

AGGREGATE RESOURCES

POSITION PAPER

October 2005



Muskoka

WATERSHED COUNCIL

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EXECUTIVE SUMMARY

The Muskoka Watershed Council has identified that there is increasing pressure on the watersheds that are wholly or partially within the District of Muskoka for new and expanded pits and quarries both for aggregate resources and architectural stone. While continued prosperity in Muskoka is dependent, in part, on a long-term supply of aggregates at a reasonable cost, it is heavily dependent on a vibrant, healthy natural environment to ensure its continued attraction as a recreational and tourist destination. A healthy aggregates extraction industry need not be mutually exclusive to a healthy natural environment, but it must be recognized that resource extraction can create issues for the health of the watershed as follows:

1. Protection of large undisturbed natural areas
2. Habitat fragmentation
3. Water quality of lakes and inflowing creeks and streams
4. Protection of surface water flow regimes
5. Protection of ground water quality and quantity

The Muskoka Watershed Council has taken the position that a comprehensive strategic plan for aggregate extraction, coupled with sound planning policies and a detailed database, are critical to providing a balanced approach to the regulation of aggregate operations throughout the watershed and the province as a whole. **Additionally, it is the position of the Muskoka Watershed Council that architectural stone should not receive the same level of protection under the Provincial Policy Statement (PPS) as aggregate required for road and building construction and other infrastructure needs.**

Analysis of provincial policies that deal with the extraction of aggregate resources within the context of environmental, economic and social parameters has shown that there is a lack of base information upon which to develop a comprehensive strategy for resource extraction. Current policies do not adequately address all issues associated with resource extraction, and there are insufficient tools to ensure that other competing and legitimate interests are addressed. Similarly, Muskoka Watershed Council's analysis of local planning policies suggests that these are also incomplete in terms of providing the protection, control and direction necessary to balance aggregate extraction with competing land uses and social interests.

Muskoka Watershed Council recommends that the province and municipalities within the watersheds of Muskoka develop a coordinated, comprehensive strategic vision for aggregate resources and extractive operations that is compatible with other social, economic, land use and environmental interests.

Position Summary

The Muskoka Watershed Council recommends that:

1. The Province amend the Provincial Policy Statement to require a regional strategic level analysis of provincial, regional and local aggregate need. The strategic plan should identify:
 - a. Deposits of provincial significance,
 - b. Sufficient areas to meet the present and long-term need while taking into consideration environmental issues, infrastructure investment and other land use priorities,
 - c. Priority aggregate deposits for protection and restrict extraction in areas where other uses best meet the needs of the community and the province, and
 - d. The cumulative effect of extraction operations on the socio-economic and environmental values of the area.

2. **The Province amend the Provincial Policy Statement to redefine the terms *Mineral aggregate operation* and *Mineral aggregate resources* to specifically exclude aggregate extraction for the use as architectural stone.**
3. Where aggregate deposits are not of provincial significance, that the Province amend the PPS to require new extractive operations to be considered in accordance with regional long-term values and interests.
3. The Province properly fund background data for a regional strategic analysis including the completion of the unconsolidated aggregate mapping for Muskoka.
4. The Province amend the Planning Act to provide municipalities with tools to limit the grandfathering old pits and quarries.
5. The Province amend the Aggregate Resources Act to require that cumulative environmental affects be analyzed and addressed. The Act does a reasonable job of assessing local environmental impacts but does not address the cumulative environmental impacts.
6. The Province properly fund the ARA for proposal review and enforcement. Level of detail in the ARA Class license requirements is good; the underlying issue is the lack of provincial resources for review, enforcement and rehabilitation.
7. The municipalities within the watersheds of Muskoka develop a comprehensive, strategic vision of the aggregate resources and extractive operations that is compatible with other social, economic, land use and environmental interests while being mindful of provincial legislation, regulation, direction and priorities. **This strategy should address both large and small-scale operations, as well as commercial and private use.**
8. Municipalities consider new extractive operations in accordance with regional and local long-term values and interests, where aggregate deposits are not of Provincial significance.
9. Municipal official plans be updated to require the following issues to be addressed where a new pit or quarry is proposed:
 - a. Appropriateness of the location with respect to municipal infrastructure such as roads,
 - b. Impact on wildlife or other sensitive features, including wildlife corridors and habitat fragmentation,
 - c. The cumulative impact of the proposed pit and quarry on the socio-economic and environmental values of the area,
 - d. Visual impacts, including existing and final contours
 - e. Surface drainage and the potential impact on water quality and quantity of surrounding groundwater and waterbodies,
 - f. Potential impact of the pit or quarry on drinking water sources, and
 - g. Clearly identify how environmental impacts will be addressed.
10. Zoning by-laws be updated to:
 - a. Limit extraction to the operating area of the subject property, thereby requiring a municipal planning review prior to any major expansion,
 - b. Specifically zone for types of aggregate operations, and
 - c. Consider compatibility with surrounding uses and proximity to existing, serviceable roads.
11. Pit and Quarry by-laws be updated (especially those municipalities with by-laws older than five years old) to address:

- a. Visual, noise, and dust impacts, and vibration emissions,
 - b. Detailed progressive and final rehabilitation procedures including the taking of securities, and
 - c. Timely and progressive rehabilitation, including ongoing monitoring of environmental impacts.
12. All municipalities properly fund enforcement.
13. Municipalities require the owner of a pit or a quarry that has not been in operation for a period of 12 consecutive months to level and grade the floor and sides of it and the area beyond the edge or rim where the pit or quarry poses a threat to the watershed, or detracts from the natural scenic beauty of the area.

BACKGROUND

The Muskoka Watershed Council is a volunteer-based organization committed to the enhancement of the health and sustainability of those watersheds lying partially or totally within the District Municipality of Muskoka. Health and sustainability are defined by the social, economic and environmental well being of the area. Where potential threats to the watersheds have been identified, Council has developed policy positions based on well-researched background reports. These policy positions cannot all be easily implemented, but the Council would like to challenge governments, industry and the public to strive for what is desirable as well as what can be implemented in today's environment.

Recently, the pressure for new and expanded pits and quarries, both for aggregate resources and architectural stone, has been identified as a potential threat to the sustainability of the watersheds of Muskoka. The Muskoka Watershed Council has identified a concern with the impact of pits and quarries on the health of our watersheds as it relates to:

1. The strategic development of aggregate resources in relation to other social and environmental values
2. Habitat fragmentation and protection of large undisturbed natural areas
3. Water quality of lakes and inflowing creeks and streams
4. Protection of surface water flow regimes
5. Protection of groundwater quality and quantity

It is important to emphasize that while the Muskoka Watershed Council is concerned about the impacts of pits and quarries on the watershed, those concerns are being addressed within the context of a comprehensive watershed health model that views environmental, social and economic well-being as connected components of a healthy watershed. Prosperity in our watershed is dependent on a vibrant and healthy natural environment to ensure its continued attraction as a recreational and tourist destination. It is also dependent, in part, on a long-term supply of aggregates and granite at a reasonable cost. The Muskoka Watershed Council is of the view that a healthy environment and strong economy can co-exist and that a healthy aggregates industry and a healthy environment need not be mutually exclusive.

Economy And Social Structure

Muskoka is a recreation-based area with an economy that relies on a healthy environment. The forested landscape surrounding the many lakes and rivers support a vibrant tourism industry and second home population. Annually, over one million tourists visit the area and enjoy the many resorts, lodges and attractions offered throughout the region. Two thirds (2/3) of the population are seasonal residents that escape to the area to enjoy the peace and tranquility of a quiet lake environment and its associated recreational opportunities. The protection of our land and water resources is vital to the continued prosperity in this area.

With growth, however, comes construction and the need for raw materials. In particular, aggregate resources are needed to build new roads, maintain old ones and construct buildings. Therefore, continued prosperity also depends, in part, on a long-term supply of aggregates at a reasonable cost. It is this dichotomy between landscape preservation and the need for the raw materials to fuel economic growth that challenged the Muskoka Watershed Council in developing a clear and practical policy position on aggregate extraction.

Inventory of Aggregate Resources

Solid mineral aggregate, which includes bedrock-derived crushed stone and quarried rock, and naturally formed unconsolidated aggregate such as sand and gravel, constitute the major raw materials in Ontario's road building, construction and landscaping industries. Although mineral aggregate deposits are plentiful in Ontario, they are fixed-location, non-renewable resources that can be extracted only in those areas where they occur.

In 1983, the District Municipality of Muskoka and the Ministry of Natural Resources produced a background information report that identified areas of unconsolidated aggregate resource potential. Mapping was produced to show unconsolidated aggregate resource areas of primary, secondary, and tertiary significance.

The report noted that there is an acute shortage of natural sand and gravel within the Township of Georgian Bay and the Township of Muskoka Lakes. The northern portion of the Town of Gravenhurst contains very limited aggregate reserves. The Towns of Huntsville and Bracebridge and, to a lesser extent the Township of Lake of Bays, have appreciable high quality sand and gravel reserves. No similar report is available for the Parry Sound, Nipissing and Haliburton portions of the watersheds.

A follow-up study by the Ontario Geological Survey in 2004 determined that easily accessible sand and gravel deposits are nearly depleted and that there are no remaining identified and undeveloped resources capable of supplying large volumes of crushable granular materials. Pit expansions and the opening of new pits in remote areas to satisfy the demand for aggregates locally and elsewhere will likely be the result of the depletion of easily accessible unconsolidated aggregates.

Due to budget constraints, the results of the 2004 study have not been fully mapped and are not easily available to Muskoka for planning purposes. The province should be encouraged to adequately fund the required background data to facilitate provincial and local planning for aggregate resources.

No inventory of solid mineral aggregate resources has been conducted in Muskoka. It is assumed, however, that most granite outcroppings across the watershed would be suitable for extraction, which makes all of the watersheds susceptible to aggregate extraction in the form of a quarry.

Architectural Stone

Architectural stone includes dimension stone and rough stone. Dimension stone, which is worked and often polished, is used in sculpture and to produce cut-stone, panels, tiles, and veneers. Rough or roughly dressed stone is used to produce cobblestones, patio and paving stones. Favoured in local and national construction and landscaping projects, the rocks most commonly used for this are granite, limestone, marble, and slate. Significant outcroppings and layers of granite can be found across Muskoka.

According to the Ontario Ministry of Northern Development and Mines,

“there has been an increased level of exploration for dimension stone and subsequent new quarry development in Ontario over the past decade. In recent years, there has been greater interest in the use of natural stone in commercial and residential construction....there is an active interest in developing Ontario’s stone resources to cater to growing demand....There remain many new opportunities to exploit deposits of excellent quality stone in Ontario.”¹

Given that there are ample opportunities from which to extract and produce architectural stone throughout Muskoka and the increasing popularity of architectural stone, it is anticipated that there will be an increase in the number of quarry proposals across Muskoka. **In order to provide Area Municipalities with the ability to properly regulate the quarrying of architectural stone, it is recommended that the PPS be amended to specifically exclude its extraction from the terms *Mineral aggregate operation* and *Mineral aggregate resources*.**

Summary

The impact of new pits and quarries for either construction purposes or architectural stone can be significant in terms of landscape alteration, visual impact, water quality, and habitat fragmentation. With

¹ (<http://www.mndm.on.ca>)

the shift to extracting and crushing solid granite for construction purposes and the increase in demand for architectural stone, all parts of the watershed may experience quarry development in the future. If not planned and managed properly, the cumulative impact of this development may have a negative effect on the recreational and tourism environmental values that are the foundation of the economy of the watershed.

PROVINCIAL POLICY FRAMEWORK

The Province's legislative and regulatory tools with respect to aggregate extraction are found under the Planning Act (land use planning), the Municipal Act (operations details), and the Aggregate Resources Act (ARA), which is specific to pits and quarries. The Ministry of Natural Resources manages aggregate extraction on Crown land in the watershed under the ARA. Given that Patent land in the watershed has not been designated under the ARA, municipalities are responsible for managing the aggregate resource under the Planning Act and Municipal Act. The new Provincial Policy Statement, issued under the Planning Act, provides the policy direction for land use decisions by municipalities and has, therefore, been a focal point for the Council's provincial policy analysis. However, the Council has considered the ARA to be significant in the watershed for two key reasons:

1. Crown lands ARE subject the ARA
2. The ARA could be applied to the municipalities within the watershed, in which case, fore knowledge of its strengths, weakness and issues is valuable

For these reasons, the Council has considered and developed positions on the ARA.

A) Planning Act (Provincial Policy Statement)

Since 1946, the Planning Act has established procedures and authority for municipalities to develop official plans and zoning regulations and provided a foundation for decision-making regarding land-use changes on private and municipal lands. Over time, several reviews and many amendments to the Planning Act have resulted in a detailed and complex system of policies, procedures, roles and authorities. Due to increasing concern regarding the Planning Act's effectiveness in addressing environmental and social impacts, the province established policies in the 1970's for the protection of agricultural land, mineral aggregates, and floodplains. Since that time, these policies have acted as guiding principles for municipal policies and related planning decisions. In the mid 1990s these initial policy statements were incorporated into the Comprehensive Provincial Policy Statement issued under Section 3 of the Planning Act.

The Government of Ontario has recently released a revised Provincial Policy Statement (PPS). The new PPS indicates that prime agricultural lands and aggregate resources continue to be singled out for a significantly higher level of protection than natural heritage areas. Policy 2.5.2 directs that mineral aggregate resources are to be protected for long-term use, with the caveat that "extraction shall be undertaken in a manner which minimizes social and environmental impacts." The Muskoka Watershed Council should continue to encourage all municipalities to develop and implement policy that expands on this concept and clearly identifies how social and environmental impacts will be addressed.

Discussion

Ontario does not have a comprehensive and strategic plan for the management of its aggregate resources. The new PPS is limited in scope and protects all aggregate deposits regardless of significance. While the PPS provides the caveat that "extraction shall be undertaken in a manner which minimizes social and environmental impacts," no direction is provided as to the interpretation of this clause. The Muskoka Watershed Council remains concerned that the policies relating to mineral aggregate resources do not provide a balance between competing land uses. In an area that is dependant on natural, scenic and environmental values, unplanned aggregate extraction could have significant environmental, social and economic consequences.

An overall strategy regarding material availability, use and protection is required in order to achieve a balance between the need for aggregate and other competing local, regional and provincial interests. To facilitate the development of such a strategy the District Municipality of Muskoka, the area and adjoining municipalities, representatives from the aggregate industry, and the province should work together to identify priority aggregate deposits for protection and restrict extraction in areas where other uses best meet the needs of the community and the province. This strategic plan should be developed at both a provincial and regional level.

Extraction can have significant short and long-term impacts on natural heritage systems and water resources in terms of habitat destruction and fragmentation, and changes in both surface water and groundwater flows. Once the Province has identified those aggregate resources that are of provincial significance, rather than excluding extraction from a demonstration of need as detailed in Policy 2.5.2.1 of the PPS, a clear demonstration of need and environmental impact should be required for pit and quarry proposals on deposits that are not identified as having provincial significance. As provided for in Policy 2.5.2.2 of the PPS, this report should balance environmental, social and other economic values against the need for aggregate extraction.

Several municipalities have identified dormant and abandoned pits as being a significant issue. These old pits tend to be small and may not have been in use for decades. Many have never had an environmental review. When they are re-activated they tend to be significantly enlarged, not meet current standards, or evolve from a pit to a quarry operation. These changes can have significant socio-economic and environmental impacts in the area and there are few tools available to municipalities to control or manage the activity. The Planning Act should be amended to allow municipalities to limit the grandfathering of old or dormant pits.

The Muskoka Watershed Council recommends that:

1. The Province amends the Provincial Policy Statement to require a regional strategic level analysis of provincial, regional and local aggregate need. The strategic plan should identify:
 - a. Deposits of provincial significance,
 - b. Sufficient areas to meet the present and long-term need while taking into consideration environmental issues, infrastructure investment and other land use priorities,
 - c. Prioritize aggregate deposits for protection and restrict extraction in areas where other uses best meet the needs of the community and the province, and
 - d. The cumulative effect of extraction operations on the socio-economic and environmental values of the area.
2. **The Province amend the Provincial Policy Statement to redefine the terms *Mineral aggregate operation* and *Mineral aggregate resources* to specifically exclude aggregate extraction for the use as architectural stone.**
3. Where aggregate deposits are not of provincial significance, that the Province amend the PPS to require new extractive operations to be considered in accordance with regional long-term values and interests.
4. The Province properly fund background data for a regional strategic analysis including the completion of the unconsolidated aggregate mapping for Muskoka.
5. The Province amend the Planning Act to provide municipalities with tools to limit the grandfathering of old and abandoned pits and quarries.

B) Aggregate Resources Act

The Aggregate Resources Act (ARA) regulates the extraction of aggregates (sand, gravel, clay, earth, limestone, granite) on private land in areas designated under the Act, all Crown land, and all land under water. In Muskoka, the ARA is in force on all Crown land, which represents a large portion of the headwaters of our watersheds. The operation and rehabilitation of pits and quarries are controlled by this legislation through the use of licences; preparations of site plans; an annual licence fee of which the majority is returned to the local municipality; and rehabilitation security, which is placed in an interest bearing account in the name of the licensee or permittee and returned as the site is rehabilitated.

According to the Ministry of Natural Resources, “the Aggregate Act lays out the rules and regulations governing the establishment, operations and closure of pits and quarries on all Crown land and designated private land in Ontario. The Act requires progressive and final rehabilitation of land where aggregates have been extracted to ensure minimal impact on the environment. Site plan requirements under the Act also include the establishment of excavation setback areas and buffers and the creation of berms and tree screens, to help reduce the visual impact of pit or quarry operations and protect natural features such as shoreline and streambeds. The terms of the Act also allow for public participation in decisions related to aggregate operations and their environmental impact, and require public notice and consultation on new operations.”²

Private land within the watersheds is not currently designated under the Aggregate Resources Act. The ARA is a regulatory tool, distinct from the land use planning process and typically replaces municipal pit and quarry by-laws. The Ministry of Natural Resources administers this Act; however, municipalities remain responsible for all planning considerations of aggregate extraction regardless of their designation under or outside of the Aggregate Resources Act.

Where the Aggregate Resources Act is not in effect, municipalities can regulate pits and quarries using a combination of official plan and zoning by-law provisions, passed under the Planning Act; and a pit and quarry by-law, passed under the Municipal Act.

Discussion

There has been considerable debate as to whether Muskoka and the other municipalities within the watersheds should be designated under the Aggregate Resources Act (ARA), in part to ensure that public interest issues are addressed appropriately and that a healthy balance between economic, social, and environmental interests is struck. However, it is unclear if the ARA can achieve these goals as it does not consider the cumulative effect of pits and quarries in a region; instead, the Act is very site-specific and considers extraction operations in isolation of one another. There is a need for a province-wide comprehensive, strategic vision of aggregate resources and extractive operations, in the context of other resources and community values. Amendments to the ARA would be required before this strategic planning exercise could be undertaken.

Even with the limitation identified above, the ARA is generally regarded as an effective and positive piece of legislation to address key site specific environmental concerns regarding aggregate extraction because it contains protection for communities faced with pit and quarry operations and includes setback distances for neighbouring uses, visual screening of the operation, and the necessity for a closure plan in addition to hours of operation and haul routes. In considering whether a licence should be issued or refused, the Minister considers a wide range of environmental, technical and site specific factors. Critics of the ARA note that the Act is basically self regulated by the industry with only limited audits undertaken by the Province. In addition, more and more, municipalities are finding that the financial compensation received for damage to roads is not sufficient to cover the cost of damages and they also have expressed concern with the implementation of the Act. In summary, some of the advantages and disadvantages of the Act are highlighted below.

² <http://www.mnr.gov.on.ca>

Advantages of the ARA include:

1. A site-specific, comprehensive environmental review of all applications by the Province
2. A level playing field for all operators
3. Enforcement by the Province
4. Municipal compensation for damage to area roads

Despite the important range of issues addressed under the ARA, being designated under the Act can also have negative implications, including:

1. Reduced local control over the review, approval and enforcement of pit and quarry operations
2. Increased cost of operation to small operators
3. Increased bureaucracy relative to the average size of operations in Muskoka
4. Inability of the ARA to take a strategic approach to aggregate development, including addressing the cumulative effects of operations

Determination of whether designation under the ARA is beneficial to the watersheds of the Muskoka area requires thorough consideration of these and many other factors, both positive and negative. No conclusive study has been conducted to determine the implications to the area of being designated under the ARA. The Muskoka Watershed Council generally supports the concepts enshrined in the Aggregate Resources Act; however, at this time, insufficient information exists to determine the social, economic and environmental impacts of being designated. A comprehensive study that looks at these issues is required prior to any decision on this matter.

The Muskoka Watershed Council recommends that:

1. The Province amends the Aggregate Resources Act to require that cumulative environmental affects be analyzed and addressed. The Act does a reasonable job of assessing site-specific environmental impacts but does not address the cumulative environmental impacts.
2. The Province properly funds the ARA for proposal review and enforcement. Level of detail in the ARA Class license requirements is good; the underlying issue is the lack of provincial resources for review, enforcement and rehabilitation.

MUNICIPAL POLICY FRAMEWORK

A) District of Muskoka Official Plan

The Muskoka Official Plan only permits pits and quarries on lands located within the rural designation. Aggregate resources of primary and secondary significance are to be protected from incompatible uses to allow for potential future extraction. Pits and quarries are not permitted in the Waterfront, Community, or Urban centre designations.

B) Local Official Plans

The area and adjacent municipalities identify and protect aggregate resources through their official plans, although the level of protection varies between municipalities. Generally, local policy requires that new applications for pits and quarries submit supporting documentation that assesses and evaluates impacts on wildlife, natural features, surface drainage, groundwater, surrounding land uses and visual landscapes. Development proposed adjacent to an existing aggregate area may also be required to demonstrate long-term compatibility including, but not limited to, the impact of traffic, dust, and surface drainage on the proposal.

C) Municipal Zoning By-laws

Pits and quarries are generally zoned as 'Industrial Extractive' in municipal zoning by-laws. This zone limits the use to activities that are compatible with the aggregate operation and establishes setbacks and requires buffers to reduce land use conflicts with adjacent uses. Municipalities are encouraged to limit the zone for pits and quarries to the operating areas, thereby requiring a municipal planning review prior to any major expansion of the operation.

D) Municipal Pit and Quarry By-laws (Municipal Act)

The Municipal Act enables local municipalities to pass by-laws regulating pit and quarry operations in areas not designated under the Aggregate Resources Act (ARA). These local by-laws can require aggregate producers to enter into agreements with the municipality to determine appropriate setbacks, rehabilitation plans, operating hours, signage, and general operating procedures to assist in the control of noise and dust. A pit and quarry by-law is a good tool to address new operations but it cannot be applied retroactively to historic or existing operations.

In 2002, the Township of Lake of Bays approved the most recent pit and quarry by-law. This by-law establishes a comprehensive program to guide decisions that will protect known deposits and existing uses. It also requires securities to ensure the rehabilitation of the pit or quarry and any other matter that the Municipality deems necessary to remedy. The pit and quarry by-laws of the remaining municipalities are at least ten years old and should be reviewed and updated.

Discussion

a. Muskoka Official Plan Policy:

A comprehensive planning and resource management strategy for the watersheds totally or partially within Muskoka is required to make the best land use decisions with respect to aggregate extraction and other socio-economic and environmental concerns. This strategy should be based on sound knowledge of the mineral aggregate resource base at both the local and regional levels.

The establishment of demand for aggregates in Muskoka and the surrounding area has been challenging. Given the proximity to large markets, accessibility to major transportation routes, and the topography, it is anticipated that aggregate operations will expand. The establishment of the supply of aggregates has also been difficult. The Province has not completed and mapped all the aggregate deposits and therefore long-term planning for the resource, including the identification and assessment of its cumulative impact, has not been possible. Without this information, it will be difficult to develop long-term plans for the management of the aggregate resource.

Muskoka should work with both local and provincial agencies to prepare a comprehensive strategic aggregate plan, within the limitations of the available data, for the watersheds of Muskoka. The impact of cumulative development on other socio-economic and environmental issues should be addressed and policy recommendations that provide a balance between aggregate extraction and other local core values should be considered.

b. Local Official Plan Policy:

It is cumbersome for local municipalities to control aggregate operations under the Planning Act and Municipal Act. A combination of official plan policy, limited zoning, Municipal Act regulations and securities are required to achieve the level of protection often desired by local councils and the community at large for local socio-economic and environmental values while still facilitating good aggregate development.

In a review of existing documents, it was noted that several municipalities do not have a comprehensive aggregate program. For example, only a few local municipalities have zoning in place

that limits extractive operations to only a portion of a lot and, consequently, extraction can easily be extended to the property boundaries without review of the resultant impacts.

Other issues that should be addressed through the planning process include:

1. Preparation of a comprehensive strategic aggregate plan, based on the regional level plan prepared in cooperation with Muskoka and addressing cumulative impacts on a broad range of socio-economic and environmental factors. **This strategy should address both large and small-scale operation, as well as commercial and private use.**
2. Specific zoning that reflects the type of extractive use in order to recognize the varying extraction methods associated with different types of materials. For example, the extraction of architectural stone may require significant blasting while the removal of loose aggregate does not.
3. Implementation measures that protect the municipality financially, socially and environmentally for the long-term **while still recognizing the difference in impact between large and small-scale operations.**

In areas of the Province that are not regulated under the ARA, strong local policy and regulation are required to address many of the issues that arise with new and existing aggregate operations. It is the position of the Muskoka Watershed Council that Muskoka, the Area Municipalities within Muskoka and the adjacent municipalities that form part of the watersheds in Muskoka should develop:

1. A strategic planning document for aggregate resource development that addresses the cumulative impact of pit and quarry development.
 2. District and local official plan policy that requires a socio-economic and environmental review for new extractive operations, where the Province has not specifically identified the deposit as being of provincial significance.
 3. Updated zoning by-law provisions to limit extraction to the operating area of the subject property, encourage pit and quarry location in areas already serviced by necessary infrastructure, and to specifically zone types of aggregate operations.
 4. Pit and quarry by-laws that address:
 - a. Visual impacts;
 - b. Noise, dust, and vibration emissions;
 - c. Traffic and safety;
 - d. Compatibility with surrounding uses and in proximity to existing, serviceable roads;
 - e. Water quality and mitigation measures for potential environmental damage; and
 - f. Progressive rehabilitation plans, ensured by the taking of substantial securities.
- c. Existing Operations

The Muskoka Watershed Council recognizes that Muskoka and the surrounding area have many old and dormant pits that may have a significant impact on the watershed if they either

1. Were reactivated on a large scale, or
2. Pose a threat to the watershed, or
3. Detract from the natural scenic beauty of the area.

Section 124 (2) of the Municipal Act enables a local municipality to require the owner of a pit or a quarry that has not been in operation for a period of 12 consecutive months to level and grade the

floor and sides of it and the area beyond the edge or rim that is specified in the by-law.³ Municipalities should be encouraged to use this provision of the Municipal Act to protect and support the socio-economic and environmental values of the residents of the watershed.

Although the Municipal Act does provide limited rehabilitation of dormant operations, it does not provide adequate tools to regulate future use of these sites. Additional tools are required to properly address old and dormant pits and quarries at the local level.

d. Source Water Protection

Aggregate extraction can result in changes to surface and groundwater flows that may have a significant negative impact on private or municipal drinking water sources by introducing toxins or sediment. For example, in the mid 1980's, excavation at a pit located on the shores of the Hoc Roc River in Gravenhurst resulted in a hole in the side of the pit. Many tons sand were dumped into the river and ultimately into Lake Muskoka impacting several private water intakes. Drinking water sources may also be negatively impacted where a pit or quarry is proposed in close proximity to a current or historic industrial site where toxic substances may be present in the soil. A change in the flow pattern of groundwater as a result of the excavation may inadvertently carry these toxins into a drinking water source. Environmental reviews of proposed aggregate operations must recognize and address these potential impacts.

The Watershed Council recommends that:

1. The municipalities within the watersheds of Muskoka develop a comprehensive, strategic vision of the aggregate resources and extractive operations that is compatible with other social, economic, land use and environmental interests while being mindful of provincial legislation, regulation, direction and priorities. **This strategy should address both large and small-scale operations, as well as commercial and private use.**
2. Municipalities consider new extractive operations in accordance with regional and local long-term values and interests, where aggregate deposits are not of provincial significance.
3. Municipal official plans be updated to require the following issues to be addressed where a new pit or quarry is proposed:
 - a. Appropriateness of the location with respect to municipal infrastructure such as roads,
 - b. Impact on wildlife or other sensitive features, including wildlife corridors and habitat fragmentation,
 - c. The cumulative impact of the proposed pit and quarry on the socio-economic and environmental values of the area,
 - d. Visual impacts, including existing and final contours,
 - e. Surface drainage and the potential impact on water quality and quantity of surrounding groundwater and waterbodies,
 - f. Potential impact of the pit or quarry on drinking water sources, and
 - g. Clearly identify how environmental impacts will be addressed.
4. Zoning by-laws be updated to:
 - a. Limit extraction to the operating area of the subject property, thereby requiring a municipal planning review prior to any major expansion,
 - b. Specifically zone for types of aggregate operations, and
 - c. Consider compatibility with surrounding uses and proximity to existing, serviceable roads.

³ Queen's Printer, Municipal Act 2001, S.O. 2001, c.25

5. Pit and Quarry by-laws be updated (especially those municipalities with by-laws older than five years old) to address:
 - a. Visual, noise, and dust impacts, and vibration emissions,
 - b. Detailed progressive and final rehabilitation procedures including the taking of securities, and
 - c. Timely and progressive rehabilitation, including ongoing monitoring of environmental impact.
6. All municipalities properly fund enforcement.
7. Municipalities require the owner of a pit or a quarry that has not been in operation for a period of 12 consecutive months to level and grade the floor and sides of it and the area beyond the edge or rim where the pit or quarry poses a threat to the watershed, or detracts from the natural scenic beauty of the area.

CONCLUSION

Muskoka and the surrounding watershed municipalities are an attractive and eminently liveable area with a distinctive character. However, in considering the development of the aggregate resource of the area, a number of guidelines must be created to ensure that the unique natural and built character is maintained and enriched. Aggregates and extractive operations are critical to the economic development potential of the watersheds. Insufficient aggregate or aggregate that is not readily accessible will slow or stall economic growth; conversely, indiscriminate extraction may destroy the very scenic and natural areas that are the economic drivers of the region. Finding an appropriate balance is critical since the decisions made today will determine the health of the watershed for generations to come.

A strategic directions document should be developed to ensure Muskoka's healthy natural environment, its dynamic built environment, and its economic base are sustainable in the future. The cumulative effect of proposed aggregates and extractive operations could then be evaluated within an established framework and policies and programs at the area, district and provincial levels could be designed to address issues on both a site-specific and comprehensive basis.