

Del. draining water supply, study finds

Corp of Engineers assessment could force restrictions on NCCo development

By JEFF MONTGOMERY, The News Journal

Posted Saturday, February 10, 2007

Wells in central New Castle County are removing groundwater "at or beyond sustainable levels," drawing water away from Maryland and New Jersey and diminishing streams in some areas, according to a draft report now under study by state regulators.

The Army Corps of Engineers assessment -- nearly a decade in the works -- could force Delaware to restrict development, close areas to new wells, work more closely with its neighbors and possibly reconsider well locations, according to some who have seen the document.

"There are difficult issues here, because the aquifer is clearly at its maximum yield capacity," said Stewart Lovell, water supply manager for Delaware's Department of Natural Resources and Environmental Control.

The corps study relied on a computer model of groundwater levels and well pumping in an oval-shaped zone that included all of Delaware and portions of Maryland and South Jersey.

Groundwater provides about 30 percent of the county's needs north of the Chesapeake & Delaware Canal and virtually all supplies to the south. Among the findings in the corps study:

- Delaware wells are sucking enough groundwater under the border from some nearby areas of Maryland to violate that state's limits on pumping.
- Parts of the deeper Potomac aquifer appear to be permanently losing water, according to findings near Lums Pond.
- The draw near Pea Patch Island -- heavily influenced by industrial use -- might be pulling salty water from the Delaware River farther into the aquifer, potentially causing lasting damage.
- Some streams north of the canal may have lost as much as two-thirds of their dry-season flow to well demands.

Lovell said that the relatively slow pace of change in deep layers of water-bearing sand, or aquifers, "does give us an opportunity to make any adjustments that might be necessary."

Public water supplies overall are adequate and improving, Lovell added, because of ongoing water storage and drought-preparedness efforts, such as the completion of a new reservoir to supply water to Newark.

Wilmington also is making plans to add an extra two feet to Hoopes Reservoir, giving it extra reserves when Brandywine Creek runs low.

But most of the high-growth regions in northern Delaware depend on aquifers. The corps findings, obtained through a public records request by The News Journal, point to weaknesses in the state's growth and resource management policies.

"It shows that we're behaving as if our natural resources are infinite, when in fact we're drawing them down," said Alan Muller, executive director of Green Delaware.

Muller said officials need to explore the risk that altered groundwater flows have spread contamination, especially in the heavily industrialized and contaminated area along the Delaware River south of New Castle.

Skeptical

One top official with Artesian Water Co., the state's largest private residential water supplier, said that his company questions some of the conclusions. Artesian ranks as the largest single well operator in the study area.

"We see nothing to support statements regarding a long-term lowering of water levels, from our data," said Bruce P. Kraeuter, Artesian's vice president for planning and engineering. "We need to take a good, hard look at the document."

For years, Delaware has relied heavily on Artesian's experience and estimates of groundwater availability when allocating water rights to the company, one of the state's fastest-growing.

Leeann Ferguson, a member of the Southern New Castle County Alliance, said the Army Corps of Engineers report bears out concerns about water supply management that her group has raised for years. Ferguson has opposed Artesian's efforts to tap south county aquifers for northern needs.

Water "is a public trust resource. I feel very strongly that we have been sold out to a great degree," Ferguson said. "I think we're much further down the road than any of us had really realized, in terms of using up what is available."

"We've been sold out in a retail government mode, and have allowed private companies to profit mightily at our expense," Ferguson said, noting that the findings should be taken into account by land-use planners.

Overall, the corps study pointed out, 20 percent of water taken by wells in the area is pulled in from Maryland and New Jersey, a "dramatic" reversal of normal flows in some areas. Enough groundwater flow is pulled away from border states to meet the needs of 29,000 people, the report indicated.

The pumping also diminishes the "base flow" water that trickles out of the ground and keeps streams and rivers across the area flowing during dry spells.

Surface waters affected by pumping include a pond east of South Penns Grove, N.J., areas along the New Jersey side of the river, a stream near Elkton, Md., Smalley's Pond and Army Creek, among other bodies.

"Even though we think of it as well water, we are as a practical matter pumping directly out of our surface water," Muller said.

DNREC originally called for the study in the mid-1990s, while working with utilities and New Castle County on a now-abandoned proposal to build a new reservoir for the state's northern area. Contractor problems and the sheer complexity of the effort led to repeated delays.

Other states watching

Water supply officials in New Jersey and Maryland are aware of the problems, according to spokesmen for environmental agencies in those states. Maryland already requires a review of Delaware wells with potential cross-border effects.

Worries about overuse of groundwater already have prompted stepped-up use of the Delaware River for public supplies, said Larry Hanja, a spokesman for New Jersey's Department of Environmental Protection.

"This is the beginning of the next chapter of what's going to be a long, complicated process, as we continue to fine-tune the well system," Lovell said. But state officials weren't able to say what next step would be taken, or what limits could be imposed as a result of the findings.