



ENVIRONMENT

Georgia should tighten timeline for replacing wells to serve Hyundai site, critics contend

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More than 36 billion gallons.

That's how much water four proposed Bulloch County wells, if pumped at permitted capacity, would withdraw from the Floridan Aquifer and send to Hyundai Motor Company's electric vehicle and battery manufacturing site over a 15-year period.

Why does the 15-year timeframe matter? It represents the difference between how long the state plans on giving Bulloch and Bryan counties to tap into a surface-water source to replace the wells, and the amount of time the regional planning authority that negotiated the Hyundai deal says such a project would take to be completed.

Taking that long would result in a decade-and-a-half more of pumping a projected 6.6 million gallons per day near an area already under state withdrawal restrictions to prevent further saltwater intrusion into the underground reservoir.

It also lengthens the period that nearby property owners face the risk of seeing their own wells stop working as the Floridan grows shallower within the so-called cone of influence around the extraction sites.

Among the state's proposed conditions for permitting the wells is the creation by both counties of a fund to help property owners within a five-mile radius of the extraction site who experience "unreasonable impacts" from lower aquifer levels.

The pool stands at \$750,000, with Bryan, Bulloch and Savannah Harbor-Interstate 16 Corridor Joint Development Authority each agreeing to chip in a quarter-million dollars.

Experts: Feds should have known – and been told – of water demands for Hyundai site

Why 25 years?

In its proposed permits for the quartet of wells, the Georgia Environmental Protection Division plans on giving the two counties 25 years to replace what they take from the subterranean aquifer with water from a source at the surface – a timeframe suggested by Bryan County itself in a Sept. 1, 2022 letter to Anna Truszczyński, chief of EPD's Watershed Protection Branch.

“In an effort to mitigate potential long-term effects, if any, to coastal saltwater intrusion into the Floridan Aquifer, Bryan County will stay committed to working with the surrounding governmental agencies in order to identify and pursue the extension of an alternative water source into Bryan County within the next 25 years,” County Engineer Kirk Croasmun wrote.

The letter offers one solution: A connection, following the Interstate 16 corridor, to the City of Savannah's Industrial and Domestic Water Treatment Plant in Effingham County.

When asked why it settled on the quarter-century requirement, EPD noted the complexity of such a major undertaking.

“Conveyance of treated water to the receiving parties, coordination among various parties and funding for all infrastructures involved will need time,” spokeswoman Sara Lips explained in an email.

But nowhere near 25 years, according to a key official at the center of the negotiations that ultimately landed Hyundai's \$7.6 billion project – the largest-ever economic development investment in Georgia.

Obtaining the necessary permits, completing design work and constructing a connection between the city's treatment facility and the Hyundai megasite would take about 10 years and cost up to a half-billion dollars, said Trip Tollison, who leads the Savannah Harbor-Interstate 16 Corridor Joint Development Authority.

The same process for the new wells will cost \$115 million to \$120 million and take three years, he added.

That option better matched Hyundai's aggressive timeline to get the manufacturing

complex up and running at full capacity, at which point it plans to employ 8,500 workers and assemble 350,000 vehicles per year.

Impact on aquifer

Bryan County, bound by a joint development agreement to supply water for the nearly 2,500-acre site, is going to Bulloch for the added capacity because Bryan is subject to state withdrawal limits aimed at limiting saltwater intrusion in the aquifer near Savannah.

EPD estimates the depth of the Floridan will drop by as much as 19 feet near the extraction sites and that private wells could decline by up to 15 feet.

The state's acknowledgment of the new wells' expected impact — including the mandated mitigation fund — should inspire a prompt pivot to Savannah's system, critics suggest.

“Every day that these wells operate will place millions of gallons of additional strain on our primary source of potable water,” said Meaghan Gerard, spokeswoman for the Ogeechee Riverkeeper organization, which has threatened to sue the U.S. Army Corps of Engineers for not considering the project's impact on drinking water before issuing a key environmental permit.

Experts who have studied the Floridan for decades also have found that extensive pumping “pirates” water from other parts of the underground reservoir, which covers more than 100,000 square miles beneath all of Florida and parts of Georgia, Alabama and South Carolina. The resulting impact on the aquifer's horizontal movement affects the flow to springs that feed streams at the surface, they concluded.

Aquifer depths also have declined over the past quarter-century as pumping from the Floridan exploded, researchers noted in the June 2021 edition of the *Journal of Hydrology: Regional Studies*.

Wells serving farms dominate aquifer demand in southern Georgia, researchers reported, adding that statewide, the number of acres irrigated surged by about 2,000 percent, from more than 42,000 acres in 1976 to 936,000 acres in 2013.

“High levels of irrigation have been shown to cause aquifer storage loss, changes in groundwater flow (such as) gaining stream to losing stream, decreases in stream baseflow and decreases in aquifer recharge,” the researchers said.

The 2020 study and another published in 2021 also found that water flow levels in the Ogeechee River declined over the same period that pumping surged and aquifer levels fell.

Feds: Endangered fish 'vulnerable to disturbance' from wells for Hyundai's Georgia site

'The Savannah is a big river '

Savannah says its treatment plant produces about 14.5 billion gallons of water per year, which equates to roughly 40 million gallons per day.

That means potentially shifting output from the Bulloch wells to the Savannah treatment plant would result in an increase of 16.5% in the system's capacity.

The city draws its water from Abercorn Creek, which feeds the Savannah River.

The source, says Rhett Jackson, John Porter Stevens Distinguished Professor of Water Resources at the University of Georgia's Warnell School of Forestry and Natural Resources, is what makes Savannah's system the preferable choice over the Floridan.

"It's simply that the Savannah is a big river and taking that amount of water won't make any difference to the ecology or function of the river," he explained.

A spokesman for the city stressed that there have been no talks about extending Savannah's water system to the Hyundai campus.

'Sooner rather than later'

In an opinion column for the Savannah Morning News, Tollison, head of the Savannah Harbor-Interstate 16 Corridor Joint Development Authority, notes that the organization "has been developing this site" since 2014.

"In the long-term, the groundwater withdrawals from the wells serving (Hyundai) will be replaced with surface water and potentially other viable alternative water sources," he adds. "We are actively planning this infrastructure now and know it will be necessary to begin work sooner rather than later."

However, for a project supported by more than \$2 billion in state and local incentives, making the connection to Savannah's system part of the decade-long development process would have made the wells only a stop-gap solution while ensuring a reliable surface-water

source for projected industrial and residential growth around Hyundai's manufacturing complex, critics argue.

"The (state's) 25-year timeline fails to communicate the urgency needed for sustainably expanding the region's water supply," said Gerard, the Ogeechee Riverkeeper representative.

Want to weigh in?

The Georgia Environmental Protection Division is accepting public comments on its proposed permits for four Bulloch County wells to serve Hyundai Motor Company's Bryan County manufacturing site until Aug. 20. To comment, send an email to EPDComments@dnr.ga.gov.

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