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New Waukesha lake diversion documents tout benefits to Great Lakes

City seeks lake source to replace tainted well water

By [Don Behm](#) of the Journal Sentinel
Oct. 14, 2013 4:00 a.m.

The Great Lakes and Root River would benefit if Waukesha is allowed to buy Lake Michigan water and abandon wells drawing groundwater from depths of more than 800 feet below ground, city water utility officials say Monday in a revised request to tap the lake for its water supply.

Waukesha would gain a radium-free water source if the eight Great Lakes states permit it to switch from deep wells to the lake. The city is under a June 2018 court-ordered deadline to meet stringent federal standards for radium-safe drinking water.

Shutting down Waukesha's wells drawing water from a deep sandstone aquifer would help restore natural flows of groundwater toward the lake, Water Utility general manager Dan Duchniak says in documents to be delivered Monday to the state Department of Natural Resources.

Excessive pumping of the sandstone by Waukesha and other communities in southeastern Wisconsin and northeastern Illinois is pulling groundwater away from the lake and reversing the natural direction of the flow, according to studies cited in the request.

And Waukesha's plan to return 100% of the volume of water it buys from Oak Creek would ensure there is [no impact on lake levels](#), Duchniak said.

Discharging the city's treated wastewater [to the Root River](#), a tributary of the lake, will increase the stream's base flow, enable more fish from the lake to swim up the river and boost fishing opportunities, the utility and its consultants concluded. The river empties into the lake at the harbor in Racine.

The added depth also would boost the spring spawning run of steelhead, or rainbow trout, and fall spawning runs of coho and Chinook salmon and brown trout, the applications says.

Waukesha is the first community in the United States located entirely outside the Great Lakes basin to request a diversion of water under terms of a 2008 Great Lakes protection compact.

Environmental groups and public officials throughout the Great Lakes region are watching the precedent-setting application because it will set the standard for future requests. Several environmental groups question Waukesha's need for lake water and suggest the city could

develop additional wells to meet their needs.

In its revised request, the city is asking Wisconsin and the other seven Great Lakes states to approve its request to divert up to an average of [10.1 million gallons of water a day](#) from Lake Michigan by mid-century.

The volume of water needed by Waukesha in 40 years or so is 7.3% less than the average of 10.9 million gallons a day estimate included in a [May 2010 draft request](#) submitted to the DNR.

The reduced volume is based on a recent analysis showing greater impact of conservation strategies on residential water use and less development potential in a future municipal water service area, according to revised documents.

Waukesha projects its customers will [reduce water demand by 10%](#) — about 1 million gallons a day — by mid-century through conservation measures.

Public meetings planned

The water utility will schedule four public information meetings in November on the revised request, Duchniak said. Dates and times of meetings to be held in Waukesha, Oak Creek, Racine and Milwaukee were not yet available.

Since May 2010, the city has responded to multiple requests for additional information and analysis from the DNR. Final documents also were delayed as Waukesha updated its comprehensive water conservation plan to conform to new state regulations, Duchniak said.

In that time, Waukesha negotiated a [water purchase deal with Oak Creek](#) and bought an option to purchase land in Franklin along the Root River in the event the eight states approve the diversion request.

The 60-acre property is a possible location for Waukesha to end a pipeline carrying treated wastewater to the river so it could be returned to the lake, as required by the compact.

"I am delighted, after having met with the leaders of Oak Creek and signed the letter of intent to purchase water from Oak Creek back in November of 2012, that Waukesha's application for clean and sustainable water from Oak Creek appears to be complete and moving forward," Waukesha Mayor Jeff Scrima said.

The city can guarantee 100% of the water is returned to the lake, according to Duchniak. Though 8% of the city's treated drinking water generally is not returned to the sewage treatment plant, leaks of groundwater and storm water into sewers make up for the loss.

The compact prohibits diversions of water outside the Great Lakes basin. Waukesha is 1.5 miles — about 7,920 feet — west of the subcontinental divide separating the Great Lakes and Mississippi River drainage basins.

But there is an exception to the prohibition that fits Waukesha: A municipality outside the basin can ask for Great Lakes water if it is in a county straddling the basin divide. Waukesha County straddles the divide.

To be granted an exception and permitted to tap the lake, Waukesha must convince the eight

Great Lakes states that it does not have a reasonable water supply alternative on its side of the divide.

Waukesha gets about 85% of its water supply from the deep sandstone aquifer, with the remainder from shallow wells, but declining water levels and increasing radium concentrations at greater depths show the sandstone aquifer is not a sustainable source, according to studies done since the early 1990s.

In a separate regional water supply study, the Southeastern Wisconsin Regional Planning Commission recommended the city [switch to a lake supply](#) for the same reasons.

Building additional shallow wells also is not sustainable since they would pull groundwater away from streams and wetlands and harm those natural resources, the city says in its application. Arsenic contamination was found in tests of water from several proposed shallow wells south of the city.

Waukesha consultants evaluated 14 possible sources or combinations of sources and concluded that a lake supply is the only reasonable alternative. All others would come with adverse environmental impacts and are less protective of public health, Duchniak said.

Tight timeline

Duchniak told the Great Lakes Commission last month that pipeline construction would need to begin in mid-2015 for the city to meet the 2018 deadline for distributing radium-safe water.

The window is closing on Duchniak's construction start date.

Eric Ebersberger, the DNR's water use section chief, said Friday it will take the department at least three months — to mid-January at the earliest — to [publish a draft environmental impact study](#) and a separate draft technical review on whether the proposal complies with compact requirements.

Public hearings and a comment period would follow. Revising the drafts and making a final decision on whether the proposal could be approved under the compact will take the DNR until May 2014, Ebersberger said.

If the department determines the request is approvable, it would be forwarded to the other seven Great Lakes states, along with the Canadian provinces of Ontario and Quebec.

After those states and provinces review the proposal for compliance with the compact, the eight states would vote on the request, a process that could take six months. The compact requires the tally to be unanimous.

By that time, Duchniak's calendar will be showing December 2014, just six months shy of his construction start date.

Approval of Waukesha's request would not set a precedent for diverting Great Lakes water to Las Vegas or even Madison, Duchniak said.

"The compact prohibits Great Lakes water from going anywhere beyond straddling counties," he

said.

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Read [a question and answer sheet](#) prepared by Waukesha Water Utility officials regarding Lake Michigan diversion request.

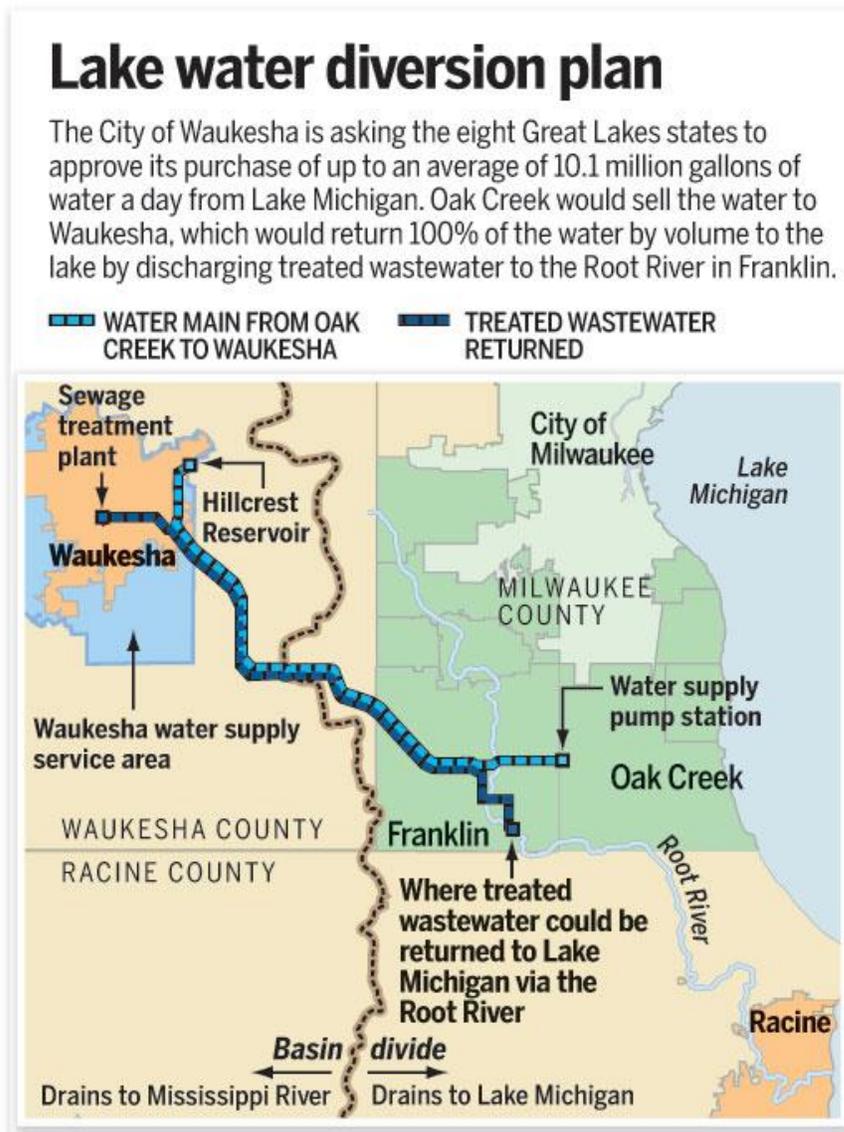
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Journal Sentinel