



RE: McGeachie Beaver Dam – Bridge Repair

OCTOBER 30, 2024

To: Crowe Valley Conservation Board Members

In August 2024, the beaver dam at McGeachie Trail burst and a significant amount of water was released from a large pond in McGeachie Park. This happened after a significant rainstorm the day before. While there was no damage to the bridge itself, there is a significant amount of rocks that washed away. These rocks are the protection barrier for the bridge.

The Township of Limerick hired a consultant to inspect the bridge for damage and the result of that inspection was that the municipality must replace all materials that have washed away. To perform this work without causing damage to the bridge, as some of these materials weigh hundreds of pounds, a professional company is required. We have received quotes, and the most cost-effective and reliable company to submit was Earle's Excavating. They are slotted to do the work the first week of November.

Historically, there have been previous known bursts of this beaver dam. In 2003, a very similar event happened. The Township Engineer, Chris Bent from Jewel Engineering send the following information to the township:

In 2012 we did have a hydrologic + hydraulic analysis report completed to the support the replacement design for the Township. At that time, we did not complete these services in house, so we hired Sanchez Engineering as a sub and he completed the report. That report would be in CVCA files presumably with the permit submission that was made at the time for the original construction. As the breaking of beaver dams was a known event in the past at this crossing, a simulation of a dam break was included in the analysis at the request of the Township to support the replacement structure options.

A message was sent by Crowe Valley Conservation Authority to the Steenburg Lake Community Association in response to this flood has been included, as published on the SLCA website – steenburglake.ca. Also included in this letter are images of the flood itself, and images of the bridge when water levels are back to normal.

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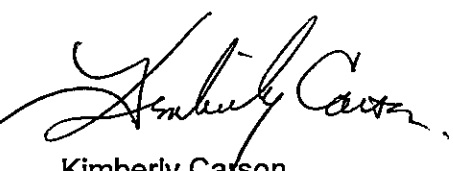


To date, the Township of Limerick has incurred almost \$14,000 in costs relating to the repair of the bridge and surrounding area. A final bill has not yet been received. Engineering Consulting Fee's were over \$3000 alone.

The Township of Limerick is requesting that Crowe Valley Conservation Board fund this municipally unforeseen event. It is evidenced by both Jewel Engineering and CVCA that historically this specific location has been known to let go. Jewel Engineering clearly states that in 2012 the Township was concerned about an event like this happening, and that CVCA was made aware of this concern and the results of the analysis. Regular monitoring and maintenance of the beaver dam could have prevented the flooding that occurred on August 10, 2024. As the water and beaver dam came from Private Property (CVCA) we are treating this the same way we would if a private resident did not maintain their own property and caused damage to municipal infrastructure, unduly putting stress on the entire property tax base budget.

Sincerely,


Shawn Pack
Councillor

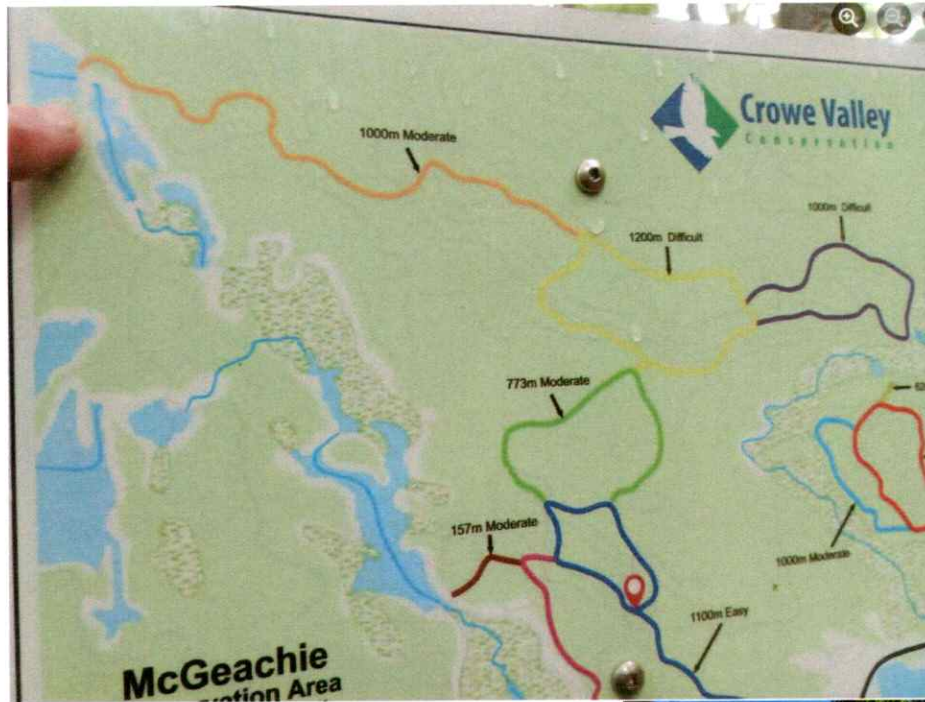

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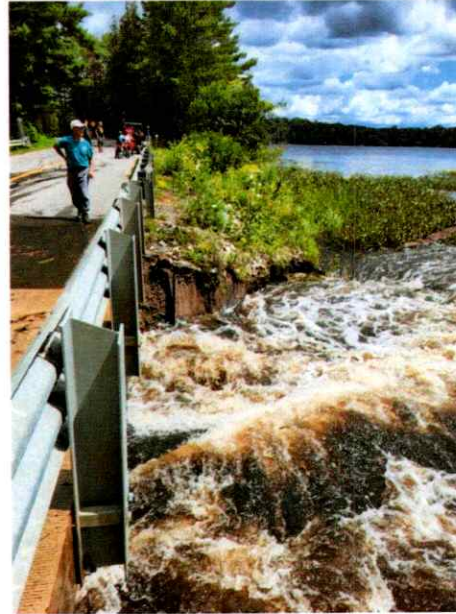
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BELOW PICTURES: NORMAL WATER LEVELS



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STEENBURG LAKE

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Volume of water released by beaver dam breach estimated to be around 2.3 million cubic feet

By Anonymous member (Administrator) on 16 Aug 2024 8:39 PM

Following a beaver dam breach that caused significant flooding along Steenburg Lake North Road at McGeachie Conservation area on August 11, 2024, SLCA president Joanne Burghardt reached out to Crowe Valley Conservation Authority General Manager Tim Pidduck with questions about the incident.

Tim Pidduck, General Manager

Crowe Valley Conservation

"The Crowe Valley Conservation Authority (CVCA) was notified of a beaver dam break north of Steenburg Lake early on the 12th of August 2024 resulting in a deluge of water entering the lake.

"These natural events do occur throughout our watershed at various times of the year and are relatively common, especially during periods of high water in the spring when a number of factors determine when or if a beaver dam break will occur.

"This dam break occurred during the summer season during a storm event that swept through most of Eastern Ontario. Although the total amount of precipitation was considerably less than expected, in all likelihood, other conditions leading up to the failure were a factor as well. This could include any one of or a combination of the age of the dam, its height, water pressure exerting on the structure, wave action due to the storm wind, high water levels prior to the storm, maintenance issues (was the dam abandoned due to predation or other causes such as old age, illness, injury or even territorial dispute) or was it already in a weakened state due to other natural causes or even human intervention. Without any evidence, the cause of the dam failure will never be known, unlike structures built by humans who must find out why a structure failed.

"CVCA staff have estimated the amount of water released into Steenburg Lake was approximately 2.3 – 2.5 million cubic feet of stored water behind the dam. There would have been additional water from the flow of the creek itself, which is virtually impossible to measure without an hydraulic analysis of the creek. Suffice to say, it was a large volume of water that unexpectedly occurred without any warning causing damage and disruption at the point it entered Steenburg Lake.

"The level is certainly high and CVCA staff have confirmed the lake rose approximately 17.5 cm (7 inches) due to the flow from the dam and the recent rainfall on the weekend. The lake is dropping and should start to resemble normal conditions within 7 to 10 days. However, this will depend on how much additional rainfall is received in the area during this post beaver dam break and when it occurs. Approximately 30 to 35 mm is expected this weekend, therefore it may reduce the lowering of the lake than what staff have estimated.

"Presumably there was a significant amount of silt, potentially some natural detritus material and likely some human garbage (hopefully very little) from the sudden surge of water. Depending on what contaminants were being stored in the silt and the volume released into the lake will determine if there are any environmental concerns. Testing and monitoring conducted for a period of time would likely be required to gauge what the effects would be on the ecosystem. Unfortunately, the CVCA does not have the staff or resources to complete this type of work to determine if there is any risk to the lake's ecosystem.

"The CVCA has owned the McGeachie Conservation Area since the mid- 1990's. The dam break at this location has happened twice in the approximately 30 years of ownership, which may or may not coincide with the natural beaver pond/dam break/beaver meadow cycle."

Note: The SLCA Board will continue its regular water testing routine, and will reach out to the CVCA to determine if there is further testing we should do to monitor the affect of the dam breach on the lake's ecosystem. – Joanne Burghardt, President SLCA, Aug. 16, 2024.



Photo by Joanne Burghardt

Water rushes into Steenburg Lake following a beaver dam breach Aug. 11, 2024.

+ [Add comment](#)

OUR MISSION

To source and make available relevant information to the Membership regarding political and environmental changes that impact cottage ownership and take appropriate action on behalf of the Association when deemed necessary by the executive; to promote, educate and encourage responsible lake stewardship and to provide opportunities to meet and socialize at events throughout the year with fellow cottage owners.

BECOME A MEMBER

Your annual membership fee helps the Steenburg Lake Community Association achieve their mission on behalf of the residents of Steenburg Lake. Fees fund fun activities throughout the year, they support our Lake Stewardship program, Newsletters, Website, and Government Relations. Your membership is appreciated, and required, in order to continue as an association.

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