

Good morning. I would like to thank the members of the New York State Senate and Assembly for the opportunity to present a public statement today on “Water Quality and Contamination.”

My name is Joe Fiegl. I am a professional engineer and President of the New York Water Environment Association, or NYWEA. Our Association was formed in 1929 as a non-profit, professional organization that serves the best interests of the public by promoting sustainable clean water quality management through science, education, and training. It is made up of over 2,500 individuals across New York with great diversity: wastewater treatment plant operators from small Villages, top level officials in New York City government, academics and students, regulators, engineers of all types, environmental scientists, and other interested professionals involved in water quality management.

In my day-to-day role, I am the head of Erie County’s Division of Sewerage Management, an organization that is responsible for the operation, maintenance, and administration of the County’s seven (7) sewer districts – serving approximately 250,000 residents in Western New York. The infrastructure of the Erie County Sewer Districts includes seven (7) wastewater treatment plants, over 1,000 miles of sewer, and close to 100 pumping stations. My staff of 230 people is dedicated to managing the water quality improvement assets of the County for the benefit of the public and the environment.

Protecting local watersheds is what the Erie County and other wastewater utilities across New York State perform 24-hours a day, 7-days a week. To be clear, however, water quality

protection is multifaceted. The news stories from the public hearing held last week in Hoosick Falls detailed heartbreaking stories of the residents' experiences with PFOA (Perfluorooctanoic acid) in their drinking water supply. In that instance, it appears that industrial activities were the cause of water contamination. Closer to my home, toxic algal blooms in Lake Erie led to a shutdown of the Toledo, Ohio water system for several days in 2014. In that instance, excessive nutrients from agricultural and residential runoff were determined to be the primary cause. The issues associated with the Flint, Michigan drinking water crisis were many, but the switch to a more corrosive and polluted water source was the key event that preceded any other missteps.

Most people do not think about their water supply and the systems that protect it – until after there is a problem. Yet it should not take highlighting today's problems for the public to understand the significance of protecting water quality. Water quality is vital to our modern society.

Water-related diseases are the second leading cause of childhood mortality worldwide¹; however, there are virtually no such concerns in the United States because wastewater or “sanitation systems” have been built to protect water quality. The development, extension, and maintenance of sanitation in our modern world is significant. A poll of health care professionals deemed sanitation the greatest *medical* advancement of the last century and a half – a more important innovation than anesthesia, the development of antibiotics, and the advancement of vaccines².

¹ “Diarrhea: why children are still dying and what can be done”, the United Nations Children's Fund /World Health Organization, 2009. (http://whqlibdoc.who.int/publications/2009/9789241598415_eng.pdf).

² “*BMJ* readers choose the “sanitary revolution” as greatest medical advance since 1840”; British Medical Journal, 18 January 2007.

Can you imagine a surgery without anesthesia? What about fearing that your child would contract measles, mumps, or any number of other horrible diseases whose spread was curtailed or nearly eliminated by widespread vaccination and/or the use of antibiotics? A modern society without well-functioning sewer infrastructure should be viewed in the same light.

Water infrastructure not only protects our health, it is also critical to our economy. The United States Conference of Mayors determined that each public dollar invested in water infrastructure increases private long-term Gross Domestic Product output by \$6.35³. The United States Department of Commerce has estimated that each job created in the local water and wastewater industry creates 3.68 jobs in the national economy and each public dollar spent yields \$2.62 in economic output in other industries⁴. Going beyond these impressive metrics, try to think of a major economic development project in New York that did not have a safe and reliable water source and a means to handle its used water as an integral part of the success of that project. Be it a large solar panel manufacturing plant constructed in Buffalo, a yogurt plant in Johnstown, or any number of commercial developments in New York City, without a reliable water supply and means to handle the waste byproducts, these projects do not happen.

With water in short supply in so many areas across our Country, New York State's water resources are an asset that can and should provide a competitive advantage. For many years these assets were taken for granted. Lake Erie was declared "dead" in the 1960's; fishing and swimming were banned in Onondaga Lake by 1970; the Hudson River near the City of

³ "Local Government Investment in Municipal Water and Sewer Infrastructure: Adding Value to the National Economy", U.S. Conference of Mayors, August 2008

⁴ "Regional Input-Output Modeling System (RIMS II)", United States Department of Commerce – Bureau of Economic Analysis, Regional Economic Accounts, Accessed: April 2008.

Tarrytown was once described as the same color of paint being applied to vehicles at a General Motors plant there. Today those water bodies have all exhibited tremendous rebounds, in large part due to an acknowledgment that we need to protect our natural resources and a greater understanding of the need to invest in the systems that safeguard them.

These “rebounds” prove that these man-made environmental problems can be solved. It is no accident that the waterway improvements corresponded to the implementation of major financing programs. New York State was a leader in the 1960’s with the passage of the billion dollar Pure Waters Act to fund upgrades to sewerage systems. It was New York State’s Pure Waters Act that significantly shaped the Federal Clean Water Act and its passage in 1972. Both programs provided substantial assistance to local municipalities to address pollution and construct critical water quality protection infrastructure.

Utilities across the State continue to endeavor to improve the health of our waterways. Many of the systems built with State and Federal government assistance are now reaching the end of their useful life and require costly replacement or repair. Additionally, upgrades and new technologies are needed to address today’s water quality challenges.

For the most part, the costs associated with these repairs, replacements, and upgrades fall upon local governments and the costs are staggering. Estimates by the State Departments of Environmental Conservation and Health document \$75 billion in unmet water / wastewater

infrastructure needs in New York State over a 20 year period⁵. New York has 11.6% of the documented need nationwide for clean water infrastructure investment– the most of any State⁶ – yet New York is only fourth in population with 6.2% of the nation’s populace⁷.

As was the case in the 1960’s, New York once again has started the process of being a leader in addressing these needs. NYWEA joined with a diverse group of stakeholders to form the “Clean Water Infrastructure Coalition” to advocate for additional assistance for local municipalities. On behalf of this Coalition, I would like to thank the State Senate and Assembly for their support of the \$200 million budget increase in the New York State Water Infrastructure Improvement Act.

Protecting water quality is imperative to the health and wellbeing of every New Yorker and to growing our economy in order to provide good jobs for our residents. As your Committees and the entire Legislature considers how to best use your powers and influence to protect our waters, NYWEA asks that you:

- Continue to include at least \$200 million a year in the State’s budget for water/wastewater infrastructure. While the \$200 million in the New York State Water Infrastructure Improvement Act is a substantial sum of money, there is \$75 billion in need for water and wastewater infrastructure alone. If it is expected that local ratepayers will shoulder the \$74.8 billion remaining costs, my fear is that the investment gap will not be closed.
- Ensure that water quality related mandates – particularly those associated with wet weather flows and stormwater management – are implemented with inherent flexibility to allow for innovative cost effective solutions. Local environmental factors must be considered when requirements are promulgated to ensure that costly programs with little

⁵ “Wastewater Infrastructure Needs of New York State”, New York State Department of Environmental Conservation, March 2008

“Drinking Water Infrastructure Needs of New York State”, New York State Department of Health, November 2008

⁶ “Clean Watersheds Needs Survey 2012 – Report to Congress”, United States Environmental Protection Agency, January 2016

⁷ “National Totals: Vintage 2015”, United States Census Bureau, 2015.

water quality benefit are not implemented and subsequently divert limited funding away from other infrastructure investment.

- As part of the State’s “Green Jobs” program, make available funds for the development and presentation of wastewater training programs to further educate wastewater and water resource protection workforces that are on the frontline in the State’s effort to preserve and enhance New York’s water quality.
- Provide the New York State Department of Environmental Conservation the budgetary support to properly do their job.

The “cost” with regard to the public’s health and our economic growth is too great for these issues to be ignored. The challenge will be determining what are the next steps. Is a viable solution annual allocations and incremental increases in the New York State Water Infrastructure Improvement Act? A New Environmental Bond Act? A dedicated water infrastructure trust fund? What about exempting water and wastewater charges from tax cap calculations? Multifaceted watershed problems will likely require multifaceted and solutions with significant financial resources to implement and maintain them. The professionals in NYWEA are a resource to assist the State with developing and vetting these solutions.

A few years ago the author Steven Johnson wrote a book titled “The Ghost Map” that chronicled the cholera epidemic of 1854 in London, England. In this book Mr. Johnson very convincingly described how discovery of the epidemic cause – polluted water – lead to advances in sanitation that shaped the world we live in. The environmental engineer in me appreciated the following quote, which challenges the way most in the public view infrastructure:

... With the help of visionary engineer Joseph Bazalgette, the city (London) embarked on one of the most ambitious engineering projects of the nineteenth century: a system of sewer lines that would carry both waste and surface water to the east, away from Central London. The construction of new sewers was every bit as epic and enduring as the building of the Brooklyn Bridge or the Eiffel Tower. Its grandeur is belowground, out of site, and so it is not invoked as regularly as other, more iconic achievements of the age. But Bazalgette’s sewers

were a turning point nonetheless: they demonstrated a city could respond to profound citywide environmental and health crisis with a massive public works project that genuinely solved the problem is set out to address.

Has anyone in this room referred to their local sewer systems with adjectives such as ‘grandeur’?

I interpret Mr. Johnson’s words to mean that just like the Eiffel Tower defines the skyline of Paris or the Brooklyn Bridge has impacted the growth of Manhattan and Brooklyn, sewer systems have irrefutably shaped our communities through the protection of public health and the environment. Without these systems, modern society would not have developed into what it is today.

Thank you again for the opportunity to present at this public hearing. I welcome any questions you may have.