



COVID-19 Wastewater Report September 18, 2023

The COVID-19 reporting requirements for various medical entities have changed due to the federal public health emergency for COVID-19 ending on May 11, 2023. However, one set of data that will remain is the monitoring of COVID-19 gene fragments that are contained in wastewater. Huron County Public Health (HCPH) will begin issuing reports based on the testing results obtained from the Norwalk, Monroeville, New London, and Wakeman wastewater treatment plants to help concerned or vulnerable residents assess the levels of COVID-19 circulating in our communities. This report will be posted weekly on Mondays at www.huroncohealth.com/public-information. Additional information is also available on the State of Ohio's COVID-19 Dashboards, available at: <https://data.ohio.gov/wps/portal/gov/data/view/covid-19-reporting>.

Note to the Community – 9/18/2023

You will notice in this report that the New London, Norwalk, and Wakeman Wastewater Treatment Plants have graphs that showed increases in the COVID-19 virus copies per liter.

Additionally, there continues to be a steady increase in the number of Huron County positive COVID cases in the Ohio Disease Reporting System (ODRS). This system reports the positive COVID-19 cases that have been diagnosed at medical offices in both Ohio and Huron County. For the month of September so far, we have seen 83 new cases of COVID-19 reported. This 61-case increase is an increase from the 22 cases noted in our last wastewater report on September 5, 2023.

Since the graphs are based on the 3-week averages of the days tested during that period, it can take several weeks for HCPH to determine if the graph's changes are significant for the community or not. It is not uncommon for an individual day or several days to spike and then come back down. However, it is important to understand that COVID-19 is definitely in our communities, or the graphs would be a flat line.

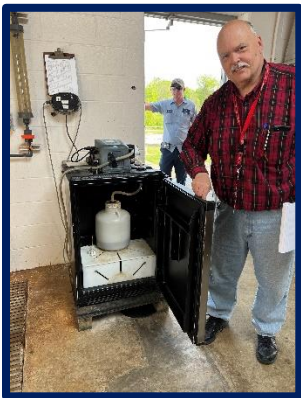
People in the high-risk category for illness and/or hospitalization may want to start taking extra precautions when interacting with others. Steps you can take to prevent COVID-19 can be found at: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>. COVID-19 at-home tests kits are available for free in the harm reduction vending machine in front of Huron County Public Health at 28 Executive Drive in Norwalk.

Why is wastewater being monitored?

The level of COVID-19 cases in communities has historically been tracked by the reporting of individual test results. Increasingly, testing data is not available due to the popular use of at-home test kits where results are not reported. Consequently, there is a need to use additional monitoring methods to evaluate COVID-19 disease trends within our community. Research has shown that gene fragments from the virus that causes COVID-19 can be detected in the feces and urine of both infected people with symptoms and infected people without symptoms. As such, monitoring raw wastewater in sewage collection systems can provide a warning of increasing and decreasing disease trends in a community. This trend information can be used to help inform concerned and vulnerable members of the public.

Why do we look at trends rather than the number of cases of COVID in wastewater?

People infected with the COVID-19 virus shed the virus gene fragments in their feces at different rates based on how sick they are and where they are in the progression of their illness. Also, the levels of COVID-19 in wastewater flowing through a community can change throughout the course of one day as events occur such as school sports events, church, work shift changes, festivals, etc. This variability can also be seen in the volume of wastewater flow received at a wastewater treatment plant on any given day because of the water use in a community, rain events, and other factors. All of these factors are why it is impossible to determine the number of cases in a community and why Huron County's wastewater reports will be based on a running 3-week average.



How Does Wastewater Monitoring Work?

Wastewater entering wastewater treatment plants is sampled and analyzed for fragments of the virus. The wastewater comes from homes and businesses in the community and travels through pipes to the wastewater treatment plant. A 24-hour time elapsed wastewater sample is collected in an area where all the sewage from the community enters the plant. Since the sample is derived from a mixture from all areas of the sewer district, infection rates cannot be traced to specific areas of the community. This sample is sent to and analyzed by the Ohio Department of Health Laboratory (ODHL) to determine the number of virus gene copies present, related to the volume of wastewater flow that occurred during the 24-hour sampling period and the number of people that contributed to the flow.

How does Huron County Public Health get its information?

Local wastewater treatment plants collect samples twice weekly for COVID-19 gene fragments. Samples are picked up by the ODHL, who analyzes the samples and provides data to the Ohio Wastewater Monitoring Network (OWMN). Huron County Public Health downloads the raw test result data from the OWMN (<https://coronavirus.ohio.gov/dashboards/other-resources/wastewater>) and then creates the data report for the community.

Understanding the Test Results

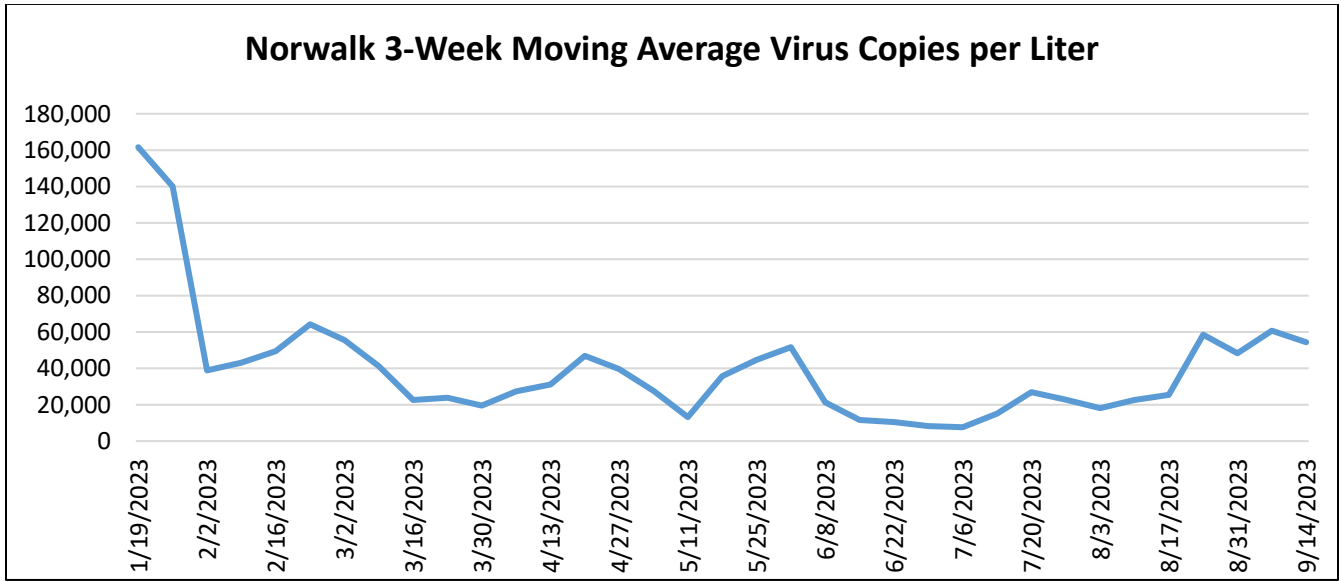
When reviewing the sampling results, it is most important to appropriately evaluate the trend in viral gene copies. A 10-times, or higher increase in rate is more significant than an actual increase in the number of gene fragments. For example, an increase from 6,000 to 50,000 gene copies is nearly a 10-times increase in rate and is more concerning and more significant than an increase from 60,000 to 120,000 viral gene copies which is only a 2-times increase in numbers. Therefore, we are more concerned about rate changes than overall number changes.

HCPH has decided to use the 3-week moving average of the N2 per liter as its standard unit of measure. The N2 per liter is the number of virus gene copies in a liter of sewage that is entering the sewage treatment plant. The 3-week period helps to smooth out the effects of things such as large employers, schools (in session or out of session), rainfall, and significant community events that can affect the volume and virus concentration of sewage in each community's sewage system.

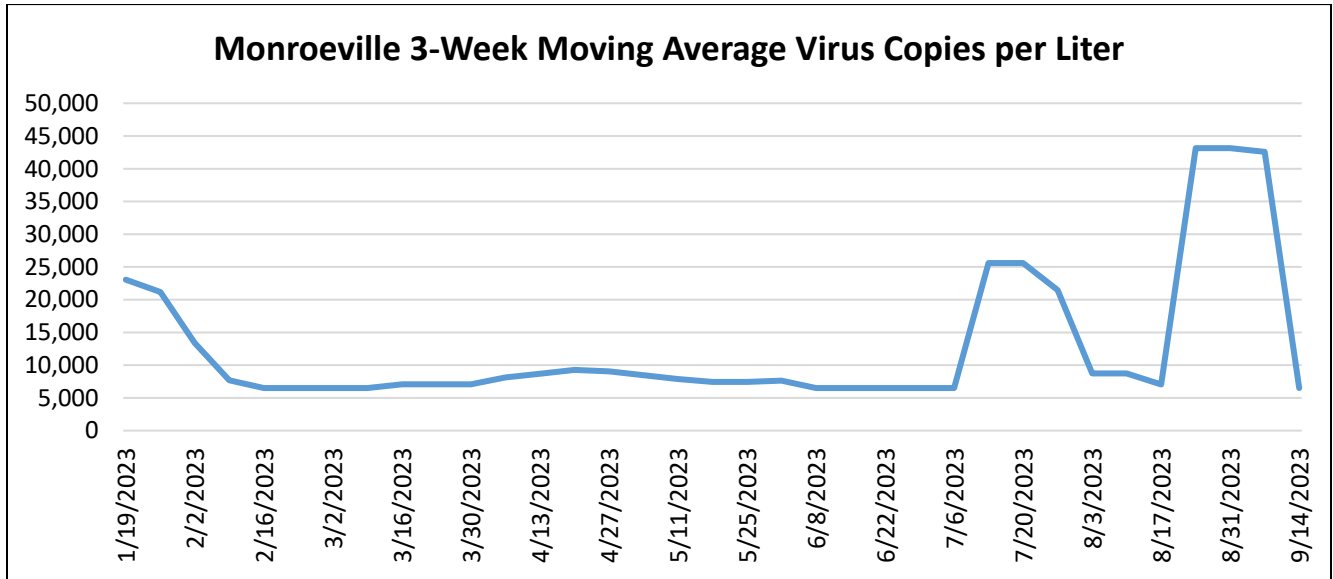
Because each of our communities has a different number of people living in the wastewater treatment plant service area and each community has a different wastewater flow volume, it is not appropriate to compare actual viral gene copy numbers between communities.

Huron County COVID-19 Wastewater Data – September 18, 2023

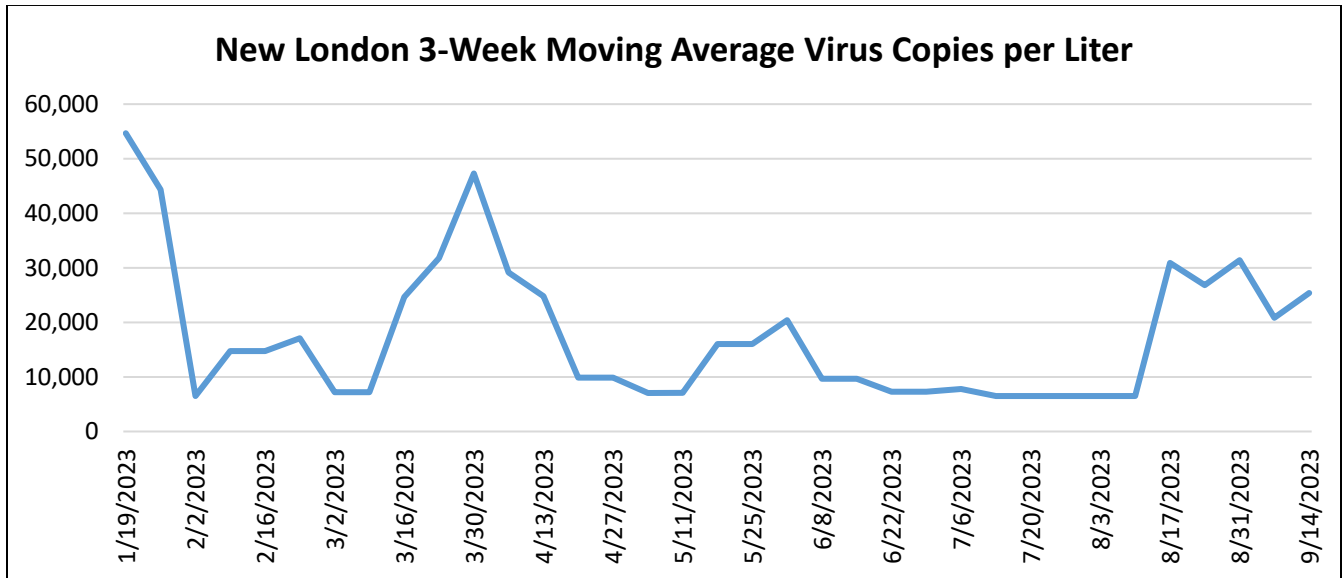
Norwalk



Monroeville



New London



Wakeman

