

News

HRSD pitches plan to replenish groundwater aquifer

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JAMES CITY — The water that goes down the drain usually ends up in the ocean, but if the Hampton Roads Sanitation District gets its way, some of it may end up underground.

Doing so may help replenish the aquifer officials at the Virginia Department of Environmental Quality say has been depleted, and HRSD's idea may ease some of the regulatory water-use restrictions looming for localities like James City County that use groundwater.

But the project will be expensive.

In a presentation to the Board of Supervisors on Tuesday, HRSD General Manager Ted Henifin told county officials the initiative would help combat depletion of the aquifer.

"We're all concerned from a groundwater supply standpoint. Water level continues to fall," Henifin said.

The groundwater pulled up from the aquifer used by James City County and many localities and businesses across Eastern Virginia has not replenished adequately, according to DEQ studies. Henefin likens the aquifer to a "great lake" sitting beneath the ground.

James City County draws nearly 5 million gallons per day from the aquifer for county residents, and other industries use even more, like the paper mill in West Point which at times pumps more than 20 million gallons per day from the aquifer. The aquifer, which is refreshed by rainwater, has seen its water levels drop significantly in recent years, according to DEQ.

In his presentation Tuesday, Henifin said in the early part of the the 20th century water would automatically come out of the ground as high as 32 feet above sea level, but now the water level has dropped on average to nearly 200 feet below sea level.

Now, sewage from James City County is treated by the sanitation district and released into local rivers and the Chesapeake Bay as effluent, which is just below potable standards. Henifin said under the new initiative, which is still being explored in a pilot stage, the effluent would be treated to drinkable water standards and then injected back into the aquifer.

"We'll take our effluent, which is very high quality, treat it to drinkable standards and put it in the ground. We have to do that because too many people pull that water directly out of that aquifer and drink it untreated. It's something that can easily be done from a technology standpoint," Henifin said.

To start, the sanitation district wants to build a demonstration project, that would pump between 1 to 4 million gallons per day back into the aquifer.

The eventual goal will be to pump 120 million gallons per day into the aquifer by 2030. It would take six or seven plants to conduct the operation, and the project would cost an estimated \$1 billion, with \$20 million to \$30 million in annual operating costs.

The project costs would be offset in part, with localities paying what HRSD calls a "reasonable groundwater withdrawal fee."

HRSD would have to seek approval from three agencies, the Department of Environmental Quality, the Virginia Department of Health and the EPA.

James City County Board of Supervisors Chairman Michael Hipple said he is receptive to the idea, although he has concerns.

"I think we need look at replenishing the aquifer," Hipple said.

"It worries me at times just to make sure what we're putting in there is right and it doesn't damage our natural water source," Hipple said. "That's my only concern. But trying to replenish the aquifer with water we have, I think it's going to give us more of what we need for the future."

The proposal from HRSD comes as the Board of Supervisors is considering a range of options to deal with cuts the DEQ wants it to implement to allow the aquifer to recharge.

Right now, the county is permitted to draw as much as 8 million gallons per day, but DEQ wants to cut that number in half.

That reduction would require the county to look elsewhere to meet its water needs. Supervisors are looking at the possibility of drawing surface water from the Chickahominy River – which would also have to get DEQ approval. The cost of a desalination plant to treat that water would total around \$120 million.

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