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23 April 2018

Township of North Huron
274 Josephine Street
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By Email:

To: Reeve Neil Vincent
Deputy Reeve James Campbell
Councillor Bill Knott
Councillor Brock Vodden
Councillor Ray Hallahan
Councillor Trevor Seip
Councillor Yolanda Ritsema-Teeninga

Re: Howson Dam, North Maitland River

Dear Reeve Vincent and Councillors:

Ontario Rivers Alliance (ORA) is a Not-for-Profit grassroots organization acting as a voice for several stewardships, associations, citizens and First Nation peoples who have come together to protect, conserve and restore riverine ecosystems.

ORA is writing regarding the future of Howson Dam on the North Maitland River. It has come to our attention that the Township of North Huron (Township) entered into a Class Environmental Assessment (EA) for the Howson Dam in August of 2016 and is currently awaiting the results of the Howson Dam Safety Assessment. We are also aware that the Howson Dam is in a very deteriorated and unsafe condition, so much so that the associated bridge has been closed since 1999, and the concrete is so degraded that it has been breaking away from the dam and bridge. Consequently, the Township has entered into a Class EA to explore its options.

Background:

On 23 – 24 June of 2017, the upstream Gorrie Dam failed and the Howson Dam was at capacity during an extreme rain event and flood when 175 mm of rain fell in just 7 hours, placing more than 150 property owners at risk and resulting in an estimated $11-million in damages in the Town of Harriston. This severe rain event broke previous records by approximately 40% and was the second highest flow on the North Maitland in the 48 years of record. Fortunately, no one was killed; however, it could have been much worse, as in October of 2015, when a South Carolina flood breached 18 dams, and resulted in 16 deaths.[1]

[1] *18 Dams Breached And Death Toll Rises in S.C. Flooding*

The Maitland River Watershed has had more than its share of extreme weather over the last seven years, with 2 tornadoes, 3 floods (all in different seasons – February, June and December), 3 ice storms, the driest year in 30 years followed by the wettest year in 40 years. The insured cost of the clean-up from these events exceeded $140,000,000, and not all losses were covered by insurance.

We also understand that the North Maitland River has had a long history of washing dams out during extreme weather events. Therefore, it is crucial that we acknowledge the hazards of infrastructure that has the potential to fail and put citizens at risk, degrade water quality, threaten our fisheries, or that would jeopardize the ecosystem services that healthy rivers provide.

Drought conditions can place additional stress on riverine ecosystems, while more extreme rainfall will heighten the risk of dam failure with the rapid release of high volumes of water. Increasing intensity of rain and melt events are already challenging manmade infrastructure such as the Gorrie Dam and Howson Dam like never before - and the magnitude of these impacts is only expected to increase. Dams are vulnerable to extreme weather - they deteriorate over time, require costly maintenance and repairs, significantly increase the risk to public safety and are becoming enormous liabilities.

Looking upstream at Howson Dam.

Resilience to a Changing Climate:

Our rapidly changing climate is a compelling reason to remove dams to increase the resiliency of our freshwater systems and the protection and safety of our communities. It is important to mitigate and adapt to the extremes of climate change as Paul Beckwith, who works on climatology in the Department of Geography at the University of Ottawa said, *"We're getting a lot more extreme weather events around the planet, whether that be torrential rains leading to flooding, or really hot and dry temperatures leading to drought. These extreme weather events*

are much more severe, much more intense, they last longer, they're happening more frequently, and they're happening in areas where they didn't happen before."[2]

"Climate will interact with overexploitation, dams and diversions, habitat destruction, non-native species and pollution to destroy native freshwater fisheries."[3] *"Climate warming will adversely affect water quality and water quantity, as well as the magnitude and timing of river flows, lake levels and water renewal times."* [4]

Drought conditions will also exacerbate warming and can result in toxic blue-green algae, placing upstream and downstream communities at risk. Reservoirs interrupt sediment transport and encourage deposition behind the dam, effectively starving the downstream of its sediment supply. As water impounded by a reservoir is necessarily held longer than water flowing in a stream, modifications to water quality and flow regimes will occur. The period of storage will, to some degree, modify temperature, dissolved gases and suspended solids in the water.

Signage at Howson Dam & Bridge.

Additionally, any upstream municipal wastewater treatment facilities releasing undertreated and untreated wastewater into the river can result in extreme nutrient enrichment, creating a toxic brew within a reservoir, especially during the hot low flow summer season.

Conclusion:

Naturalizing the North Maitland River would meet several goals as set out in the Township of North Huron Strategic Plan – to be fiscally responsible, healthy and safe, and to have a natural environment that is valued and protected. Removing the dam would meet your environmental objectives, reinstate natural processes, allow transport of sediments downstream, remove a barrier to fish passage and boaters, lower water temperatures, improve water quality, improve fish habitat, restore the fishery to a more diverse and natural population, reduce flooding, increase public safety and improve the river's resiliency to climate change.

It would also be the most prudent and fiscally responsible option for the Township, for both the short and long term. The life-cycle costs associated with naturalizing the riverine ecosystem are significantly lower than to rebuild, avoids the substantial costs of the ongoing maintenance, and significantly reduces the Township's short and long-term liability.

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[2] National Observer, 8 May 2017, Here are the climate science benchmarks of the Quebec floods.
[3] Schindler, D.W., 2001. The cumulative effects of climate warming and other human stresses on Canadian freshwaters in the new Millennium. Canadian Journal of Fisheries and Aquatic Sciences. 58: 18-29.
[4] Schindler, D.W., 2001. The cumulative effects of climate warming and other human stresses on Canadian freshwaters in the new millennium. Canadian Journal of Fisheries and Aquatic Sciences. 58: 18-29.

ORA understands the pressure municipalities are under when communities rally to maintain their beloved mill ponds. However, it is up to all authorities and municipalities to take a leadership role that places public safety and landscape scale ecological integrity above local individual or group interests.

Anything we can do now to reduce that risk and any corresponding liability will be a positive for both local communities and the natural environment. Removing the dam would not only save taxpayer dollars, but it would also improve sediment transport which is vital to a thriving riverine ecosystem.

Lake Huron relies on its tributaries as spawning and feeding grounds for the numerous fish species that move throughout its region, contributing billions of dollars through its commercial and recreational fishery; and Canada and the US have been working collaboratively to find ways to improve water quality in the Great Lakes. Howson Dam is the first dam upstream of Lake Huron; therefore, naturalizing the North Maitland River would remove a barrier to fish passage, significantly benefitting its fishery, and remove an impoundment of water that would greatly improve water quality and natural flow into Lake Huron.

ORA is asking the Township to look beyond the pure aesthetics of the dam and pond feature, to the greater long-term health, vitality and resilience of a revived and healthy fishery and natural environment, both now and far into the future.

We submit, that neither the public good, nor the environment are served in a decision to rebuild and maintain the dam. Decommissioning the Howson Dam and naturalizing the North Maitland River would be a strong action for the Township to take in ensuring the river and adjacent communities are more resilient to climate change and, most importantly, it would demonstrate that protecting the safety of its citizens is its top priority.

ORA respectfully requests that the Township of North Huron's Reeve and Council move to fully decommission the Howson Dam and naturalize the river at your earliest opportunity. This would improve the health and resiliency of the North Maitland River, at the same time reducing public safety risks and liability.

We would be pleased to meet with you to discuss this further in the hopes of finding the best alternatives for the Township, local communities, and the North Maitland River.

Respectfully,

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