

Mr. Doug McNeil
Special Advisor on Flooding, Province of Ontario
Via EMAIL

October 7, 2019

Dear Mr. McNeil:

Re: Muskoka Flooding – Context and Solutions

We appreciate the opportunity to provide additional comments for your consideration as you prepare your report for the Province. The Muskoka Lakes Association represents over 2500 families on the Muskoka Lakes, and for the first time in our 126 year history we have had to become routinely engaged in flooding and its impacts to our lakes and shoreline owners. We understand that you met briefly with members of the Muskoka community to receive information and discuss issues and solutions. As this has not been a public process, we are reaching out to you directly to provide the perspective of the shoreline owners and an organization who has sat helplessly on the sidelines, despite pushing for action from our provincial government.

As you are both aware, the Muskoka region has suffered an unprecedented 3 significant flood events over the past 6 springs. The impacts to our communities and waterfront property owners have been substantial and repeated. We have a number of suggestions to put forward for your consideration as you prepare your report to the Province.

1. Communications:

The Ministry of Natural Resources and Forestry staff perform the flood forecasting and warning role for the province, where elsewhere in the province, Conservation Authorities perform that role.

The MLA has initiated a Water Level Task Force that late each winter gears up to take information from the lake gauges, MNRF snowpack and weather predictions to communicate to our members on the potential for flooding and the actions that they can take to protect their property. Despite our communications damages continue to occur as our members are largely seasonal and most are not able to get to their properties to take action. We are volunteers, and while we have some technical expertise, flood forecasting and warning communications should be improved to be more modern, widespread and user friendly.

In the aftermath of the floods, the province has never provided an overview of the event to help residents understand what happened and if there was something that could have been done to change the outcome. While we understand this could be problematic, without analysis and communication we are none the wiser. A *post mortem* should be conducted and communicated to those affected.

2. Governance

There is no comprehensive water governance for the Muskoka Lakes, be it for flooding or water quality. The District of Muskoka provides some of the needed actions as well as the Ministry of Natural Resources and Forestry for flooding and Ministry of Environment Conservation and Parks for water quality and natural heritage. The MLA strongly believes that neither Ministry has the resources to be able to truly manage the watershed (evidenced by lack of floodplain mapping, limited water quality testing, lack of tools) and the District does not have the jurisdiction.

Water management is governed by an outdated Muskoka River Water Management Plan (MRWMP) that was purpose built around hydro power generation rather than water management for a variety of conditions, including flooding. In other parts of Ontario, watershed-based plans, taking a holistic approach to water management, are prepared by conservation authorities with their member municipalities to guide needed actions. Each of these is specifically scoped to capture the issues in a given region. Muskoka has a Watershed Council made up of dedicated volunteers but without authority and the capacity to drive the undertaking of a watershed plan.

The tricky thing about watershed management, as I am sure you are aware, is that feature protection or undertaking a mitigation project upstream may benefit a municipality downstream. Without a governance structure or the development of watershed plans, how do watershed wide projects get identified and eventually planned and executed?

Given the scope and impact of the water management issues in the Muskoka region the MLA believes that it is time to bring a conservation authority to Muskoka who have the mandate for water and natural resources management at the watershed scale. They are delegated the responsibility to implement the hazard management policies of the Provincial Policy Statement. Attachment 1 is the submission the MLA made to the Provincial Advisors on Municipal Governance about water governance which outlines this suggestion in somewhat more detail. The conservation authorities act can be found here <https://www.ontario.ca/laws/statute/90c27>

3. Resources and Tools

To effectively manage the watershed, a number of resources and tools are required. They include:

- Technical expertise
- Monitoring data
- Models to predict conditions
- Plans (official plan policies, watershed plans, flood mitigation plans)
- Floodplain mapping and potentially regulations

While it is not our intent to speak about each in depth, a few thoughts are provided on each.

Technical Expertise

The watershed management issues in Muskoka are complex and require *a team of individuals* working together to assess conditions and develop appropriate solutions. While they could be from different agencies, what if this team did not have to play within the boundaries of their agency's mandate, instead creatively determining the best course of action to address the various issues. This team needs freedom and financial resources to plan and execute needed actions. The District of Muskoka will say that they currently do not have the expertise to be the one stop shop.

Monitoring Data

With the onset of climate change, no longer can sparse monitoring locations in a watershed of this size suffice to inform on the ground responses. Experience from the south tells us that rain gauges need to be real time and installed at many more locations in the watershed to capture the variability in intense storms. More climate stations are required. The data needs to be real time to be quickly available to all that need it.

Post event monitoring of damages need to be collected. The MLA has collected such information for our shoreline residents. Was data on water levels, weather, or ice movement collected for any of the events?

Models

The watershed needs hydrological and hydraulic models for more accurate prediction of events. The models must be calibrated on the ground. The team must have the technical expertise to use and manage the models. The models must have climate scenarios incorporated. It is the MLA's understanding that the model that was developed for the MRWMP was not provided to the MNRF to allow them to run it. Regardless, it is time to update with improved models and inputs.

Plans

Water levels in the Muskoka Lakes are controlled under the Muskoka River Water Management Plan (MRWMP). The MRWMP had an expiry date of 2016. We were advised in early 2016 that it would be renewed for a further 5 years and then a decision for no update ("Maintaining Water Management Plans Technical Bulletin"). The base model for the Muskoka River plan was set up to simulate the period 1970-2000 and much of the data used in the model was current as of late 1990s, over 20 years ago. Much has changed since then. Climate conditions have changed according to many sources, including the Ministry of Natural Resources (Climate change projections for Ontario: An updated synthesis for policymakers and planners, 2015). Their results show significant changes are expected in future years (2011-2040, 2041-2070 and 2071- 2100) when compared with the baseline period 1971-2000 (coincidentally the same baseline period in the MRWMP). They predict that air temperatures will be 2-7 degrees warmer in summer. Winter temperatures are projected to increase, on average by 2.5 to 2.8° in the 2020s.

Another new report focused on the Muskoka Region on the impact of climate change is well documented in the Planning for Climate Change in Muskoka report, published by the Muskoka Watershed Council, 2016 (www.muskokawatershed.org).

This sets the stage for increased lake-effect snow and/or winter rain in the Muskoka River basin, conditions that are causing impacting our water levels and spring floods.

Despite repeated requests from the MLA, one of the stakeholders of the MRWMP, MNRF has steadfastly refused to initiate an update to the plan. It is clear now that the Muskoka River Water Management Plan needs to be revised to reflect our new climate reality and to incorporate the Bala Falls Hydroelectric Plant.

Having said all this, the Water Management Plan only looks water levels to support recreational boating, fisheries and hydro power generation. There are many other aspects of a watershed that contribute to the control of water levels in the lakes. Further, water quality in our lakes is equally important, as are fisheries, wildlife and forests.

Watershed plans are essential tools to allow us to see the current condition of our systems and predict the future conditions, with various mitigation or management tools applied. The MRWMP should be updated as a component under the Watershed Plan. The Muskoka Lakes are a significant driver of the economy in central Ontario and it is time that we were provided with the same management tools that watersheds to the south have. No longer can the environment be managed with an army of volunteers and outdated data and models.

Coming out of a watershed plan are other planning needs and tools. Official plan policies about water management and feature protection (e.g. wetlands, forest cover) are essential, and many of those policies are in place. Flood plain mapping is another tool that is currently being undertaken by the District of Muskoka to inform development.

A watershed plan may determine the potential for mitigation of an issue, such as an area of flood vulnerability, that would need to proceed to an environmental assessment. Given that the flooding events have been relatively recent, impact assessments have not been initiated to guide potential solutions. A flood mitigation master plan under the environmental assessment act would not doubt be required to guide the individual projects that may be identified with potential to mitigate a vulnerability. Local experts have floated mitigation actions around more storage upstream, reducing choke points in the Moon River, changing the MRWMP operating timing and levels, but other options could be determined with a concerted effort and the right modelling tools to evaluate them.

Finally, none of the provincial guidance documents for water management have been updated to include climate change. Design standards for structures around flood elevations are lacking as we don't know what the elevations will be. How can we plan for the future in Muskoka if no one knows how to do it?

4. Plan Implementation and Mitigation

Many solutions to flooding have been suggested, but as noted above, they need to be tested with modelling and impact assessment. But once those are completed – who will be expected to lead? Who will pay for them? The province no longer invests in new flood management infrastructure as they did in years past. The Water and Erosion Control Infrastructure (WECI) Fund supporting conservation authorities is \$5million per year to be shared 50% with municipalities. Many smaller municipalities do not have the resources to participate, which is limiting uptake. It is woefully inadequate to address the infrastructure needs. Over the last 4 or 5 years, the federal governments' National Disaster Mitigation Program (NDMP) has been supporting the significant work of flood risk identification, floodplain mapping (paying half of the District mapping), and flood mitigation. This program however is wrapping up. Investment in programs such as NDMP needs to continue and be maintained annually so that water managers and municipalities can plan ahead and rely on financial support to undertake these significant projects. One off programs are not adequate given the lead time to undertake planning, design and execution.

And when all else is exhausted, sometimes insurance is the final option. Insurance companies are developing products but at a significant cost. If we cannot act can we buffer the costs with an insurance program, perhaps backed by the Province? Disaster relief programs must be accompanied by policies to build back better or buy out packages for affected landowners.

Thank you for the opportunity to provide you with our thoughts. We would be happy to elaborate on should you wish to explore them further. Please feel free to contact me at Lawton.osler@oslerhr.ca

Yours very truly,



Lawton Osler, President

Attachment 1: The Role the District Should Play in Watershed Management

Comments provided to the Special Advisors On Municipal Governance by Muskoka Lakes Association

Questions: What role should the Watershed Council and District play in the watershed? How should the biosphere designation on the west side of Muskoka be managed? Is it inconsistent to suggest that planning should move to the lower tier, and environment planning stay at the District? Given the reliance you're putting on the MWC to do analytical work and research under the supervision of the District, are you concerned about an organization that isn't directly politically accountable making those kinds of determinations?

Watershed management is a partnership activity. But like any project, it needs an initiator; a leader. Both the Ministry of Natural Resources and Forestry (MNRF) and The District of Muskoka have leadership positions in watershed management in Muskoka.

The way watershed management works in southern Ontario is through first developing a watershed plan that has the objective of determining the existing conditions and then assessing a variety of future conditions. These future conditions can be any combination of scenarios to be explored that will meet the objectives of why the watershed plan was undertaken. In developing areas, the scenarios may include the impact of future land development on water quantity or quality; in areas to be restored plans could assess how much naturalization or storm water retrofitting is required to return a system to health. The preferred scenario is defined and the actions necessary to achieve it are outlined and assigned to the appropriate implementation partner. These partners may be the province, the municipalities and special interest groups.

Watershed plans are different than land use plans in that they are intended *to inform* official plans and land use plans so that the right controls can be applied through planning policy.

In Muskoka, the Muskoka River Water Management Plan is the closest thing to a watershed plan that we have but it is limited in scope addressing water management and levels in the lake for recreation, fish and power generation. Further it is dated and, given the recent bouts of flooding, clearly does not provide the guidance that it needs to today. The governance of that plan has largely ended and the province has abandoned the process to update it regularly (*Lakes and Rivers Improvement Act (LRIA) technical bulletin, Maintaining Water Management Plans*). Despite the District and MLA having been partners in that plan, the MNRF has steadfastly refused to honour partner requests to open the plan to ensure it meets the needs of the watershed stakeholders.

But the watershed is more than the water. It includes forests, habitats for wildlife including many endangered species, wetlands, biosphere reserves, cultural heritage and the built environments that all contribute to the observed environmental quality. How do we ensure that we have the appropriate tools to demonstrate that the watershed and all its components will be protected or improved in the future?

So, governance of a watershed is complicated and not made easier if there is no clear leader for it. The MNRF leads on waterflow. The District has been the lead on the remainder, aided by the Muskoka Watershed Council and other organizations like the Muskoka Conservancy. But do we leave one of Ontario's most significant environments, both naturally and economically, in the hands of a few staff and an army of volunteers? The watershed volunteers are absolutely key to shaping and delivering the watershed plan, but they cannot be responsible for all aspects of watershed management.

Hence, we believe that a conservation authority is the best choice to bring the watershed management expertise needed to Muskoka. Through their Act, Conservation Authorities (CA) can hold and manage lands, manage water to control floods and pollution and manage natural resources. They have all the tools needed to govern the watershed with their municipal partners – a model that has proven successful in 36 watersheds in Ontario for over 60 years. A CA would take over the responsibilities for water management that MNRF currently undertakes. It is accountable to the municipal governments through board representation and budget support. This makes getting work done to support the management of the watershed in the hands of the District and local government and reduces the impasse with the Provincial ministries.

However, if the Province does not support creating a CA for Muskoka, a new model will be necessary that builds on the Muskoka Watershed Council and Muskoka Conservancy so they can provide effective guidance to the District on watershed management.