SUFFOLK COUNTY WATER AUTHORITY
SCWA

4060 Sunrise Highway, PO Box 38, Oakdale, New York 11769

Testimony of Tyrand Fuller

Lead Hydrogeologist/Director of Strategic Initiatives – Suffolk County Water Authority

New York State Senate Standing Committee on Health
Senate Standing Committee on Environmental Conservation
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Assembly Standing Committee on Health

Public Hearing on Water Quality and Contamination

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Good morning, my name is Ty Fuller, and I serve as Lead Hydrogeologist and Director of the Division of Strategic Initiatives for the Suffolk County Water Authority, a public benefit corporation serving approximately 1.2 million Suffolk residents. On behalf of the authority, I want to thank you for the opportunity to provide testimony on water quality concerns facing Suffolk County.

But before I address threats to our groundwater, I want to talk a little bit about the high quality and safety of the drinking water we provide, an aspect that unfortunately tends to get underreported.

The Suffolk County Water Authority has a long and proud history of going above and beyond regulatory requirements when it comes to drinking water safety. In 2015, our laboratory produced 171,000 test results and tested for 398 chemical constituents—that's 249 more than required by regulators. We also increased the frequency of testing, the number of sampling locations and the number of parameters tested, including those for emerging contaminants.

We often take wells out of service or begin treatment when just trace amounts of a contaminant are found, even if the levels are below established maximum contaminant levels. This is because our internal standards for water quality are often more rigorous than state and federal regulations. Regulators have frequently cited the effectiveness of our work and the methods we've developed.

In addition to our 240 pump stations and 64 water storage tanks, we are responsible for the maintenance of nearly 6,000 miles of water main. It seems incredible to think of it this way, but that is the equivalent of a single pipe stretching from here to deep into the heart of Siberia. And as it can cost approximately $200 per foot to replace this water main, we, like public water suppliers all over the country facing the challenges of aging infrastructure, need a strong financial commitment from the state to maintain this infrastructure and keep water flowing to our customers.

With the tremendous number of nationwide headlines in recent years chronicling the various challenges to drinking water quality across the country, we've sought to increase our connection to the people we serve by making sure they are more aware of—and thus invested in—all aspects of the elaborate system that delivers drinking water directly to their taps.

We educate thousands of students every year on how the water cycle works, but we realized that, given the increased attention to water quality challenges, we needed to greatly expand our public outreach. It is, as you all know, the simplest truth about the topics we're here to discuss today, and that is this: it is a lot less expensive to prevent contaminants from entering our groundwater than it is to remove them, and therefore educating the public about how to do so is the smartest allocation of our collective resources.

And so we joined together with other water suppliers, civic associations and private companies on a perpetual campaign to alert the public about the dangers of improper disposal of prescription drugs, a category of emerging contaminants. We created an education center in unused office space to invite the public to view displays and participate in interactive presentations to teach them anything they want to know about how the water cycle works and how water is delivered to their homes.

This past summer we launched an elaborate campaign to encourage conservation and the judicious use of our water resources, an initiative that is not only an environmental priority, but a public safety and financial one as well. In addition to the environmental importance of conserving the sole source of our drinking water, the initiative, bolstered by an extensive media campaign, helped our customers understand how changing their water use habits, particularly lawn watering schedules, can help tremendously in ensuring there is sufficient water pressure for fire protection during peak hours. We emphasized that decreasing water use during peak hours can help prevent costly infrastructure improvements which would otherwise be needed to meet the higher demand. These cost savings would ultimately directly benefit our customers.

Our conservation campaign will be continual and timed each year to correspond with the beginning of the spring and summer lawn watering season, the time of year that puts the greatest stress on our resources.

And this past June, we collaborated with the Suffolk County Department of Health Services and Suffolk Legislator Dr. William Spencer in hosting a forum at our education center on a topic that made national headlines—keeping the drinking water supply safe from lead contamination. At the forum, attended by more than 30 public and private school districts, we explained how our optimal corrosion control system ensures that the water we supply is safe from lead

contamination and offered guidance to schools on addressing potential hazards of lead in drinking water within their facilities.

But there is one particular outreach initiative, and another initiative that sprung directly from it, that I want to highlight today. In late 2013, the Suffolk County Water Authority proposed the idea for and subsequently joined together with more than 100 utility and non-utility members of the Long Island Water Conference and proposed the creation of the Long Island Commission for Aquifer Protection, or LICAP, a commission consisting of experts on groundwater issues representing not just public water suppliers but elected officials, health departments, the United States Geological Survey and the New York State Department of Environmental Conservation. The commission was created through legislation supported unanimously by both the Nassau and Suffolk Legislatures.

LICAP was created with a goal of developing a regional focus on the protection of our greatest natural resource, the sole source aquifer that provides all of our drinking water. Doing so, we realized, would require extensive cooperation between the dozens of public water suppliers on Long Island, information sharing, public involvement and the development of plans to manage our water resources in a coordinated manner.

In its brief history, LICAP is on track to deliver on all of these goals.

The commission has held public hearings in each county to gather input, and additional hearings are scheduled for next month. The commission's first State of the Aquifer report, designed specifically to educate the general public about our aquifer system and the contaminant threats it faces, has been drafted and will be published this fall. And the commission's other primary statutory focus, the creation of a Groundwater Resources Management Plan, is scheduled to be released next year.

Perhaps the commission's greatest success to date, though, is one that sprung organically from getting all the referenced groundwater experts together in the same room. It's called WaterTraq, and if you haven't heard about it yet, you will be soon. WaterTraq is a GIS-based contaminant mapping system that will allow officials in the water industry as well as the general public to pinpoint contaminant threats all throughout the region. Through the use of interactive maps, WaterTraq allows the user to search for any given compound and have results visually displayed by concentration range and location. In addition compounds can be search based on well depth, water district and sample date.
The user can search for either raw groundwater or the post-treatment water we supply to their home.

WaterTraq would never have been possible without the requisite data sharing by public water suppliers contributing to LICAP. WaterTraq, which will officially be unveiled to the public soon, should prove to be an extremely valuable tool in protecting our sole source aquifer. It is the first such system in New York State.

As to emerging contaminants, I referenced above the threat of prescription drugs. Proactively addressing the presence of pharmaceuticals and personal care products, or PPCPs, in

groundwater has been a priority of the authority for years, despite the fact that there are no current health regulations for PPCPs in drinking water and that the EPA does not require testing. The authority in 2015 tested for 47 PPCPs in all of our nearly 600 wells and detected approximately one dozen. It is important to note that the detections were at trace levels and have no known health effects. However, wherever possible, we are using granular activated carbon filtration and blending wells to remove these trace levels from the public water supply.

The fluorinated organic chemical PFOS has been identified as an emerging contaminant of concern. This committee is well aware of the situation in the upstate village of Hoosick Falls involving a similar compound, PFOA. In Suffolk, we've detected PFOS above the reporting level at eight well fields within our service territory, and at each location treatment is in place to reduce any detection to below the current health advisory level. We are also working closely with officials to seek ways to hook up those on private wells south of Gabreski Airport in Westhampton Beach, where PFOS has been detected above the health advisory level, to the public water supply.

Another emerging contaminant of concern is 1,4-dioxane. 1,4-dioxane is a synthetic chemical used as a solvent and a chlorinated solvent stabilizer for industrial chemicals, predominantly 1,1,1-trichloroethane (TCA). Apart from its use as a stabilizer, it is used in a variety of applications as a solvent, such as in inks and adhesives. But it is also found in cosmetics, in detergents, shampoos and deodorants, just to cite a few examples. In other words, and this important to note, it is an issue that reaches far beyond the water supply industry. In fact, you could say that it's only an issue for the water supply industry because its presence is so pervasive in everyday household products.

1,4-dioxane is currently regulated as an Unspecified Organic Contaminant by the New York State Department of Health at a maximum contaminant level of 50 parts per billion.

There are a couple important points we'd like to make about this compound. First, there is currently no feasible means to treat for the removal of 1,4-dioxane from the water supply. And second, levels of 1,4-dioxane do not appear to be increasing; detections of the compound have been fairly stable, not trending upward.

However, as with other emerging contaminants, the authority has sought to proactively address this potential threat to the public water supply in various ways. In addition to monitoring authority wells, we conduct distribution sample station testing for 1,4-dioxane twice a year at each of our 79 stations. And we have launched a pilot program to build and use the state's first full-scale Advance Oxidation Process (AOP) system, designed for the removal of 1,4-dioxane.

Based on a small-scale pilot study conducted five years ago, the full-scale AOP system has been designed to remove at least 97% of the 1,4-dioxane present.

For three years, we have worked closely with state and county health department officials to receive permission to use this innovative technology to remove 1,4-dioxane. I'm delighted to tell you that we've learned that the pilot project has been fully endorsed by the New York State Department of Health and the Suffolk County Department of Health Services, which means the

AOP pilot project could become a reality before long. We feel this system will prove to be a valuable means of reducing levels of 1,4-dioxane at problem areas.

In closing, I'd just like to note that we at the Suffolk County Water Authority are proud of our strong working relationship with elected officials, including those in this room. We were happy to contribute testimony to the recent hearing into the potential dangers of sand mining to the groundwater supply, and have since the hearing developed the methodology to potentially identify illegal sand mining facilities via GIS mapping. And we're proud to have partnered with you on so many initiatives in the past to protect groundwater, including the ban of the chemical MTBE, the Pine Barrens Protection Act, the regulation of underground storage tanks and hazardous materials and so much more.

We salute the creation of the state Water Quality Rapid Response Team and the attention and resources it brings to a topic so important to everyone in this room. The Suffolk County Water Authority has been an industry leader for many decades in not only responding rapidly to drinking water concerns, but also acting proactively to prevent them. With so much at stake, we're delighted to see, given the grant announced today, that we can count on Governor Cuomo to bolster the state's commitment to ensuring that our vital water supply continues to be safe for many generations to come.