



Rocks, Water and Climate Change

by Linda Sword and Doug Tripp

The trees are gone. What was approximately forty hectares of managed pine woodland, wetland, and habitat has been replaced by yet another scar in the landscape and the noise, dust and disruption to natural water courses caused by a limestone quarry operation. All of this is only partially hidden from view by one of those ubiquitous berms that are a hallmark of the Niagara Escarpment region. It's hard to hide the trucks though; a 15 to 25 tonne gravel truck—perhaps with a pup trailer or a semi-trailer—pounds its way along Highway 7 through downtown Acton to and from the quarry every two minutes or so. And in Rockwood and Nassagaweya it's impossible to ignore the blasting and stone-crushing. The water-saturated limestone formations that characterize the area provide an effective transmission route to the foundations of hundreds of homes and century-old farmhouses for vibration from the below-water-table blasting that occurs regularly in this quarry. The noise from stone-crushing on the site has been likened by some to the rumble of a nearby train. Intrusion into the fragile hydrogeology has had its anticipated impact on the wells and surface water that used to be bountiful and beautiful features of this area.

None of this has happened—yet. However, the so-called Rockwood Hidden Quarry application by James Dick Construction Ltd. (JDCL) aims

to make this a reality. The distressingly common conflict between aggregate extraction and an increasingly fragile environment in Southern Ontario has become a fact of life in quiet, rural Rockwood. While not strictly within the bounds of the besieged Niagara Escarpment and just 50 metres from the Greenbelt, this quarry operation would dig into the Paris-Galt Moraine, which, because of its relatively permeable surface geology, supports regional coldwater streams and wetlands all the way from Caledon to Norfolk County. Other significant aggregate extractions are already putting pressure on the Moraine and its water resources, and the effects of climate change will only exacerbate the problem.

Albert Einstein is said to have defined insanity as “doing the same thing over and over again and expecting different results.” There is lots of evidence in Ontario's headlong rush to maximize aggregate extraction that continuing to dig into groundwater aquifers and protective aquitards causes lasting damage to these fragile water resources. Notwithstanding the spurious assertion by JDCL's representatives that quarries are friendly to water resources, one wonders whether Hidden Quarry is further proof of Einstein's definition.

So, do we really need more rocks? It was stated in a recent CBC radio interview by retired Ontario government Ministers Ruth Grier and Bill Saunderson in reference to the Melancthon “mega-quarry” proposal, that Ontarians consume 14 metric tonnes of aggregate per capita each year, while in the UK the consumption is only 4 metric tonnes per capita, due largely to aggressive recycling, substitution and conservation policies. Only about 7% of Ontario's aggregate is recycled, well behind more progressive jurisdictions. Regardless of that woeful statistic, analysis by Dr. Larry Jensen, a retired geoscientist from the Ontario Geological Survey found that it would require 13.25 years for Ontario to consume one year's full production from all the existing licensed pits and quarries—that is, Ontario's Ministry of Natural Resources has already licensed approximately 13.25 times the annual aggregate requirement for Ontario. With this supply surplus, the Province is able to export a significant amount of aggregate. So, why is JDCL applying for another licence? Well, the Ontario Aggregate Resources Act does not require the applicant to show need for the rocks they are going to mine, and, as always, the ultimate answer to the question is money—in this case, into JDCL's pockets.



Water, water everywhere, and nary a drop to drink! In a 2012 survey of Ontarians about groundwater protection, 60% of respondents said they were concerned or very concerned about groundwater levels. There is good reason for concern in Nassagaweya, Rockwood and the Guelph-Eramosa Township in which JDCL's Hidden Quarry site resides.

Today, the filtration properties of the moraine and the porous nature of the local rock formation are excellent natural water conduits, both cleansing and protecting the water supply. Whereas municipal wellheads are identified and marked for protection under the Clean Water Act, the many private spring-fed and drilled wells surrounding the site are not individually designated and these crucial water sources would be at risk of re-direction and/or contamination.

The proposed site, located very close to the top of the Grand River watershed, features a significant wetland. To the northeast of the site, wetlands and ponds dot the countryside, linked to the creek which transects the site. The creek appears dry on the surface in the summer, but in fact continues to flow underground, feeding a significant spring and pond just 150 metres to the Southeast, as well as other springs. These upper watershed waters collect in the cold-water Blue Springs Creek, which joins the Eramosa River at Eden Mills and flows on to Guelph and the Grand River.

As a consequence of blasting below the water table and excavating a very large water holding quarry, the proposed operation has the potential to divert and contaminate natural groundwater flow, the impact of which will reach well beyond the site itself. The impact of Hidden Quarry is not in any way isolated.

Warm, isn't it! By mid-century, according to Ontario's Environmental Commissioner's 2010 report, Southern Ontario will experience an average 2.6 degrees Celsius warming in the summer with consequent increased pressure on groundwater resources. Since residents of Guelph and Guelph-Eramosa already experience summer water shortages, this projection does not bode well for the future.

To sustain our water supply, it is estimated that 30 to 33% of land area requires tree cover. Despite Wellington County's unique and impressive tree planting project, Wellington Green Legacy, tree coverage remains at about 17%. The proposed County Official Plan identifies rural woodlands over four hectares—far smaller than the 25 hectares of woodland that would be removed by the Hidden Quarry operation—as significant and worthy of protection. Of course, trees are also one of the planet's great carbon sinks, absorbing and sequestering tonnes of CO2 and mitigating climate change. Can we afford to reduce tree cover for aggregate?

Ontarian's might be forgiven for believing that we have an abundance of water. However, Environment Canada (Threats to Water Availability in Canada) states that "In Canada . . . all freshwater sources are now under noticeable pressure in the face of growing domestic requirements, and other, sometimes conflicting, demands. Climatic variability, extreme climatic events, and the spectre of climate change also threaten Canada's sources of freshwater." The "cautionary principle", which many climate change experts embrace, would say about the Rockwood quarry that we need to put a priority on the protection of the water resources that we know are there in view of the very likely destructive impacts of the quarry operation coupled with the growing threats posed by climate change.

The rocks that would be extracted from the Rockwood quarry, the water that flows through the site, and the inevitable impact of climate change on water resources are inextricably linked. It is high time that sanity prevailed so that we can protect the environment with which we are blessed, both natural and cultural, and ensure that it is sustained for the generations who will follow us.

Linda Sword and Doug Tripp are members of the Concerned Residents Coalition (CRC), a Rockwood community group formed to advocate on issues pertaining to the Hidden Quarry application.

