MEMO

To: Residents of the Village of Portland
From: Dr. Paula Stewart, Medical Officer of Health, Leeds, Grenville and Lanark District Health Unit
Date: June 10, 2014
RE: Interpretation of the research paper “Anthropogenic Impacts of Bedrock Aquifer at the Village Scale”

I have had a chance to discuss the research paper “Anthropogenic Impacts of Bedrock Aquifer at the Village Scale” with one of the lead researchers on the paper, Kent Novakowski, a professor at Queen’s University. Based on this additional information it is now possible to assess the relevance of the study to the residents of the Village of Portland.

Referring to the wells used in the study and the nature of the aquifer, Mr. Novakowski said:

“The study was conducted using dedicated monitoring wells and not domestic wells. Monitoring wells are designed to capture the raw water quality in the bedrock aquifer. Most domestic wells are cased differently (i.e. to greater depth) and have significant infrastructure between the source and the tap that might impede or eliminate the progress of bacteria through the system.

Bedrock aquifers are the most complex of all groundwater sources. The pathways that water follows from the surface to the fractures at depth are complicated by fracture intersections, fracture closure and differences in rock type. In addition, conditions change from season to season, and the pathways may change direction or ebb and wane. For a well to receive bacteria, the well must fall directly in the pathway and access primarily that fracture.

The bedrock aquifer underlying Portland is very typical of many settings in eastern North America. There are numerous villages in eastern Ontario in particular, lakeside and non, which are served by bedrock aquifers which have little overburden protection. There is no reason to believe that the conditions beneath these other settings are any different than Portland."

The study did not assess the quality of the drinking water from wells currently being used by the residents of the Village of Portland, and it cannot generalize the findings on the quality of the water from its wells to the wells of the residents.

The Public Health Unit reviewed water samples from three wells monitored for several years by the Ministry of the Environment and from seven wells monitored by the Health Unit under the Small Drinking Water System program of the Ontario Ministry of Health and Long-Term Care.
All but one well consistently produced untreated water from the aquifer with no evidence of bacterial contamination. The one with a water problem had a faulty well that needed correcting. This supports that properly constructed and maintained wells in the village can provide safe water for drinking.

The study does provide valuable information about the aquifer under the Village of Portland. The study shows it is vulnerable to contamination from septic systems, agricultural run-off etc. Therefore a key message from the study is that it is very important for everyone to do what they can to protect the aquifer. Ensuring septic systems are well maintained and decommissioning old wells that provide a passageway for contaminants into the aquifer are two important measures. The Rideau Valley Conservation Authority (RVCA) is currently offering a 90% grant up to $1000 to decommission unused wells. For more information contact the Rideau Valley Conservation Authority’s Land Owners Resource Centre for more details and project eligibility – 1-800-267-3504 extension 1128 or 1132. 

Perhaps the most important value of this research paper is that it reminds us that we cannot take drinking water for granted. Every well owner can ensure their own well is well constructed and maintained, and sample it regularly to ensure the water is safe to drink.

If you have any questions about your well water please check out the Health Unit website www.healthunit.org or contact us at 1-800-660-5853 to speak to a public health inspector.