Study: Deep aquifer to drop 200 feet in 50 years

Aquifer

Lake Michigan diversion is only reasonable alternative, Duchniak says

By Matt Masterson

Freeman Staff

WAUKESHA — With modest increases in regional water use, modeling shows the deep aquifer will drop 200 feet over the next 50 years in parts of Waukesha, Milwaukee, Ozaukee and Washington counties, according to a new analysis.

The consulting firm of Leggette, Brashears & Graham recently completed a study of water levels in southeastern Wisconsin's sandstone aquifer, which found a recent increase in deep aquifer levels from 2000 to 2010 was temporary and has ended. "As a region, southeastern Wisconsin is continuing to pump out groundwater faster than it is replaced by rain and snow. It is environmentally unsustainable," Waukesha Water Utility General Manager Dan Duchniak said in a statement. "If you care about the groundwater and the surface water environment it is connected to, Waukesha needs to stop using the aquifer."

The analysis was conducted by Dr. John Jansen, a hydrogeologist with Leggette, Brashears & Graham, and shows regional pumping from the deep aquifer dropped 49 percent from 2000 to 2010. This was due to municipalities

See **AQUIFER,** PAGE **8A**

From Page 1A

switching from the deep aquifer to shallow aquifer wells or to Lake Michigan water supplies, as well as the economic recession.

According to the study, water levels in the aquifer rose approximately 50 to 100 feet from 2000 to 2010. The city and the Department of Natural Resources sought to explain the cause of that recent rise and predict future trends in the aquifer.

The city of New Berlin, for instance, switched to Lake Michigan water and its regional reduction in pumping allowed the aquifer levels to increase approximately 50 to 100 feet during that time.

Duchniak reiterated his belief that Waukesha's only reasonable alternative is to divert water from Lake Michigan, and said these results back that solution. The city is in the midst of a years-long application process seeking to do just that.

"That is where we will be able to recycle and reuse 100 percent of the water, having no impact on the Great Lakes, and it's sustainable for the long term," Duchniak said. "In our minds it would protect the Great Lakes for the long term because it would be setting a positive precedent on applications and how withdrawals are approved."

Opponents of that plan have argued that treating aquifer water for radium and increasing pumping levels would satisfy the city's water needs.

According to the utility's statement, the 100-year trend of decreasing aquifer water levels of as much as 500 feet led the city to seek a new water supply under the Great Lakes Compact. Recharge of the current water supply from rain and snowmelt is restricted due to a layer of hard shale rock over the deep aquifer.

At a higher aquifer pumping rate used by regional planners, groundwater levels would decline more than 300 feet in portions of Washington and Ozaukee counties and more than 200 feet in much of Milwaukee County, as well as significant portions of Ozaukee, Washington and Waukesha counties, according to the statement.

The DNR issued draft copies of its technical review and environmental impact statement on the city's Lake Michigan diversion application.

Final copies of those documents are expected to be released sometime this month before further review is conducted by the eight Great Lakes states and two Canadian provinces next year.

In an email to The Freeman, DNR Communications Section Chief Jennifer Sereno acknowledged her department received updated analysis from the city, but declined further comment.

Milwaukee Riverkeeper — a member of the Compact Implementation Coalition, which opposes the city's diversion plan — also said in an email the CIC was still reviewing the updated information and expected to have a full response "in the very near future."

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03.12.2015 Pag.A01