



**ONTARIO
RIVERS
ALLIANCE**

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20 June 2016

Dina Lundy, Clerk
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Re: Hillsburgh Dam and Bridge, Upper West Credit River, Hillsburgh

Dear Sirs:

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

ORA is pleased to comment on the options being considered by the Town of Erin (Town) for the Hillsburgh Dam and Bridge located along Station Street, approximately 150m west of Trafalgar Road, crossing the Upper West Credit River, in Hillsburgh. The Town has initiated a Municipal Class B Environmental Assessment to review the options and identify the preferred alternatives to both the deterioration of the bridge and a permanent solution for the dam.

ORA recommends either of Alternatives C or D, Option 2, offered in the Preliminary Comparison and Ranking of Alternatives chart for the following reasons:

Coldwater Brook Trout Fishery

The West Credit River is a headwaters tributary of the Credit River, and is highly valued as a coldwater brook trout fishery. Ontario fisheries contribute significantly to the economic and social fabric of the province, and bring in approximately \$2.2 billion annually to the Ontario



economy. Coldwater species are still widespread across Ontario ranges but some local populations of Brook Trout are now extirpated, and others have suffered declines.¹

ORA has partnered with Trout Unlimited Canada, Credit Valley Conservation, the Ontario Ministry of Natural Resources and Forestry, and the Izaak Walton Fly Fishing Club, on a project to decommission the Rudd Dam, just downstream of the Hillsburgh Dam. This 2-year project will remove a large portion of the earthen dam and rehabilitate 5,065 feet (1,544m) of unimpeded access to a high quality coldwater brook trout habitat. The West Credit River is important habitat for Brook Trout in the Credit River due to its ample groundwater discharge. This Project is part of the implementation of the Credit River Fisheries Management Plan (OMNR and CVC, 2002), a larger multi-species ecosystem-based recovery initiative.

The impact of a dam on a free flowing stream imposes changes to the basic hydrological characteristics of the watercourse. The velocity of the stream is reduced and subsequent changes occur in temperature, turbidity, sediment transport, stream ecology, and water quality. These modifications affect fish and other aquatic fauna directly and indirectly to varying degrees, depending upon the species.²

The brook trout fishery on the West Credit River has been significantly impacted through thermal warming by upstream dams that have blocked access to important habitat and spawning areas, making it less suitable for a cold-water fishery.

Decommissioning of the Hillsburgh Dam would improve water quality and temperature, and significantly expand the West Credit River coldwater fishery habitat.

Climate Change

Climate change will impose some of its greatest effects on both the long-term availability and the short-term variability of water resources in many regions of the province. These effects have already been felt in many areas through increased frequency and magnitude of droughts, extreme rain and flooding, destruction of infrastructure, amount of accumulated snowpack, and changes in soil moisture and runoff.

According to a new NASA and National Science Foundation funded study of more than half of the world's freshwater supply, climate change is rapidly warming lakes and rivers around the world, and threatening freshwater supplies and ecosystems.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 could place additional stress on riverine ecosystems, while more extreme rainfall will heighten the risk of dam failures (14 dams were breached in South Carolina flood in October of 2015) and rapid release of high volumes of water.^{5,6} *"Climate will interact with overexploitation, dams and diversions, habitat destruction, non-native species and pollution to destroy native freshwater fisheries."*⁷ We must recognize the hazards of infrastructure that would degrade water quality and water quantity, threaten our fisheries, or that jeopardize the ecosystem services that healthy rivers provide during times of drought and flooding.



The liability and associated costs presented by the Hillsburgh Dam in this changing and unpredictable climate must also be evaluated and considered when comparing and ranking the various alternatives.

ORA also submits that provisions for a 25-year flood do not adequately address the risk of flooding when Conservation Authorities are now moving to a 200 to 250-year flood event standard.

Town's Preliminary Preferred Alternative B

It was reported in a 3 June 2016 article in The Wellington Advertiser that “*of the seven options, the preliminary preferred option is to rehabilitate the dam and reconstruct the bridge*”, and that it “*ranked lowest for cost*”⁸. ORA would like to point out that the costs for this alternative should also take into account the full life cycle costs of operating and maintaining a dam, increased liability risks and costs, as well as the eventual costs associated with decommissioning.

As noted on your website, there has already been a dam failure necessitating emergency repairs, and with the extremes of climate change this and other even more serious issues could arise in the future. Dam owners have a fiduciary responsibility for public safety, and the costs of dam repair are ever increasing.

Decommissioning would remove a significant public safety risk, along with any associated liability issues, and dam operation and maintenance costs would be eliminated. These are all elements that must be included in any cost assessment of the various alternatives being considered.

ORA submits that Alternative B is a short-term solution that would place public safety and a valued cold-water fishery at long-term risk.

Conclusion

As the draft Natural Environment Report's analyses concluded, the two preferred alternatives are Alternative C, Option 2 and Alternative D, Option 2.⁹ ORA is in full agreement, and is therefore recommending that the Town of Erin choose Alternative C or D, to rehabilitate or reconstruct the Station Street Bridge, and to decommission Hillsburgh Dam. Either of these alternatives/options would decrease thermal warming, improve water quality, restore sediment transport and stream ecology, remove a barrier to fish passage, and provide for the long-term sustainability of a coldwater brook trout fishery. Additionally, ORA recommends Option 2, which would provide an offline pond/wetland to provide important habitat for significant and endangered species. An offline pond would also retain the natural heritage and cultural values for the community.

The EA process is designed to balance social, economic and environmental concerns. Option 2 of Alternatives C and D provide a win-win solution with a pond feature, wetland habitat, restoration of coldwater fish habitat, reduced liability, and the lowest cost.



"Climate change is the critical issue of our time."¹⁰ Healthy rivers are the key to successful adaptation to the extremes of climate change. There is an urgent need to integrate climate change into water protection strategies and policies.

There are a number of grants available for dam removal projects, and ORA would be very pleased to help the Town raise the necessary funds for the decommissioning of Hillsburgh Dam.

Thank you for this opportunity to comment!

Respectfully,

Linda Heron
Chair, Ontario Rivers Alliance
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cc: Ian Hagman, District Manager, OMNRF – Ian.Hagman@ontario.ca
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¹ Ontario's Provincial Fish Strategy: Fish for the Future. OMNRF, Fisheries Policy Section. ISBN #978-1-4606-5622-8 (PDF)

² Metcalfe, R.A., Mackereth, R.W., Grantham, B., Jones, N., Pyrcce, R.S., Haxton, T., Luce, J.J., Stainton, R., 2013. *Aquatic Ecosystem Assessments for Rivers*. Science and Research Branch, Ministry of Natural Resources, Peterborough, Ontario. 210 pp. 1.5.

³ [Study: Climate Change Rapidly Warming World's Lakes, 16 December 2015.](#)

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.

⁵ [Dams fail, death toll rises as flood flows east in Carolinas.](http://wbw.com/2015/10/08/dams-fail-death-toll-rises-as-flood-flows-east-in-carolinas/) <http://wbw.com/2015/10/08/dams-fail-death-toll-rises-as-flood-flows-east-in-carolinas/>

⁶ [Colorado flood: Dams break in Larimer and Adams counties; overflowing in Boulder.](http://www.denverpost.com/environment/ci_24080336/dams-break-at-rocky-mountain-arsenal-and-larimer) http://www.denverpost.com/environment/ci_24080336/dams-break-at-rocky-mountain-arsenal-and-larimer

⁷ 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.

⁸ [Station Street bridge, dam options range from \\$2 million to \\$4.2 million.](#) *The Wellington Advertiser*, by Olivia Rutt, Vol 49, Issue 23, June 3, 2016.

⁹ Draft – Hillsburgh Dam, Town of Erin, *Environmental Assessment: Natural Environment Report*.

¹⁰ Ontario's Climate Change Discussion Paper 2015, *Minister's Message*, Glen Murray, Minister of Environment and Climate Change. P-3.