



ORANGE WATER AND SEWER AUTHORITY

A public, non-profit agency providing water, sewer and reclaimed water services to the Carrboro-Chapel Hill community.

April 23, 2019

Mayor Pam Hemminger
Town of Chapel Hill
405 Martin Luther King Jr.
Blvd Chapel Hill, NC 27514

Mayor Lydia Lavelle
Town of Carrboro
301 West Main Street
Carrboro, NC 27510

Chair Penny Rich
Orange County Board of
Commissioners
Post Office Box 8181
Hillsborough, NC 27278

Dear Mayor Hemminger, Mayor Lavelle and Chair Rich:

We are pleased to submit this report on our services, projects and initiatives from January through April 2019. This report includes information on the following items:

1. System reliability and resiliency improvements
2. Agua Vista portal launch
3. Mayors Save Water Challenge
4. 2020 draft budget and rate information, public hearing update
5. Sewers for Rogers Road update
6. Wastewater overflow
7. Community engagement for forest management
8. PFAS monitoring update
9. 2019 energy management plan update
10. Youth Water Academy launch
11. Infrastructure investment

1. System reliability and resiliency improvements

In December 2018, the OWASA Board approved additional resources for the execution of OWASA's Capital Improvements Program and Valve Maintenance Program for water distribution system resiliency. This included:

- An additional Utilities Engineer position to assist with execution of capital improvements for renewing and maintaining infrastructure.
- Additional staff (5 positions) and equipment (2 valve exercising machines) to accelerate the maintenance of valves throughout OWASA's water distribution system. There are 13,000 valves in the system. 8,000 of the valves have been inspected since 2013. Our goal is to inspect the remaining 5,000 valves, plus an additional 600 large valves, by the end of 2019.

In March, we began work to update our Water Main Prioritization Model. We have started to develop a major study that will be complete in about one year. The study will inform our planning to:

- Prioritize our water distribution system renewal projects.
- Inform the long-term pace of system renewal.
- Develop operational strategies and response plans to manage risks in highly critical areas.

OWASA also continues to meet regularly with UNC and UNC Health Care staff to collaborate on resiliency and emergency communications. The OWASA Board is closely monitoring staff's progress on these initiatives to further improve system resiliency.

2. Agua Vista portal launch

Also in March, we launched our new [Agua Vista web portal](#). 13.6% of OWASA's customer account holders have registered for Agua Vista where they can track their hourly and daily water use online, get customized tips on how to conserve water, set up notifications for leak alerts and bill forecasts, and view and pay their bill (integrated with the current online bill pay system).

On March 14, OWASA delivered a demonstration of the portal to a meeting of the Chapel Hill Town Council's OWASA Committee and the Chapel Hill Appointees to the OWASA Board of Directors. OWASA will deliver a similar presentation to members of the Orange County Board of Commissioners and County Appointees to the OWASA Board on April 25. We will seek to provide presentations to other elected officials in the community in the coming months.

Agua Vista will be a key focus of our Affordability Outreach Program in the coming year and beyond. We will be working with our larger customers with multiple meters to help make sure that they know how to integrate Agua Vista into their sustainability efforts.

Although only OWASA customers can register for Agua Vista, registrants can choose to add users to their Agua Vista user profile. This means that if a property manager chooses to, she/he can share the portal with all of his/her water users to collectively track water use.

3. Mayors Save Water Challenge

On March 22, [World Water Day](#), Chapel Hill Mayor Pam Hemminger issued a sustainability challenge to Carrboro Mayor Lydia Lavelle to see which community can save the most water throughout April. The [Mayors Save Water Challenge](#) asks people who live and work in both Towns to take the [Save Water Pledge](#) and commit to concrete action to conserve or protect water; for example, by taking shorter showers. OWASA account holders can track their water use on Agua Vista throughout the challenge and beyond. More than 230 people have taken the pledge. The Town that collects the largest percentage of pledges through April 30 will win. OWASA will track the number of pledges versus the number of people that live and work in each Town and declare the winner.

4. 2020 draft budget and rate information, public hearing update

At the [March 28 Board meeting](#), OWASA staff provided the Board with information about the draft Operating Expense, Capital Improvements Program (CIP) and Capital Equipment Budgets for Fiscal Year (FY) 2020. The projected annual rate increases for FY 2020-2024 range from 4-5%, which is higher than the rates projected last year of 2-4%. Reflecting the true cost of service, the main drivers for additional investments in our draft operating and capital budgets include supporting our commitment to the community to improve the reliability and resiliency of our services, and rising construction costs.

Staff presented rate adjustment alternatives to the Board on April 11. OWASA will host a Public Hearing on May 23 at which time any persons who wish to be heard on the budget may comment. Notice of the time and place of the public hearing will be advertised prior to the date of the hearing. Additionally, the notice will be provided to the University of North Carolina at Chapel Hill, the Towns of Chapel Hill and Carrboro, and Orange County.

5. Sewers for Rogers Road update

The [Historic Rogers Road Area Sewer Extension Project](#) was approved and funded jointly by three local governments: Orange County, Town of Carrboro, and Town of Chapel Hill. OWASA is providing project management services to oversee the construction of 18,000 feet of sewer pipes. Blasting to remove rock on the Carrboro side of the project in the Tally Ho Trail area was completed in mid-March. 100% of the main line sewer pipes for this project have been installed.

6. Wastewater overflow

On the evening of Friday, April 12, OWASA responded to a wastewater overflow at Rogerson Drive (near Raleigh Road) in Chapel Hill. The cause of the overflow was a break in a wastewater pipe. Heavy rains increased the volume of water that entered the system. Three overflows occurred at the site and nearby areas. Approximately 760,000 gallons overflowed, the majority of which traveled downhill from the pipe into a wooded area where there are no residents. Some of it flowed into a nearby storm drain which enters Morgan Creek, a tributary into Jordan Lake in the Cape Fear River Basin. The area of the overflow was flushed with water and neutralized. Results of nearby surface water testing were safe. A contractor working around the clock for OWASA completed the installation of a temporary bypass line around the broken pipe on April 16. We take this opportunity to thank our community partners as we worked collectively to expedite repairs and minimize impacts.

We are investigating the wastewater pipe break and will share findings as they become available. In 2013, we conducted a condition assessment of high-risk areas on the Rogerson Drive wastewater pipe (also called a Force Main). This assessment of risk considered a series of factors, including soil corrosivity, stray current potential, changes in pipe elevation that would create pockets of air, etc. After considering various available technologies for condition assessment, four specific high-risk areas of the pipe were uncovered and assessed for pipe thickness using bandwidth electromagnetic (BEM) testing which found that the pipe was in good

shape in the areas tested. Due to the pipe's high consequence of failure, condition assessment was recommended to be repeated in 2023.

7. Community engagement for forest management

OWASA owns approximately 2,400 acres of forested lands to protect watersheds and meet potential future utility needs. The majority of OWASA's forested land was purchased to protect Cane Creek Reservoir, a main water source for Carrboro and Chapel Hill; protecting Cane Creek Reservoir's watershed helps safeguard water quality.

OWASA plans to manage its forest land, as it manages its other resources, in accordance with science-based practices. OWASA has developed a new approach for its forest management program, which incorporates draft guiding principles for forest management, and an incremental approach to selecting high priority stands of trees to manage in accordance with the principles. Each tract of land managed will yield new learnings that OWASA will consider to continuously adapt and improve the program. In January, the Board of Directors supported the aforementioned approach for a forest management program.

A key part of OWASA's forest management process is engaging with the community. In April, the Board supported a community engagement plan for 2019 presented by OWASA staff. In implementing the plan, OWASA aims to be transparent and inclusive; we wish to involve stakeholders in an exchange of information and ideas, to garner local insights and knowledge, and improve the quality of decisions. Ensuring neighboring landowners are aware of the goals of OWASA's new forest management approach and potential impacts on nearby landowners, plus enabling two-way dialogue between the community and OWASA is priority.

OWASA will provide updates to elected officials and government staff, host an information sharing session convening land management organizations and forest experts, and host a community meeting near Cane Creek Reservoir to present its new forest management program and invite local knowledge and inputs. OWASA also plans to host a community information session on watershed protection and forest management in Carrboro-Chapel Hill. We will schedule times for public comment at OWASA Board meetings and provide program updates on owasa.org.

8. PFAS monitoring update

OWASA's treated drinking water is safe and meets all Federal and State regulations and established health advisory levels.

Per- and polyfluoroalkyl substances (PFAS) are considered an emerging contaminant – unregulated chemicals being detected in trace amounts. They are man-made chemicals that include PFOA, PFOS, and GenX. PFAS increases resistance to water and stains, and can be found in everyday products such as clothing and cookware. As these products are washed or degrade, PFAS can enter wastewater systems and travel onward to lakes and rivers.

OWASA is implementing quarterly PFAS testing throughout 2019 to ensure we have localized data– to enable us to make informed decisions. We want to understand: do factors such as time of year, season, temperature, rainfall, etc., affect local levels of PFAS. We are testing our treated drinking water and raw water source at Cane Creek Reservoir. The results of our first quarter sampling for 2019 are very consistent with our 2018 results, meaning that we detected low levels of PFOS and PFOA in our treated water samples far below the EPA’s Health Advisory Level of 70 parts per trillion (ppt) for PFOS and PFOA combined (1 ppt is comparable to a grain of sand in an Olympic swimming pool). GenX was not detected in any samples.

We support ongoing research for water quality and will continue to share monitoring results and action plans with the community. We will post [updated PFAS information](#) as it becomes available on our website. Together with community partners, we also plan to host a public education series on water quality this year, which will include information and community conversations on PFAS. A background document on PFAS is attached.

9. 2019 energy management plan update

OWASA has reduced its greenhouse gas emissions from its electricity and natural gas use by 40% and annually saves over \$400,000 in electricity and natural gas expenses. At the end of March, staff presented an updated energy management plan to the Board which was approved, authorizing staff to proceed with implementing the plan. The [2019 Energy Management Plan](#) proposes the issuance of a request for proposals for a solar lease agreement, as well as the pursuit and evaluation of other energy savings initiatives, with the goal of reducing purchased electricity by 35%.

10. Youth Water Academy launch

OWASA launched its new [Youth Water Academy](#) in early April. Throughout the month, 7 young people from Grades 9-12 – representing Chapel Hill High, East Chapel Hill High, and Carrboro High – are learning about the comprehensive process of protecting, sourcing, treating, and delivering water from OWASA’s diverse team of engineers, operators, field crews and more. These young water ambassadors will tour the Water and Wastewater Treatment Plants, learn about water governance and sustainability, and share their learnings in their schools and communities.

11. Infrastructure investment

OWASA maintains 750 miles of water and wastewater pipes, a water treatment plant, a wastewater treatment plant, pump stations, and other infrastructure. Meeting the community's needs and increasing system resiliency requires ongoing rehabilitation of the water, wastewater, and reclaimed water systems. Capital investments, including debt payments for capital projects, account for about half of our costs. In the last fiscal year, we invested about \$19.2 million to renew, replace and improve infrastructure. Our five-year Capital Improvements Program can be viewed [here](#).

Key accomplishments in Q1:

1. Replacement of a water main along Lexington Drive
2. Replacement of a water main within Pritchard Avenue and Noble Street
3. Upgrades to the control system at the Mason Farm Wastewater Treatment Plant (WWTP)
4. Replacement of pumps used for process water at the WWTP
5. Award of over \$10 million in construction contracts for infrastructure renewal in various areas including University Lake, WWTP, and important distribution system improvements in Manning Drive and Country Club Road.

We would be happy to provide you more detailed information on the items above or other topics of interest as desired. Please feel free to contact Ed Kerwin, Executive Director (ekerwin@owasa.org or 919-537-4211), or me.

Sincerely,



Yinka Ayankoya, Chair
OWASA Board of Directors

Attachments

cc: Mr. David Andrews, Carrboro Town Manager
Ms. Bonnie Hammersley, Orange County Manager
Mr. Maurice Jones, Chapel Hill Town Manager
OWASA Board of Directors
Ed Kerwin, OWASA Executive Director



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PFAS Backgrounder as of April 4, 2019

Executive Summary

- OWASA's treated drinking water is safe and meets all Federal and State regulations and established health advisory levels.
- Per- and polyfluoroalkyl substances (PFAS) are considered an emerging contaminant – unregulated chemicals being detected in trace amounts. They are man-made chemicals that include PFOA, PFOS, and GenX. Total health and environmental impacts of PFAS are not yet understood because research is relatively recent and ongoing.
- PFAS increases resistance to water and stains and can be found in everyday products such as clothing and cookware. As these products are washed or degrade, PFAS can enter wastewater systems and travel onward to lakes and rivers.
- There are no NC State or Federal regulations with respect to PFAS in drinking water. In the absence of regulation, the Environmental Protection Agency (EPA) has established a lifetime Health Advisory Level of 70 parts per trillion for the combined amount of two PFAS in drinking water: PFOA and PFOS (one part per trillion corresponds to a single grain of sand in an Olympic sized swimming pool).
- OWASA implemented a PFAS monitoring plan to ensure we have localized data. OWASA's treated drinking water tests consistently below the EPA's Health Advisory Level.
- We support local and national monitoring and research for water quality.
- We invite our customers to contact us with any PFAS questions and comments by calling 919-968-4421 or emailing info@owasa.org. We are committed to providing accessible information and education on this emerging topic, to ensure people have the information they need to know.

1. PFAS overview

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that includes PFOA, PFOS, GenX, and other chemicals. Also referred to as perfluorinated chemicals¹, PFAS have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940s.²

PFAS can be found in everyday products such as carpet, clothing, and cookware because they increase resistance to water, grease, and stains. As these products are treated, washed, or degrade, PFAS can enter wastewater systems and then travel onward to lakes and rivers. PFAS can also enter water through industrial releases or discharges from treatment plants.

There are a variety of ways people can be exposed to PFAS and at different levels. For example, at low levels through food packaging containing PFAS, or if such chemicals are released during normal use, biodegradation, or disposal of consumer products. Drinking water can also be a source of exposure where these chemicals have been detected in local water supplies; such detections are typically associated with a specific facility, for example, where PFAS are produced or used to manufacture other products.³

PFAS is considered an emerging contaminant. Emerging contaminants are unregulated chemicals being detected in trace amounts, mainly due to advances in water testing that allow measurements at the parts per trillion and lower. Total health and environmental impacts are not yet understood because research is relatively recent and ongoing.

What is understood is that certain PFAS can accumulate and stay in the human body for long periods of time. There is evidence that exposure to some PFAS can lead to adverse health outcomes in humans. The most-studied PFAS chemicals are PFOA and PFOS. Studies indicate that PFOA and PFOS can cause reproductive and developmental, liver and kidney, and immunological effects in laboratory animals. Both chemicals have caused tumors in animals. The most consistent findings are increased cholesterol levels among exposed populations, with more limited findings related to:

- Low infant birth weights
- Effects on the immune system
- Cancer (for PFOA)
- Thyroid hormone disruption (for PFOS)⁴

Certain PFAS chemicals are no longer manufactured in the United States as a result of phase outs including the PFOA Stewardship Program in which eight major chemical manufacturers agreed to eliminate the use of PFOA and PFOA-related chemicals in their products and as emissions from

¹ <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-management-and-polyfluoroalkyl-substances-pfas>

² <https://www.epa.gov/pfas/basic-information-pfas>

³ <https://www.epa.gov/pfas/basic-information-pfas>

⁴ <https://www.epa.gov/pfas/basic-information-pfas>

their facilities. Although PFOA and PFOS are no longer manufactured in the United States, they are still produced internationally and can be imported into the United States in consumer goods such as carpet, leather and apparel, textiles, paper and packaging, coatings, rubber and plastics.⁵

2. PFAS timeline in North Carolina

- 1980 Fluorochemical production began at DuPont's Fayetteville Works plant, which merged with Chemours in 2015.⁶
- 2007 First documentation of a particular PFAS, known as PFOA, in the Cape Fear River, in part due to wastewater discharges from the plant.⁷
- 2009 In response to U.S. Environmental Protection Agency (EPA) PFOA Stewardship Program, Chemours began to replace PFOA with a shorter-chain chemical known as GenX.⁸ Shorter chain PFAS were believed to be better for public health.
- 2012 GenX was first detected, along with other PFAS, in the Cape Fear River.⁹
- 2014 GenX was first detected in the city of Wilmington's drinking water.¹⁰
- 2015 Sampling was completed for the EPA's Unregulated Contaminant Monitoring Rule (UCMR3). PFAS were detected in 20 public water systems located in 11 NC counties.¹¹
- 2018 NC State University publishes the results of its study involving 345 residential participants in the Lower Cape Fear River Basin. The study detects the presence of GenX in most tap water samples collected from homes serviced by Cape Fear Public Utility Authority's Sweeney Water Treatment Plant (which gets water from the Cape Fear River).¹²
- 2018 Policy Collaboratory (established by the NC General Assembly) launches new statewide study on PFAS with \$5 million State appropriation. Managed by the UNC Gillings School of Global Public Health, research grants to be made available to 20 researchers at universities in NC.¹³
- 2018 Southern Environmental Law Center sued the chemical manufacturer Chemours on behalf of Cape Fear River Watch. The suit was filed in the U.S. District Court for the Eastern District of North Carolina and details the pollution of air and water with toxic perfluoroalkyl and polyfluoroalkyl substances (PFAS), including GenX, from the Chemours Fayetteville Works Facility in violation of the Clean Water Act and Toxic Substances Control Act.¹⁴

⁵ <https://www.epa.gov/pfas/basic-information-pfas>

⁶ <https://factor.niehs.nih.gov/2019/3/feature/2-feature-pfas/index.htm>

⁷ <https://factor.niehs.nih.gov/2019/3/feature/2-feature-pfas/index.htm>

⁸ <https://factor.niehs.nih.gov/2019/3/feature/2-feature-pfas/index.htm>

⁹ <https://factor.niehs.nih.gov/2019/3/feature/2-feature-pfas/index.htm>

¹⁰ <https://factor.niehs.nih.gov/2019/3/feature/2-feature-pfas/index.htm>

¹¹ <https://factor.niehs.nih.gov/2019/3/feature/2-feature-pfas/index.htm>

¹² <https://chhe.research.ncsu.edu/the-genx-exposure-study/>

¹³ <https://collaboratory.unc.edu/news/2018/08/01/n-c-policy-collaboratory-launches-new-statewide-study-on-genx-with-5-million-state-appropriation/>

¹⁴ <https://www.southernenvironment.org/news-and-press/news-feed/groups-sue-chemours-in-federal-court-to-stop-pfas-genx-pollution>

2019 Legislation introduced for Congress' consideration (PFAS Action Act)¹⁵ to designate PFAS chemicals as hazardous substances under the Superfund program, and to allow the EPA to clean up contaminated sites (with special reference to Michigan).¹⁶

3. Regulatory environment

PFAS is considered an emerging group of contaminants for which existing research is limited. Regulations with respect to drinking water have not yet been defined at the State or Federal level. Instead, State and Federal agencies have issued health screening goals or advisories, which are non-regulatory.

State of North Carolina

On June 14, 2017, the North Carolina Department of Health and Human Services (NC DHHS) issued a questions and answers document on its health assessment for GenX. In particular, it identified a health goal of 140 nanograms per liter for the most vulnerable population (bottle-fed infants, who drink the largest volume of water per body weight). A health goal is a non-regulatory, non-enforceable level of contamination below which no adverse health effects would be expected over the lifetime of exposure for the most sensitive sub-population. The NC DHHS document stated the following:

The goal of the NC DHHS is to provide timely health information to residents and others who are concerned about potential health effects of GenX. When there is not a federal standard and sufficient scientific information available, the NC DHHS can develop and issue a health assessment. This assessment can include establishing a health goal, sometimes referred to as a health screening goal. A health goal is a non-regulatory, non-enforceable level of contamination below which no adverse health effects would be expected over a lifetime of exposure.

The NC DHHS shared a preliminary assessment for GenX with local partners on June 8, 2017, in an attempt to provide some context for understanding the health risks that could be associated with levels found in the Cape Fear River during 2013-2014. Since sharing the preliminary health assessment, NC DHHS has continued to review all available health information about GenX. Based on this review, continuing discussions, and consensus with EPA, NC DHHS has determined that sufficient data are available to make changes to the preliminary assessment. The updated health goal is 140 ng/L for the most vulnerable population- i.e. bottle-fed infants, the population that drinks the largest volume of water per body weight.¹⁷

On the question of drinking water, NC DHHS stated the following:

¹⁵https://debbiedingell.house.gov/sites/debbiedingell.house.gov/files/documents/190114_PFASActionAct.pdf

¹⁶ <https://debbiedingell.house.gov/media-center/press-releases/dingell-upton-kildee-introduce-legislation-declare-pfas-hazardous-clean>

¹⁷ <https://ncdenr.s3.amazonaws.com/s3fs-public/GenX/NC%20DHHS%20Risk%20Assessment%20FAQ%20Final%20Clean%20071417%20PM.pdf>

NC DHHS will not be making a blanket recommendation about water use, but will work with local partners about health risks and messaging regarding sampling results. Individuals are encouraged to consider information in the health risk assessment when making decisions about water use. The potential health effects from these chemicals should be balanced against the health benefits of municipal water, including routine monitoring for a variety of microbial and known chemical contaminants that could be present in private wells or other unregulated sources...Studies to determine if any filtration systems could remove GenX and other perfluorinated chemicals are underway and DHHS will share new information as it becomes available.¹⁸

Another State agency, the Department of Environmental Quality (DEQ), has taken regulatory action with respect to the GenX – Chemours – Cape Fear issue throughout 2017 and 2018.¹⁹ This included a consent order in November 2018 requiring Chemours to pay DEQ a \$12 million civil penalty plus \$1 million for investigative costs, and other conditions such as providing permanent drinking water supplies (in the form of either a public waterline connection or whole building filtration system) for those with drinking water wells with GenX above 140 parts per trillion or applicable health advisory.²⁰

Jointly, DEQ and DHHS convened a Science Advisory Board. Their task is to examine new and emerging chemicals and their potential impacts to human health and the environment. The board is comprised of 16 experts in toxicology, public health, ecology, engineering and related fields. Their mandate is to study ways to better protect North Carolina's people and environment from new and emerging chemicals of concern, including GenX.²¹

Federal Environmental Protection Agency

No Federal regulations exist with respect to PFAS. However, in 2016, the Environmental Protection Agency (EPA) established a lifetime Health Advisory Level of 70 parts per trillion (ppt) for the combined amount of two PFAS in drinking water: PFOA (perfluorooctanoic acid) and PFOS (perfluorooctane sulfonate).²² Note that one part per trillion corresponds to a single grain of sand in an Olympic sized swimming pool.

The EPA's Health Advisory Level (HAL) describes non-regulatory concentrations of drinking water contaminants at or below which adverse health effects are not anticipated to occur over specific exposure durations. The HAL serves as informal technical guidance to assist federal, state and local officials, and water system managers by providing information on the health effects of, and

¹⁸ <https://ncdenr.s3.amazonaws.com/s3fs-public/GenX/NC%20DHHS%20Risk%20Assessment%20FAQ%20Final%20Clean%20071417%20PM.pdf>

¹⁹ <https://deq.nc.gov/news/hot-topics/genx-investigation/genx-timeline>

²⁰ <https://deq.nc.gov/news/press-releases/2018/11/21/release-state-officials-require-chemours-provide-permanent-drinking>

²¹ <https://deq.nc.gov/news/press-releases/2017/10/19/members-named-state-science-advisory-board-advise-emerging-chemicals>

²² <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>

methods to sample and treat, PFOA and PFOS in drinking water.²³ HALs are not formal regulations and do not indicate safe or unsafe levels.

Under the Safe Water Drinking Act, the EPA has the authority to set enforceable Maximum Contaminant Levels (MCLs) for specific chemicals. There are currently no MCLs established for PFAS chemicals. However, the EPA has initiated the steps to evaluate the need for an MCL for PFOA and PFOS under the federal regulatory determination process.²⁴

A regulatory determination is a formal decision on whether EPA should initiate a process to develop a national primary drinking water regulation for a specific contaminant.²⁵ When making a “determination”, the law requires that EPA determine whether the determination meets three criteria: 1) the contaminant may have an adverse effect on the health of persons, 2) the contaminant is known to occur or substantial likelihood it will occur in public water systems with a frequency and at levels of public health concern, and 3) in the sole judgment of the Administrator, regulation of the contaminant presents a meaningful opportunity for health risk reductions for persons served by public water systems.²⁶

The EPA has stated that by the end of 2019, it will propose a regulatory determination which is the next step in the Safe Drinking Water Act process for establishing an MCL.²⁷ It’s important to note that a regulatory determination is not the adoption of a formal regulation. Rather, a regulatory determination is a decision as to whether or not to proceed with developing a formal regulation.

The EPA’s intention to make a regulatory determination was announced in February 2019 as part of the publication of its national PFAS Action Plan. The plan outlines the EPA’s intention to reduce PFAS releases into sources of drinking water, propose national drinking water monitoring, and enhance PFAS research, among other items.²⁸

A review of the EPA’s actions to address PFAS²⁹ shows that the agency has been monitoring this emerging contaminant since at least 2006 when it invited major corporations to join in a global stewardship program to work toward eliminating PFAS chemicals from emissions.³⁰

4. PFAS monitoring at OWASA

In the absence of formal regulatory guidance OWASA has developed and is implementing a PFAS monitoring plan, to ensure we have localized data.

²³ <https://www.epa.gov/pfas/pfas-laws-and-regulations>

²⁴ <https://www.epa.gov/pfas/pfas-laws-and-regulations>

²⁵ <https://www.epa.gov/ccl/basic-information-ccl-and-regulatory-determination#what-is-reg-det>

²⁶ <https://www.epa.gov/ccl/basic-information-ccl-and-regulatory-determination#what-is-reg-det>

²⁷ <https://www.epa.gov/newsreleases/epa-acting-administrator-announces-first-ever-comprehensive-nationwide-pfas-action-plan>

²⁸ <https://www.epa.gov/pfas/epas-pfas-action-plan>

²⁹ <https://www.epa.gov/pfas/epa-actions-address-pfas>

³⁰ <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-management-and-polyfluoroalkyl-substances-pfass#tab-3>

2013

OWASA first detected PFAS in its water in 2013 during our testing as part of the EPA's Unregulated Contaminant Monitoring Rule. The testing collects local data about compounds in water that aren't regulated by the Safe Drinking Water Act. OWASA tested 4 times for 6 different PFAS. We detected one PFAS (PFOA) in one sample in our drinking water testing, at 30 ppt, far below the EPA's Health Advisory Level.

2018

In 2018, OWASA tested local water samples for PFAS levels in our treated drinking water, raw water sources (reservoirs), and wastewater effluents. Results showed that GenX was not present in any samples.

OWASA tested for 39 different PFAS compounds, seven of which were detected in our treated drinking water. Low levels of PFOS and PFOA were detected in two of OWASA's treated water samples (13.7 ppt in one sample and 18 ppt in the other), far below the EPA's Health Advisory Level. Studies indicate that the use of powder activated carbon (PAC) is successful in the reduction of some PFAS but not all. Consistent with these studies, OWASA's use of PAC in its water treatment process has also resulted in the reduction of some PFAS but not all.

With respect to our raw water testing (at point of source, not yet treated), two PFAS were detected in the University Lake and Quarry Reservoir samples. 11 PFAS were detected in the sample from Cane Creek Reservoir. The sum of detected PFOS and PFOA in University Lake, Quarry Reservoir, and Cane Creek Reservoir were 4.7, 4.9, and 120 ppt, respectively. The upstream sources of PFOS and PFOA at Cane Creek Reservoir are not certain at this time. There are no facilities typically associated with elevated levels of PFAS in the watershed (although we do not have historical information on past land use). We do know that other utilities have applied biosolids in the watershed; OWASA does not. Note that there is no Health Advisory Level established by State or Federal agencies for raw water sources.

In our wastewater treatment plant effluent sample, nine PFAS were detected. The list of nine compounds detected in the effluent includes all seven PFAS detected in the drinking water samples and two additional compounds. Five of these compounds were present at similar levels to that in the drinking water samples.

Our wastewater treatment plant is located near Morgan Creek. It's here that the community's wastewater is collected, after which it undergoes a comprehensive treatment process. Some of the treated wastewater is reclaimed for non-drinking uses. The remainder undergoes additional treatment processes to ensure high quality effluent is released into Morgan Creek to be used by communities and utilities downstream. To understand if PFAS is already present in Morgan Creek, before OWASA's wastewater effluent is released into the local waterway, we tested the water upstream from where our plant is located. 8 PFAS were detected in the sample taken upstream from our wastewater treatment plant. These were the same 8 compounds detected in our effluent sample. Four of these compounds were present at similar levels in the creek and effluent samples. One additional compound was detected in our effluent but not in the creek sample.

2019

OWASA is implementing quarterly PFAS testing throughout 2019 to ensure we have localized data for analysis – to enable us to make informed decisions with respect to PFAS monitoring and removal. We want to understand: do factors such as time of year, season, temperature, rainfall, etc., affect the level of local PFAS detection and treatment?

Every quarter, we will test our treated drinking water and raw water source at Cane Creek Reservoir. The results of our first quarter sampling for 2019 are very consistent with our 2018 results, meaning that we detected low levels of PFOS and PFOA in our treated water samples, far below the EPA's Health Advisory Level of 70 ppt for PFOS and PFOA combined.

We will continue to share results and action plans with the community, and will post updated information as it becomes available on our website (<https://www.owasa.org/testing-for-perfluorinated-compounds>). Together with community partners, we also plan to host a public education series on water quality this year, which will include information and community conversations on PFAS.

Continued monitoring and information sharing

OWASA's treated drinking water and wastewater are safe, and meet all Federal and State regulations and established health advisory levels. On PFAS detection, our treated drinking water tests below the EPA's Health Advisory Level.

OWASA is an active member of regional groups that support monitoring and research for water quality, including on unregulated compounds. We also participate in the EPA program for monitoring unregulated compounds.

PFAS is a topic that affects all water providers, so we dialogue and share information with sister utilities in the region to learn from each other.

We invite our customers to contact us with any questions and comments by calling 919-968-4421 or emailing info@owasa.org. We are committed to providing accessible information and education on this emerging topic, to ensure people have the information they need to know.

**MONTHLY SUMMARY OF CALLS AND E-MAILS TO OWASA
FROM NEIGHBORS REPORTING ODOR
FROM THE MASON FARM WASTEWATER TREATMENT PLANT**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 Events
January	11	3	9	0	8	3	8	1	3	3	4	0	3	0	0	0	0	0
February	7	5	2	0	8	0	4	1	0	3	3	0	4	0	0	1	0	0
March	9	0	7	1	10	4	1	1	0	2	8	0	0	1	0	0	0	0
April	9	2	4	0	9	3	1	1	2	1	1	0	0	0	0	0	0	-
May	6	0	2	5	8	3	2	5	4	0	1	3	0	0	0	0	0	-
June	4	1	1	1	5	1	8	8	1	2	2	0	0	0	0	0	0	-
July	1	0	2	0	0	2	6	3	2	4	0	0	2	0	0	0	0	-
August	1	0	4	3	11	2	9	0	1	1	2	0	2	2	0	0	1	-
September	2	5	2	2	9	3	1	1	5	1	1	0	3	0	0	0	2	-
October	2	6	1	1	8	8	2	0	3	3	2	2	3	0	0	0	0	-
November	0	0	1	7	2	6	7	1	1	4	0	1	0	0	0	0	0	-
December	3	3	2	5	8	10	2	1	1	6	3	5	0	0	0	1	0	-
TOTAL	55	25	37	25	86	45	51	23	23	30	27	11	17	3	0	2	3	0

January-2002 to December-2018 History and Present (2019)

An “odor event” is defined as: One or more odor reports received during a 24 hour period from WWTP neighbor(s). Each odor event shall be considered to be “verified” unless OWASA determines conclusively that an alternative source other than the WWTP created the odor.

**LOG OF CALLS AND E-MAILS TO OWASA
FROM NEIGHBORS REPORTING ODOR IN THE MASON FARM
WASTEWATER TREATMENT PLANT (WWTP) AREA**

January 2019 – December 2019

Date call received	Time call received	Location
January 2019	No Reported Odors	N/A
February 2019	No Reported Odors	N/A
March 2019	No Reported Odors	N/A
April 2019	-	-
May 2019	-	-
June 2019	-	-
July 2019	-	-
August 2019	-	-
September 2019	-	-
October 2019	-	-
November 2019	-	-
December 2019	-	-

**SUMMARY OF ON-SITE HYDROGEN SULFIDE (H₂S)
ODOR MONITORING**

Month and year	Headworks Monitor			UNC Monitor			Digester Monitor			Switchgear Monitor		
	Average H ₂ S Reading (ppm)	Minimum H ₂ S Reading (ppm)	Maximum H ₂ S Reading (ppm)	Average H ₂ S Reading (ppm)	Minimum H ₂ S Reading (ppm)	Maximum H ₂ S Reading (ppm)	Average H ₂ S Reading (ppm)	Minimum H ₂ S Reading (ppm)	Maximum H ₂ S Reading (ppm)	Average H ₂ S Reading (ppm)	Minimum H ₂ S Reading (ppm)	Maximum H ₂ S Reading (ppm)
January 2019	0.0000	0.0000	0.0000 ¹	0.0000	0.0000	0.0000 ²	0.0000	0.0000	0.0000 ³	0.0000	0.0000	0.0000 ⁴
February 2019	0.0000	0.0000	0.000 ⁵	0.0000	0.0000	0.0000 ⁶	0.0000	0.0000	0.0000 ⁷	0.0000	0.0000	0.0000 ⁸
March 2019	0.0000	0.0000	0.0000 ⁹	0.0000	0.0000	0.0000 ¹⁰	0.0000	0.0000	0.0000 ¹¹	0.0000	0.0000	0.0000 ¹²

Monitor Locations :

Headworks Monitor (#1) – Monitor located at Headworks Facility.

Digester Monitor (#2) – Monitor located between Digester #1 and Digester #4.

UNC Monitor (#3) – Monitor located at Primary Sludge PS.

Switchgear Monitor (#4) – Monitor located at Switchgear Building.

¹ Maximum reading zero all of January 2018

² Maximum reading zero all of January 2018

³ Maximum reading zero all of January 2018

⁴ Maximum reading zero all of January 2018

⁵ Maximum reading zero all of February 2018

⁶ Maximum reading zero all of February 2018

⁷ Maximum reading zero all of February 2018

⁸ Maximum reading zero all of February 2018

⁹ Maximum reading zero all of March 2018

¹⁰ Maximum reading zero all of March 2018

¹¹ Maximum reading zero all of March 2018

¹² Maximum reading zero all of March 2018

DISTRIBUTION OF OWASA E-MAILS ABOUT OFF-SITE ODOR ELIMINATION

Highland Woods	Paul Neebe
	Mary Turner
	Malcolm Forbes
	Natalia Lebedeva
	Gary Richman
	Gail Wood
	Robert and Melissa Porter
	Robin Casey
	Joseph Clancy
	Ann Schwab
	Seth Kingsbury
	Amanda Kingsbury
	Freeman and Angela Kirby
	Reed Johnson
	Kay Johnson
	Rex Bartles
	Lisa Bartles
	Ann Alexander
	Nortin Hadler
	Carol Hadler
	Frank P. Rexford
	Scott Brees
	Kendall Brees
	Rainer Blaesius
	Elisabeth Schweins
	Susannah Shearer
	Fred Hall
	Lawanda Rainey-Hall
	Katie Jamieson
	Richard Harrill
	Angel Smith
	Jordon Sharome
	Cameron Williams
	Marian Rice
	Janet McLamb
	Michael Henning
	Benjamin Duan-Porter
	Matthew Mauck
Finley Forest	Adam Kimplead
	Cindy Underwood
	Dan Puckett
	David J. Polewka
	Kathryn Conard
	Michael Sharpe
	Julie Maness
Laurel Hill	Bob Wendell
	Carol David
	Pat Evans

	Ewan Rodewald and Sharon Hodge
	Marcella Grendler
	Kay Goldstein
	Ann Wilson
	Louis Fogleman
St. Thomas More Church and School	St. Thomas More Church staff
Morgan Creek area	Ellen Johnson
	Aldersgate United Methodist Church
	Betsy Malpass
	Hanson Malpass
	Jeannie Cox
	Laura King Moore
	Jeanne Langley
	AW Carr
	Marilyn and Don Hartman
	Robert Huls
Ronald McDonald House Family House	Shelly Day
	Greg Kirkpatrick, Executive Director
	Janice Ross, Operations Manager
	Matt Hapgood
Reserve	Steve McPhail
	James F. Howard
	Steven and Susan Frye
	Doug Longman
	Barbara and Edward Paradise
	Jeanne and David Jarrett
	Nadine O'Malley
	Mark Witcher
	Ralph Abrahams
	Kathy Abrahams
Bayberry Drive area UNC	William Ware
	Johnny Randall, NC Botanical Garden
	Jennifer Peterson, NC Botanical Garden
	Phil Barner, Energy Services Director
	Margaret Holton, Water, Sewer & Stormwater Coordinator
	Mary Beth Koza, Director, Environment, Health and Safety
	Ross Fowler, Finley Golf Course
	Michael Wilkinson, golf pro
	Andrew Sapp, Men's Golf Coach
	UNC Tennis Center
	UNC parking
	Mike McFarland, University Communications
	Scott Ragland, News Services
	Linda Convisor, Director of Local Relations
	UNC Farm (Faculty Staff Recreation Association)
	Frank Maynard, Athletics/ Finley Golf Course
	Robert Costa, Athletics/ Finley Golf Course
	Mark Steffer, Athletics/ Finley Golf Course

Distribution of OWASA E-mails About Off-Site Odor Elimination

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	Jeff McCracken, Public Safety
	Kate Luck
UNC Healthcare	Mel Hurston
	Karen McCall
	Keith Morris
Town of Chapel Hill	Roger Stancil, Town Manager
	Florentine A. Miller, Deputy Town Manager
	Ralph Karpinos, Town Attorney
	Lance Norris, Public Works Director
	Chris Roberts, Town Engineer
	Richard Terrell, Public Works Operations Superintendent
	Catherine Lazorko, Public Information Officer
	Jeanne Brown, Assistant to the Mayor
	Phil Mason, Planner
	Sabrina Oliver, Town Clerk
	Amy Harvey, Public Affairs and Communications
	Chris Blue, Police Chief
	Bryan Walker, Captain/Police Information
	Josh Mecimore, Police Information Officer
	Allison Weakley
	Kiel Harms
	Ran Northam
	Ross Tompkins
City Schools	Bill Mullin
	Todd LoFrese, Assistant Superintendent for Support Services
	Jeff Nash, Community Relations
	Crystal Jones
	Chris Liles
	Darlene Ryan
Other Utilities	Indira Everett, Duke Energy
	Brenda Duke, Duke Energy
	Steve Small, Duke Energy
	Billy Miller, PSNC
	Time Warner Cable
Orange County	Orange 911 Center Supervisor on duty
	Connie Pixley, Environmental Health Supervisor
Other	Bill Ferrell, Meadowmont Community Association
	Chamber of Commerce
	Michael Hughes
	Post Office