



Quinte  
CONSERVATION

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Belleville, ON. K8N 4Z2

December 15, 2022

Mayor Don DeGenova  
Municipality of Tweed  
255 Metcalf Street,  
P.O. Bag 729  
Tweed, Ontario  
K0K 3J0

RE: Tornado response in Tweed, Ontario

Dear Mayor DeGenova,

The attached document was provided to MPP Ric Bresee and copied to your attention.

Regards,

Brad McNevin  
Chief Administrative Officer, Quinte Conservation

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December 15, 2022

Ric Bresee  
MPP – Hastings-Lennox and Addington  
113 East Street, Napanee Ontario K8R 1S5  
Email: ric.bresee@pc.ola.org

RE: Tornado response

Dear MPP Bresee:

Following the Sunday, July 24th, 2022 tornado, Quinte Conservation has received requests for assistance to clean up tree debris throughout the watershed. In particular, the Municipality of Tweed and residents have expressed concerns with the potential for log jams during the spring freshet.

Tornados are natural disasters. The downed trees provide natural terrestrial and aquatic habitat, and the decay of tree matter adds to the richness of soils. Tree removal should be prioritized based on risk to life and property, leaving non-hazardous trees to natural processes.

#### **Existing Conditions - Tree Damage**

On October 26, 2022 Quinte Conservation and Municipality of Tweed staff met on site to undertake a drone investigation of some areas impacted by the tornado. Although our efforts were focused on areas that could be accessed and observed from roadways, we understand that there are locations within the Black River and Skootamatta River that we could not access but have also been devastated by the tornado.

Downed shoreline trees were present in many areas from the south end of Price Conservation Area to Varty Road and through the Black River region (north of Highway 7). Many of the trees maintain a root bulb on shore that may help stabilize them temporarily. Staff noted that the amount of tree debris that is visible along the shoreline is deceiving and that there was often much more debris below the water surface.

#### **Clean-Up Actions Taken**

As a landowner within the path of destruction, Quinte Conservation staff and hired contractors have removed debris from the Price Conservation Area, including along the shoreline. However, Quinte Conservation is not responsible for debris clean up on private or municipal lands, nor do we have the resources to address the significant amount of damage caused by the tornado on private property.

#### **Future Concerns - Potential Risks**

Floating debris, sheet ice, and frazil ice can accumulate across the river and cause a jam. Ice/debris jams can reduce the flow capacity downstream causing the water level to rise upstream of the jam. Ice/debris jams can cause localized flooding upstream of any formed jam.

Although Quinte Conservation cannot predict the exact location a jam may occur, the following locations present higher potential for ice/debris jams:

- i. Any road crossing or dam (permanent or temporary such as a beaver dam) in the river.
- ii. A natural obstruction in the river (ex. Downed trees).
- iii. The bottom pool after a section of rapids (material movement slows and accumulates in these areas).
- iv. Constrictions or meanders in the river.

Natural obstructions of downed trees are present from Varty Road to Price Conservation and west through the Black River area. Based on the 5-metre contour data available to our staff, low-lying properties were speculated. A comprehensive field verification of the property elevations was not completed as part of this investigation. The following locations are areas that have a potential risk of flooding due to tree debris, however there are likely other locations that we have not observed due to access.

- Haid's Hideaway Family Campground off Varty Road (Skootamatta River)
  - At risk due to channel meander
- West of Upper Flinton Road (Skootamatta River)
  - At risk due to channel meander
- Riverside RV campground off Robinson Road North rapids end (Skootamatta River)
  - At risk due to bottom end of rapids
- West of Flinton Road (Skootamatta River)
  - At risk due to channel meander
- Price Road/Skootamatta Lane (Skootamatta River)
  - At risk due to constriction in river, tree debris and bottom end of rapids
- Along Highway 7 and Queensborough Road (Black River)
  - At risk due to channel meander, tree debris and constriction in river

The Hamlet of Actinolite has experienced ice jam flooding in the past. There is known and mapped floodplain in Actinolite, on the east side of the river. There is a risk of jamming in Actinolite at the bottom of the rapids.

#### **Quinte Conservation Responsibilities and Commitments**

Sudden increases in river flow caused by a rapid melt or rainfall event have the highest risk of mobilizing debris and ice. Quinte Conservation will increase our river watch monitoring program along these stretches of the Black and Skootamatta Rivers during these flow events.

Ice and debris jams are difficult to predict. Quinte Conservation has not researched the rate of tree decay, the elevation and weight of trees, and/or the mechanisms for ice break up and mobilization of debris downstream. There will be an increased potential risk of jamming to occur until the tree debris has been removed by decay, travel downstream or mechanically removed from the river.

As a result of this devastating tornado, Quinte Conservation has taken some proactive steps to help mitigate the impacts. Our office is responsible for the following:

- A. Hazard trees on Quinte Conservation owned lands that could cause a risk to people using the properties for recreational purposes. We have taken all necessary steps to remove tree debris from along our shoreline to help prevent debris jams.
- B. Debris jams on Quinte Conservation owned infrastructure that affect the ability to operate or the function of the infrastructure.
- C. Providing flood forecasting and warning services for the rivers within the Quinte watershed.

Quinte Conservation's Flood Forecasting and Warning Program provides a vital service to our municipal partners to ensure that the flood aspects of these components are met. Conservation Authorities have several areas of responsibility for flooding and flood emergencies:

1. Support municipal flood emergency planning by providing technical advice pertaining to flood risk (e.g., hydrology, hydraulics, flood vulnerable areas, etc.) and engaging in flood mitigation projects to reduce flood risk prior to flood events.
2. Maintain a local network, collect data, and monitor watershed and weather conditions daily in order to provide timely warning of anticipated or actual flood condition. Provide updated forecasts and other supporting technical data pertaining to flood conditions under their jurisdiction during an event.
3. Issue flood messages to municipalities and other appropriate agencies, including the media and the public, to advise of potential flooding when possible and appropriate.
4. Operate Conservation Authority dams and flood control structures to reduce the effects of flooding when appropriate.
5. Maintain communications with municipalities and the Surface Water Monitoring Centre of the MNR during a flood event.

Ontario's Emergency Management and Civil Protection Act (EMCPA, 2006) sets out requirements for the development, implementation and maintenance of municipal and ministry emergency management programs. These comprehensive emergency management programs are based on the five principles of emergency management: prevention, mitigation, preparedness, response, and recovery. The province describes six "pillars of preparedness"; each an essential component of an emergency management program, including:

1. Emergency Plans
2. Emergency Operations Centre
3. Training
4. Exercises
5. Emergency Information
6. Public Education

The province of Ontario needs to take a proactive approach to avoid further devastating consequences of the tornado. Although the tornado emergency is no longer here, it has left a path of destruction that requires immediate action.

### **Recommendations**

- Quinte Conservation and the municipality have assessed our capacity to protect life and property through flood forecasting and warning services, and flood response for a debris/ice

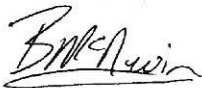
jam. I feel that there is not the capacity to effectively provide that level of service, and request assistance from the Province.

- **We compel the province to take preventative action by removing debris ahead of the freshet; and**
- **Through preparedness and response, we are compelling the province to have resources available to remove any jams that may occur within the Skootamatta and Black River (within and downstream of Tornado impact zone).**
- Quinte Conservation will closely monitor the Skootamatta River at Actinolite Water Survey of Canada gauge for indications of high flow events or debris jamming in the vicinity of the gauge.
- Quinte Conservation will increase the river watch monitoring during flow increase events (rapid snowmelt or rainfall) at the Black River and Skootamatta River areas.
- The Municipality of Tweed have been notified to inspect their infrastructure for ice and debris collection and, if feasible, remove the debris to protect a jam from occurring.
- Quinte Conservation and the Municipality of Tweed will communicate the risk of ice and debris jams to the residents of Actinolite, and other impacted areas along both rivers. Communication about what actions residents should take to notify the municipality of jams, and actions they should take to protect their property.
- Quinte Conservation will notify the Water Survey of Canada of the tree damage so they can be prepared for any potential damage to their infrastructure (i.e., instrumentation, weir, etc.).

In conclusion, through this letter, Quinte Conservation is notifying the Province of Ontario that there is an increased risk of flooding that will negatively impact homes, properties and livelihoods of many people within the Municipality of Tweed as a result of the July tornado. Residents have already lost their homes, their hopes and their dreams. We strongly recommend that the Province of Ontario take a proactive approach and provide the Municipality of Tweed with the necessary resources (financial and labour) needed to remove tree debris. If the province acts now, there will be a significant decrease in the risk of a second emergency event caused by the tornado, and that would be flooding caused by the tree debris.

Please act now to help the residents and taxpayers of this community.

Regards,



Brad McNevin  
Chief Administrative Officer, Quinte Conservation

c.c. Hon. Graydon Smith, MNRF  
Hon. Steve Clark, MMAH  
Mayor Don DeGenova, Municipality of Tweed  
James Flieler, Chair – Quinte Conservation executive Board  
Janice Maynard, Vice-chair – Quinte Conservation Executive Board