on open data websites and would need to be coordinated to a single watershed database. This would require numerous data sharing agreements and a lead agency identified to coordinate and administer such information.

5.2 A Coordinated Approach – Developing An Integrated Watershed Plan for the Muskoka River Watershed

To date, a comprehensive Integrated Watershed Management Plan has not been prepared for the Muskoka River. There is a need to develop such a guiding document that applies to all lands in the watershed. The case studies included in this report, in particular the Integrated Watershed Plans prepared for the Mississippi River, Mattawa River and Nottawasaga River systems are good examples of plans that have been developed in other areas of the Province. The result of this review is a number of key recommendations for consideration:

1. There are a number of key elements that should be included in the development of an Integrated Watershed Plan for the Muskoka River watershed. These include:
 - i) A strong understanding of existing conditions supported by background technical studies to inform the development of a broader watershed plan;
 - ii) Meaningful engagement from First Nations groups, agencies, member municipalities, stewardship groups, stakeholders and the public throughout the process of developing the watershed plan;
 - iii) A clear understanding of the key issues and stressors impacting the watershed and significance to the watershed as well as information gaps;
 - iv) Identification of clearly stated goals, objectives and actionable strategies to address watershed issues;
 - v) Identify target outcomes and key tools for each of the actionable strategies as well as specific tasks and watershed partners to achieve or work towards the target outcomes. Identify target outcomes that may be adjusted along the watershed scale being watershed level outcomes, subwatershed level outcomes, and tributary level outcomes (ie. stormwater);
 - vi) Identify potential challenges and response options for each of the identified strategies;
 - vii) Establish target timelines, monitoring requirements, and funding sources; and,

- viii) Establish a performance evaluation, reporting and adaptive management framework.
2. The focus of policy frameworks applying to natural systems and environmental planning have evolved over time. There are a number of such initiatives that overlap in both intent and approaches. Examples of planning and natural systems management initiatives that overlap include those focussing on sustainability, climate change, source water protection plans, resilience, low impact development, natural capital and ecosystem services, asset management and low impact development. Integrated Watershed Plans provide a “cross-connector opportunity” to provide linkages between these programs and policy initiatives within the watershed framework. Further, there are partnerships, funding and data sharing opportunities that could be leveraged.
 3. The Integrated Watershed Plan should provide for cumulative “wins” to build capacity into the overall strategy. In this regard, broader strategies should be supported by incremental projects or “wins” on a smaller scale, that cumulatively and consistently progress towards an identified outcome or strategy. This builds flexibility into the system where evolving policy or funding mechanisms may impact the scale and timing of watershed management initiatives.
 4. Information needs to be addressed through a watershed planning process include:
 - i) Although extensive flood plain mapping has been undertaken in the District of Muskoka, more comprehensive flood plain mapping is still needed in some areas of the watershed;
 - ii) Expand monitoring programs to include other indicators beyond only phosphorus. Such indicators should be identified in conjunction with identified watershed objectives and key imperatives; and,
 - iii) Expansion of the Lake System Health Program beyond the District of Muskoka

All of the above would require the identification of funding sources to undertake such work and a coordinating body to identify and prioritize such tasks across the watershed.

5.3 Official Plan Policy Approaches and Opportunities

Integrated Watershed Management brings a broad and multi-layered approach to managing the complex interrelationships between natural systems, societal and economic influences within watershed. Any action plan to implement such an approach will need to draw on an equally broad and layered web of tools including planning policies and instruments, guidelines and tool kits, incentives and financing, and multi-stakeholder involvement including a key role for indigenous communities. The land use planning system in particular, provides a centralizing conduit to articulate municipal policy objectives and mandates and through which a host of watershed initiatives may be recognized, integrated within the planning and development approvals processes and brought into focus at varying scales down to a very detailed site level. In this regard, there is an opportunity to take advantage of lower tier Official Plan review and update processes over the next 10 year horizon. The following recommendations highlight opportunities to incorporate Integrated Watershed Management within Official Plan policy frameworks.

5.3.1 Integrating The Principles Of Integrated Watershed Planning And Management Within Official Plans

Consistency across the watershed is challenged in that the watershed does not fall within a singular upper tier jurisdiction. Accordingly, while there is a considerable amount of consistency in policy approaches across the municipalities within the District of Muskoka, there is considerably less consistency across municipalities outside of the District. This is further challenged in that there is no upper tier municipality in the District of Parry Sound to fill the coordinating role of an upper tier municipality. Greater consistency amongst the watershed Official Plans is needed in a few key areas:

- Official Plan vision, goals and objectives;
- Level of detail;
- Terminology; and,
- Mapping.

As a result of a review of the various watershed Official Plans, the following is a summary of the existing policy frameworks and policy recommendations:

1. **Vision, Goals and Objectives** - Across all watershed municipalities, there is a need to incorporate, or in some cases better incorporate, Integrated Watershed Management principles into the vision, goals and objectives of the watershed Official Plans. These introductory sections of the Official Plans provide the pillars upon which the policy directives are established.
2. **Level of Detail** - Similarly, there is a variance in the level of detail contained in various of the watershed Official Plans. For example, while all watershed Official Plans address requirements for the protection of fish habitat, not all Official Plans distinguish between the 3 types of fish habitat - Type 1 (Critical), Type 2 (Important) and Type 3 (Unknown where there is no data or information). This could be due to the vintage of the Official Plan or the degree to which municipalities have the staffing and resources to further develop and administer these policies. There is a need to establish a base level of detail across key watershed metrics within watershed Official Plans.
3. **Terminology** - Outside of the minimum policy requirements of the Provincial Policy Statement, there is a great deal of variability in the strength of the policies contained within the watershed Official Plans. In some cases, this is a matter of terminology between mandatory requirements relying on terminology such as “shall” and “must” and to more permissive but not obligatory terminology such as “may”, “encourage” or “support”. In other cases, it is a matter of achieving a clearly articulated policy objective versus a policy intent to achieve a best effort. The challenge is that in absence of a coordinating watershed plan that encompasses all municipalities within the watershed boundaries, it is difficult to establish consistent, foundational goals and objectives or policies to implement them. Deliberate consideration of the language used within the policy structures is needed. Further, there is a need to incorporate more consistent use of language used in Official Plans across the watershed by establishing common watershed terminology and consistency in strategic outcomes for key watershed metrics. (ie. consistent definition of shoreline setback and parameters for how such setback will be measured).
4. **Mapping** - Mapping resources that support policy are significantly varied across the watershed. Improved flood plain mapping that has been completed, primarily in the District of Muskoka must

be integrated at the zoning level by the lower tier municipalities. Outside of the District of Muskoka, there are many areas within the watershed where more comprehensive flood plain mapping is still required.

5.3.2 Policy Directives for An Outcome Oriented Approach

While some of the watershed municipalities have taken steps to incorporate outcome oriented policies and evidence based metrics within lower tier Official Plans, greater consistency is needed to incorporate policy mechanisms in the watershed Official Plans to achieve this objective and apply such policies more consistently across the watershed Official Plans. Such policy mechanisms include performance criteria, policy tests or requirements for development, directives to guide Council in decision-making and directives for how to balance between competing priorities. Within the District of Muskoka, the District has taken a leadership role in this regard as the District Plan applies within all municipalities in the District. Greater consistency amongst the watershed Official Plans is also needed in regards to the policy directives that drive the implementation of an outcome oriented approach.

Examples of outcome oriented and evidence based policies include the policy test of ‘no negative impact’ as well as requirements for shoreline setbacks. Both of these examples are addressed below.

No Negative Impact - While the policy test of ‘no negative impact’ is well established in the watershed Official Plans, only a few of the watershed Official Plans have raised the threshold to extend the no negative impact test to include the concept of net gain or improvement to existing conditions that may be applied through the development process. On a site-specific basis, these may be applied in accordance with the findings of a site specific study and may include increased setbacks where appropriate or requirements for vegetative plantings of native species amongst other potential site remedies to realize a net improvement to the existing conditions of the site.

Shoreline Setbacks - While all watershed Official Plans address shoreline setbacks, the measurement of these setbacks as directed by the Official Plan, varies significantly. Examples include setbacks that are measured from the shoreline, water’s edge, high water mark, or regulatory flood elevation. This has the effect of creating inconsistency across the municipalities in terms of the shoreline setback but also provides the potential that the setback varies year to year with fluctuating water levels and interpretations as to what is meant by ‘shoreline’. A consistent policy framework for shorelines across the watershed is needed. This includes:

- i) Consistent terminology and policy outcomes with particular attention to distinguish between where policies are “required” and where they may simply be “encouraged”;
- ii) Define active shoreline areas as a percentage of the shoreline lot frontage which in many municipalities has been established to be 25% with the remaining 75% being left in a natural vegetative state;
- iii) Consistent requirement for a vegetative buffer along shorelines and minimum depth of such buffer where natural shoreline vegetation must be retained or enhanced. Provide incentives to achieve a net gain beyond existing conditions; and,

- iv) Consistency in the terminology and methods for how to measure shoreline setbacks in watershed Official Plans using the natural or controlled high water mark as the basis of such setbacks.

5.3.3 Implementation Considerations

Integrated watershed planning principles should be considered not only from a policy perspective but also in terms of how such policies will be applied. In this regard, the following recommendations are offered for consideration:

1. **Integrated Watershed Management Policy Checklist To Support New Policy/Official Plan Formulation** – Development of an Integrated Watershed Management Checklist could assist in better integrating the principles of Integrated Watershed Management in municipal policy documents. This includes incorporating such principles within the vision statements, primary policy directions, goals and objectives of the Official Plan; integrating performance metrics and outcome oriented policies; addressing inter-jurisdictional and cross-watershed matters; policy support for key implementation tools; and requirements for monitoring and feedback loops.
2. **Incorporating Integrated Watershed Management Into Municipal Frameworks** - Include policies in Official Plan documents to provide direction on how the concept will be applied within the municipality such as future land use decisions, public works and asset management, municipal expenditures. These policy directives could be in reference to municipal initiatives as well as matters to be considered by Council in the decision-making process. This may also include initiatives outside of the land use planning framework that support the Official Plan directives such as sustainable purchasing policies, financial incentives to encourage low impact development, land securement strategies or use of conservation easements/covenants or integration of natural capital assets and ecosystem services within Asset Management Plans.
3. **Addressing Cross-Jurisdictional Issues** - There is a great deal of inconsistency in terms of how cross jurisdictional issues are addressed within the watershed Official Plans. Some municipalities have very clearly addressed the need to work in conjunction with neighbouring municipalities and levels of government including First Nations. Other watershed Official Plans simply have statements of support to work with neighbouring municipalities, while yet others are simply silent on the matter. More consistency is needed across the watershed Official Plans to facilitate an evolution of inter-jurisdictional relations from being that of consultation, to cooperation, to coordination, to partnership level initiatives. In particular, an increased focus on building and maintaining relationships with indigenous communities as partners and stewards of the watershed is encouraged.
4. **Adaptable Management** - As the existing conditions of the watershed and development change over time, so too must the policy frameworks that establish land use objectives and regulate development activity within the watershed. The Integrated Watershed Management process is dynamic and should be continuously adjusting to build resilience into both the watershed features and the built environment.
5. **Focus on Implementation** – As stated earlier in this report, the focus of this study is to review and evaluate existing Official Plan frameworks and best practices both within and beyond the watershed. However, policy frameworks are only as effective as the mechanisms that implement

such frameworks. It is a recommendation of this report that the District of Muskoka undertake a much more detailed and targeted Implementation Study that gives equal weight to implementation mechanisms as a consideration in the application of Integrated Watershed Management. The Implementation Study would function as a partner report to the Land Use Policy review that has just been completed and would again, identify existing implementation mechanisms, best practices, opportunities for cross-connector initiatives and recommended steps forward.

6. **Linkages to Zoning / Community Planning Permit System** – It is the function of a Zoning By-law or the Community Planning Permit System (CPPS) to implement the broader policies of an Official Plan. A Zoning By-law or CPPS By-law are legal documents that establish land use regulations that are applied at a property specific level. A building permit for development may only be issued if the proposed development is in compliance with the in effect zoning or development permit. A Zoning By-law is a key mechanism to implement flood plain requirements, particularly in scenarios where new flood plain mapping has become available. In order to be effective, lower tier Zoning By-laws / CPPS By-laws where necessary, should be updated to reflect Official Plan policy initiatives and updated flood plain mapping. Additional information on the land use planning system in Ontario is provided in Appendix A to this report.

APPENDIX A

CONNECTIONS TO THE LAND USE PLANNING PROCESS

Planning Framework in Ontario

The responsibility for land use planning in Ontario is shared between the Province and municipalities. The Province establishes the framework and sets direction for a number of matters of Provincial interest primarily through the Planning Act as well as through other resource or issue specific legislation and Provincial Policy Statements. Municipalities implement these Provincial requirements at the local level through a cascading framework that increases in detail from broad policy direction down to site or property specific requirements.

Where there is both an upper tier and a lower tier municipality such as the District of Muskoka or County of Haliburton, it is the upper tier municipality that sets the high level District-wide or County-wide local implementation of the Provincial framework. In this instance, the planning policies and land use practices of the lower tier or member municipalities must conform to both the Provincial requirements and the upper tier policy directives.

The policy requirements of the Province and the upper tier municipality should must be consistent. The distinction is that the upper tier policies will implement the Provincial requirements within a more specific District-wide or County-wide context. Where there is no coordinating upper tier municipality, as is the case with municipalities within the geographic District of Parry Sound, only the policy directives of the Province and the lower tier municipality establish the land use planning framework. The primary land use tools available to municipalities to regulate land use are described below.

Only the Province and/or the federal government have jurisdiction over waterbodies. Thus, while land use and aquatic systems are interconnected in terms of both functions and impacts, municipalities only have jurisdiction to regulate land use but do not have jurisdiction to regulate issues such as boating which are only regulated through upper level provincial and federal authorities.

Official Plans

An Official Plan is a high level, broad policy document that establishes the goals, objectives and broad policy framework for a municipality. Both upper tier municipalities such as the District of Muskoka and County of Haliburton, as well as lower tier municipalities have Official Plans.

An Official Plan establishes the long term vision for a municipality and addresses where and how growth will occur within various land use categories. It sets the framework for various land use categories at a local level. This includes dividing the municipality into a number of land use designations such as residential areas, mixed-use commercial areas, employment areas, open space areas for uses such as parks, and environmentally protected lands. The Official Plan will also include policies to guide the man-made systems that connect these uses such as transportation policies for road networks and policies that address the need for other infrastructure elements such as potable water, sewage systems, stormwater facilities, and waste management. Finally, the Official Plan will also contain a number of policies to establish the natural heritage, resource area and hazard land priorities for the municipality. This includes policies that address specific natural heritage features such as shorelines and wetlands, significant natural heritage areas that are to be protected, hazard lands such as floodplains and steep slopes that pose levels of risk to public health and safety as well as natural resources such as aggregate and agricultural areas.

The policies of the Official Plan provide broad policy guidance for each of these elements and collectively form an overarching vision for the community over the long term. All land use within the municipality must conform to the policies of the Official Plan.

Zoning By-laws

Zoning By-laws implement the higher level policies of the Official Plan at a legally enforceable, property specific level. Similar to the Official Plan, a Zoning By-law divides the lands within a municipality into a number of zone categories based on the type of land use. The By-law regulates the uses permitted within each zone category and establishes the required standards for any development within that particular zone. More specifically, a Zoning By-law regulates how land may be used, where buildings and other structures may be located, the types of buildings that may be permitted and how they may be used as well as regulating lot sizes and dimensions, parking requirements, building heights, densities and setbacks from the street. All development or construction within the municipality must satisfy the zoning requirements before the municipality will issue a building permit. Zoning is applied to all lands within a municipality.

Site Plan

While a Zoning By-law regulates the standards for land use or development on a property, the Site Plan Control process regulates the arrangement of the uses on a property within the parameters established by the Zoning By-law. This may include such matters as the placement of buildings, structures, walkways, lighting, fences, drainage works, grading, easements, and retention or planting of vegetation. Site Plan generally applies to properties in higher density areas or areas of sensitivity such as shorelines where Site Plan Control can be used as a means of preventing or reducing the impacts of development. The site plan and potential site plan control agreement between the landowner and the municipality remains with the land and continues to apply even if the land is sold to a new owner.

Community Planning Permit System

The Community Planning Permit System (CPPS) is a planning tool that presents an alternative to the traditional planning process. It is a streamlined planning process regulated under the Planning Act, that combines zoning, minor variance and site plan applications into one application and approval process. It establishes the legal authority to regulate land uses while also providing added flexibility to regulate development at a site plan level including requirements for development agreements.

Similar to a traditional Zoning By-law, a CPPS By-law regulates both permitted uses and development standards within the municipality. However, unlike a traditional Zoning By-law, a CPPS By-law can also:

- (1) allow for discretionary uses subject to identified criteria;
- (2) allow for variations from development standards within specified limits; or,
- (3) identify land uses or classes of development that may be exempt from requiring a development permit.

Municipalities may impose a range of conditions when approving an application for a community planning permit. Such conditions could include infrastructure requirements, community contributions, and

environmental impact mitigation. For example, the Town of Huntsville is nearing completion of a new CPPS By-law that will replace the existing Zoning By-law, and will enable the municipality to provide greater direction regarding aspects of development that are typically outside of zoning such as site alteration, grading, tree removal, natural feature protection, shoreline controls, flood plain and natural hazard limitations. Similarly, the Township of the Lake-of-Bays has also recently adopted a Community Planning Permit By-law that also incorporates regulations for shoreline activity areas and the preservation of vegetation.

There must be Official Plan policy support in order to implement a CPPS By-law. Official Plan policies are required to establish the broad CPPS framework, including the goals and objectives for the CPPS and the general criteria for evaluating development. Provided the requisite Official Plan policies are in place, a CPPS By-law may be adopted. The By-law may be applied to all lands within a municipality or to only specific areas within the municipality. A CPPS By-law includes minimum and maximum development standards, criteria for evaluating development proposals, defined formula for community benefit contributions, and clear approval conditions including conditions under which approvals may be delegated to a staff level. Where a CPPS By-law is in effect, a Community Benefits Charge By-law does not apply. However, a CPPS By-law does not replace the need for a building permit which must still be obtained once the municipality issues a development permit.