

WATER FOR LONG ISLAND



Long Island Groundwater Newsletter Volume 3, No. 3 November 2019

Welcome to the November *Long Island Groundwater Newsletter*. In this issue we report on five major issues affecting Long Island’s groundwater. Reports include: Plans by L.I. water suppliers to meet the 15% water use reduction ordered by NYS DEC; Challenges for compliance with upcoming drinking water standards for PFOA, PFOS, and 1,4-dioxane; Rewilding efforts on Long Island; Update on the proposal to take over NY American Water; and Opposition by the U.S. Navy and Northrop-Grumman to the NYS DEC’s Cleanup Plan for the groundwater plume.

HOW DO LONG ISLAND WATER SUPPLIERS PLAN TO REDUCE THEIR PEAK WATER CONSUMPTION?

In 1978, the U.S. Environmental Protection Agency (EPA) designated Long Island, New York a “Sole Source Aquifer” because of its total dependence on groundwater for its water supply. The conservation of this resource continues to be crucial to the future of Long Island. In January 2016, the NYS Department of Environmental Conservation (DEC) directed all public water suppliers on Long Island to develop plans to reduce peak water consumption (e.g. summer water demand) by **15%** over the **next 3 to 4 years** and to submit reports on their plans and progress.

This article summarizes the progress and plans outlined in the information submitted by the Long Island water suppliers to the DEC by **April 2017**. This information was obtained by a Freedom of Information Request to the DEC. The full WFLI report on the *Peak Water Demand Reduction Program* is posted on the *Water for Long Island* website.

Non-revenue Water

There were several actions that nearly all water suppliers reported on. One issue was tracking the amount of water that is pumped from the aquifers but is lost from the water system or is unaccounted for. Water suppliers now refer to this as “**non-revenue**” water. This is water that does not reach the customer or generate a payment to the water supplier. A typical level of non-revenue water for a water system is **10%**. Eleven suppliers reported levels that were above the industry standard of 10%.

Reducing Water Consumption

Most suppliers are installing new or upgraded water meters that have enhanced features such as remote reading and time of use metering. The new meters provide more accurate information about water use and help improve water use tracking by suppliers. Old water meters tend to undercount water use. Unusual spikes in water consumption due to leaks can be detected more quickly with the new meters. Year-to-year comparisons of water use are also easier to generate and report to customers by using the new meters.

Tiered Water Rates are becoming the industry standard on Long Island. A tiered rate structure is one that charges higher amounts for a given quantity of water as consumption increases. This is a good tool for promoting water conservation.

Top Ten Water Users in each water system is reported by most water suppliers. Water providers are contacting their “top ten” and offering them assistance to reduce their water use through actions such as water audits and water conservation strategies.

Lawn Irrigation and outdoor water use is the single highest water-demanding activity reported by most water customers. Water use in cold months is viewed as the water demand baseline – representing indoor water consumption. The aquifers and water infrastructure systems are most stressed during the warm summer months, when large amounts of water are used for irrigation. Table 2 of our report shows that pumpage in summer is 2 to 3 times greater than groundwater pumpage in the winter. (**Note:** All tables are found in the website of Water for Long Island and are not included in the newsletter.)

Our report also discusses the benefits of landscaping with native or drought-tolerant plants. Table 4 provides details on the specifics of low-maintenance grasses.

Reducing Indoor Water Demand is promoted by many suppliers who may offer water conservation kits, low-flow showerheads and faucet aerators. Some districts promote the US EPA *WaterSense* program that provides information to help customers find water saving devices and practices. Products that can reduce water use by at least 20% or more can display the *WaterSense* logo.

Additional Benefits of Conserving are reported by water suppliers. Pumping and treating water requires a significant amount of energy and other resources. For example, the Suffolk County Water Authority reported that in winter, it can operate with fewer than 100 wells, but in summer over 600 wells are need to meet demand. SCWA is the largest energy consumer in Suffolk County in the summer. A similar demand for energy in summer is likely created by water suppliers in Nassau County. Using less water reduces demand on the energy grid, and saves money on chemicals and other treatment costs.



These details and more are contained in the *Water for Long Island* report, **How Long Island Water Suppliers Plan to Reduce Peak Water Demand**. The full report (including eight tables) is available on the Water for Long Island website (www.waterforlongisland.org). The tables summarize details of the information provided to the NYS DEC by the reporting deadline of April, 2017.

Elizabeth Bailey prepared this report.

Note: In the summer of 2019, various water suppliers promoted the use of smart irrigation system controls that help to reduce or stop irrigation when lawns do not need additional water.

EMERGING CONTAMINANTS GET MORE ATTENTION

The NYS Department of Health (NYS DOH) proposed drinking water standards (a.k.a.

maximum contaminant levels – MCLs) for three emerging contaminants in drinking water (PFOA, PFOS and 1,4-dioxane) in July 2019. The public comment period closed on September 22, 2019.

While many advocacy organizations asked for stronger standards, the water supply community was letting their needs be known to both regulators and elected officials. In Nassau County, the legislative committee on Planning, Development and Environment, chaired by Legislator Laura Schaefer, and accompanied by committee members, held a hearing on the topic of 1,4-Dioxane on **July 29, 2019** in Mineola, N.Y.

At the hearing, numerous water suppliers, a consultant to water systems, the Nassau Health Department and an advocacy organization, CCE, were invited to provide information specifically on the impact and issues around testing and treating for 1,4-dioxane. Some interesting facts came out during the testimony.

The impact on some of the water systems in Nassau County was summarized. Some of the water suppliers affected by 1,4-dioxane and the number of wells involved is shown in Table One.

TABLE ONE: THE IMPACT OF 1,4-DIOXANE DETECTION ON LONG ISLAND, NEW YORK

Water Supplier	Wells affected out of total wells		Water Supplier	Wells affected out of total wells
Bethpage W.D.	6/9		Town of Hempstead	10/29
Carle Place W.D.	2/4		Village of Hempstead	5/9
Franklin Square	2/5		Hicksville W.D.	7/14
Garden City Park W.D.	4/6		Plainview W.D.	9/12
Village of Garden City	6/10		Port Washington W.D.	3/12
			Suffolk County W.A.	31/600

Drinking Water Treatment

The treatment technology that has been approved to remove 1, 4-dioxane is known as **Advanced Oxidation Process (AOP)**. This technology has not been previously used for drinking water treatment on Long Island.

To date, two AOP systems have been installed and approved: Bethpage W.D. and the Suffolk County Water Authority. The Nassau County Health Department has received proposals to install 13 AOP systems so far and expects to receive 50 more in 2019. It may take 2 – 3 years to get a system installed, fully approved and operational. There is funding available from NY State to help defray the cost of the AOP system which can be several million dollars each. A special fund for 1, 4-dioxane and PFAS treatment of \$200 million is available to water suppliers, statewide. Additional money is available to water systems through the NYS Water Clean Water Infrastructure Act (2017) that authorized a total of \$2.5 billion for water-related projects across the state. Water suppliers need to apply to the

state for the grants. Twelve grants have been approved so far (as of August 2019), totaling \$42 million. The total funds available are \$350 million.

Water Suppliers Want a Delay in Compliance with New Drinking Water Standards

All the water suppliers who spoke agreed that they need more time to come into compliance once new drinking water standards are adopted by the State DOH. The proposed MCL for 1, 4-dioxane is 1 part per billion (1 ppb). Most water suppliers stated that they may have to shut down a significant proportion of their well systems if compliance is required immediately upon adoption of the MCLs.

In addition to closing non-complying wells, the other actions suppliers are considering include:

- Blending high quality water with contaminated water (this practice is usually prohibited for cancer causing chemicals in drinking water);

- Sharing water between neighboring water systems through existing water interconnections;
- Deepening contaminated wells into cleaner, deeper parts of the Magothy aquifer;
- Constructing new wells where unaffected groundwater can be found; and
- Implementing strict water conservation programs.

Water suppliers vowed they would not provide water that violates the new standards. However, they were uncertain what they will do if a majority of their water supply wells are shut down. Hicksville, for example, could lose 70% of its water supply.

Various proposals to delay implementation of the new MCLs were discussed. A delay of 2 to 4 years was frequently suggested. One proposal suggested a phased-in MCL that had 3 stages: a 10 ppb MCL beginning in 2020; a 3.5 ppb MCL

beginning in 2023 and a 1.0 ppb MCL, starting in 2026.

The Source of 1,4-Dioxane

Although it is true that 1,4-dioxane is found in numerous consumer products, the most realistic source of 1,4-dioxane for Nassau County is the many **state and federal superfund sites** in the County. 1,4-Dioxane was used as an ingredient in the manufacture of many VOCs (volatile organic compounds) that are a major pollutant in the groundwater plumes at the 150+ sites in Nassau. So where high levels of VOCs are in the groundwater, 1,4-dioxane is likely to be there too. The most extreme example of this relationship is the Navy-Grumman plume in Bethpage. Over 600 samples of groundwater from the plume were tested. **High levels of 1,4-dioxane were found in 306 out of 634 samples.** The levels of 1,4-dioxane ranged from 0.46 ppb to 190 ppb.

Thanks to Elizabeth Bailey for her detailed notes on this topic.

REWILDING: Port Washington Leads the Way

A new movement that is spreading across the county and picking up advocates along the way is the practice of letting lawns and gardens return to their wilder nature. The movement is known as “rewilding.” Native plants replace manicured lawns. Wild flowers and native plants attract and support many varieties of birds, bees, butterflies, beneficial insects, pollinators and small wildlife that mono-culture grass lawns do not. These natural ecosystems do not require maintenance such as irrigation, chemical fertilizers or pesticides to flourish. Rewilding can save homeowners time, money, and water, and helps prevent chemicals from going back into the environment.



The rewilding approach is an off-shoot of an earlier program known as “xeriscape.” This is a process that uses low maintenance and drought resistant plants as replacements to traditional non-native grasses and plantings that need regular irrigation, chemical fertilizers and pesticides to survive. Rewilding protects, restores, and creates new habitats to support biological diversity where nature can take care of itself, all while promoting a way of living that creates greater well-being for humans and surrounding ecosystems.

Minnesota has gone even further than Long Island. In May 2019, it authorized \$900,000 to help homeowners turn their lawns into bee-

friendly habitats by planting wildflowers, clover and native grasses to help support an essential bee population. The program is funded for three years.

The state of Tennessee Department of Transportation is practicing an approach to highway maintenance that other states are also using. It is a pollinator-friendly system where areas along roadways and right-of-ways allow native plants and flowering plants to grow. These targeted parts of the roadway margins are

not mowed, or only mowed at specific times in the season to allow flowering plants to bloom and go to seed before maintenance mowing occurs. A similar rewilding concept is being promoted around the country that merges solar panel installations on the land with pollinator plants allowed to grow beneath and around the panels.

Francine Furtado contributed to the article. For more information, see www.rewildlongisland.org.

OPPOSITION TO N.Y. AMERICAN WATER GROWS; TALK OF A TAKE-OVER EXPANDS

The investor-owned New York American Water Co. (NYAW) operates three water systems in Nassau County, serving approximately 40 communities. NYAW systems are headquartered in Lynbrook and Merrick on Nassau's south shore, and Sea Cliff on the north shore. In total, NYAW serves nearly 130,000 customers or nearly 20% of the residents of Nassau County. The on-going conflict between the water system and its customers is growing. NYAW has had problems with billing disputes with customers, extremely high water prices, and numerous consumer complaints. Customers have fought rate

increases by NYAW before the Public Service Commission. Many residents were disappointed when the effort to form an independent water authority to takeover NYAMs south shore area failed. Now a new proposal has been launched by *LI Clean Air Water and Soil, LTD (LICAWS)*, for the Suffolk County Water Authority (SCWA) to take over NYAW. In a letter to SCWA dated July 22, 2019, LICAWS requests SCWA to undertake a feasibility study to investigate what it would take to acquire NYAW.

Note: In mid-November, N.Y. American Water announced that it had agreed to be sold for \$608 million to Liberty Utilities, a Canadian conglomerate.

NAVY-GRUMMAN GROUNDWATER PLUME CLEANUP PLAN BY NEW YORK STATE DRAWS CRITICISM AND REACTION FROM THE NAVY AND NORTHROP-GRUMMAN

After public information sessions were held in the early summer of 2019, and as the public comment deadline was set to end, both the US Navy and Northrop-Grumman each submitted their own views on the State of New York's plan to clean up the largest groundwater plume in the State. In a 50+ page letter from Northrop-Grumman (July 8, 2019) and a 20-page letter from the U.S. Department of the Navy (September 6, 2019), the parties criticized the plan proposed by the NYS

Department of Environmental Conservation. Their objections to the plan in the amended Record of Decision (AROD) stated that the DEC plan was flawed, lacked an adequate scientific foundation, and was infeasible, impractical and possibly illegal. The cost for the "preferred" 30-year cleanup program is estimated at \$585 million.

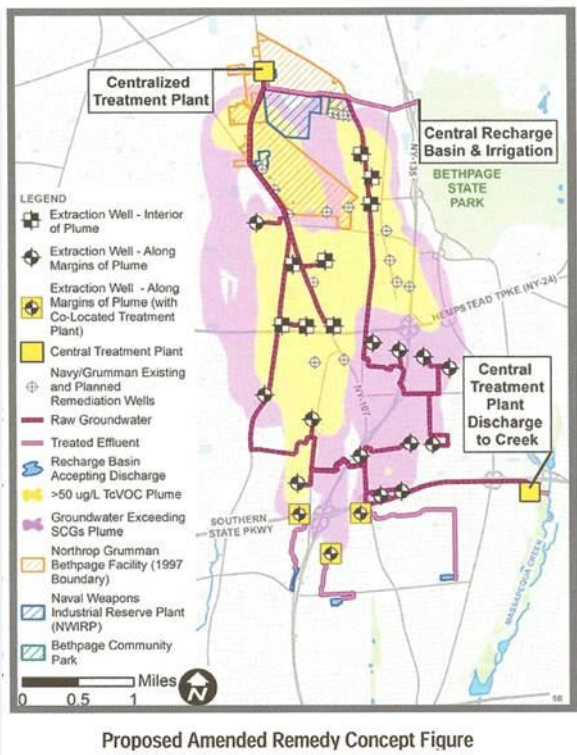
The full cleanup could take 110 years so the initial cost is only part of the total bill. Northrop-Grumman claims to have spent \$200 million so far on its own cleanup program. The Navy claims it has spent \$131 million on cleanup efforts. If the NYS Cleanup Plan proceeds without Grumman and the Navy, the state will eventually sue the

Navy and Northrop-Grumman to recoup the costs to the State of the cleanup.

Water for Long Island submitted comments on the AROD. The comments are posted on the Water for Long Island website (www.waterforlongisland.org). Some of the issues raised by WFLI included: the impacts to Massapequa Creek, the failure to address

radiological contaminants, the recharge location at Bethpage State Park, risks of saltwater intrusion, remediation of the deepest contamination at 900 feet, and a lack of confidence that the cleanup will be carried out to full completion.

Navy-Grumman Cleanup Plan 5-2019



If you would like a presentation to your group on issues of drinking water and groundwater, you can ask someone from Water for Long Island to speak.

For more information about **Water for Long Island**, go to our website at: www.waterforlongisland.org

11-29-2019

L.I. Water Facts Speakers Bureau

The members of *Water for Long Island* have pooled their talents and expertise to offer presentations to interested groups and individuals around Long Island who want more information about the aquifers and drinking water of the region.

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