

Expert urges caution on Great Lakes water diversion plan

April 12 2016, by Cory Nealon

A plan in Wisconsin to divert drinking water outside of the Great Lakes basin appears sound, but it could set a dangerous precedent, says Joseph F. Atkinson, director of the Great Lakes Program at the University at Buffalo.

The lakes contain about 6 quadrillion gallons of water, or roughly 20 percent of the world's fresh surface water.

The Great Lakes-St. Lawrence River Basin Water Resources Compact, a 2008 agreement signed by eight Great Lakes states and the Canadian provinces of Ontario and Quebec, prevents the siphoning of water outside the basin. But the compact allows communities in so-called "straddling counties" – those which are partially located within the basin – to apply for a water diversion permit.

The City of Waukesha, Wisconsin, is located within a straddling county – also called Waukesha. Because the city's water source is tainted with radium and other contaminants, it is seeking to divert roughly 10 million gallons per day from Lake Michigan. Waukesha's mayor says the city would replenish the basin with the same amount in the form of treated wastewater.

To receive the permit, governors from each state in the compact must sign off. They are expected to cast their votes on or near May 23.

Waukesha's water contamination problem is serious and needs to be

remedied in a manner which is both economically and ecologically sensitive, says Atkinson, PhD, a professor in UB's School of Engineering and Applied Sciences, and expert in water quality modeling and environmental hydraulics.

The city's plan could be a viable solution, he says, provided all environmental concerns are addressed and the same amount of treated wastewater is returned to the basin.

"They are addressing the water quantity issue, which is important," says Atkinson, also a member of UB RENEW, an interdisciplinary research organization that tackles pressing global issues.

Still, he is concerned that approving the permit could set a dangerous precedent for future water diversions requests – not all of which may be ecologically sound. Great Lakes water levels are generally stable, but there are many unknowns related to changing climate that make it difficult to predict future conditions, he says. They include:

- Increasing average annual temperatures in the Great Lakes region.
- The annual period of time of Great Lakes ice cover has been decreasing, while air and water temperatures have been rising.
- Lake evaporation has been increasing. Note: studies indicate this has been offset with increased participation in the Lake Michigan-Huron basin, but not in the Lake Superior [basin](#).

Declining water levels could negatively impact industries such as commercial shipping, hydroelectric power generation, and recreational boating and fishing, Atkinson says.

"Given all the uncertainties, especially those relating to climate change, we don't really know what future [water](#) supplies in the Great Lakes will

be," he says.

Provided by University at Buffalo

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