

Wisconsin State Laboratory of Hygiene (WSLH) Wisconsin Wastewater Monitoring Project

FAQs for Wastewater Treatment Facilities

I. Project Overview

Why test wastewater?

- Nearly 80 percent of United States households are served by municipal sewage collection systems.
- SARS-CoV-2 can be shed in the feces of individuals with symptomatic or asymptomatic infection; therefore, wastewater surveillance can capture data on both types of infection.
- Testing influent from a wastewater facility is an efficient way to obtain pooled community sample.
- SARS-CoV-2 detection in sewage serves as a COVID-19 indicator that is independent of healthcare-seeking behaviors and access to clinical testing.
- SARS-CoV-2 measurements in untreated wastewater can provide information on changes in total COVID-19 infection in the community contributing to that wastewater treatment plant (that area is known as the “sewershed”).
- Depending on the frequency of testing, sewage surveillance can be a leading indicator of changes in COVID-19 burden in a community.
- Data from wastewater testing is not meant to replace existing COVID-19 surveillance systems but rather to complement them.

What are the objectives of the wastewater monitoring project?

- Overall goal of wastewater monitoring is to be a useful tool for the Wisconsin health departments, providing additional information and filling in potential gaps that can occur in traditional population testing.
- Our key objective is to measure the amount of the SARS-CoV-2 virus that causes COVID-19 in Wisconsin by measuring the amount of virus in untreated wastewater.
- We are also monitoring for other respiratory viruses such as influenza A & B (seasonal flu) and RSV (respiratory syncytial virus), and developing methods to track multidrug resistant organisms.
- We are monitoring novel variants, as well as variants of concern, by examining the genetic sequence of SARS-CoV-2 viruses.

How much does the testing cost?

There is no charge to participating Wisconsin wastewater treatment facilities who use the provided pre-paid UPS shipping label or hand-deliver to WSLH.

How do I enroll in wastewater monitoring?

The Wisconsin Wastewater Surveillance program is close to capacity, but we may want to enroll a new site based on geographical or population representation criteria. Please inquire with WSLH COVID Sewage Team via phone (608-263-2444) or email

CovidSewageTeam@slh.wisc.edu

When will wastewater monitoring end?

- The monitoring network in place for SARS-CoV-2 will run at least through the end of July 2024, but may be extended based on available funding

II. Sampling questions

What type of samples do we analyze?

- Well mixed 24-hour flow-weighted **influent** composite is preferred (typically 2 bottles with 250 mL in each).
- The lab will supply sample containers, shipping supplies, shipping label and the necessary paperwork (sampling and shipping instructions, as well as sample submission lab slips).
- Samples should be refrigerated (**do not freeze**) immediately after collection and kept cool until shipping (4 - 8°C; 39 - 46°F). Shipping the same day is preferred.

What will the WSLH be testing for in the samples?

- We are looking for and quantifying the genetic material of the SARS-CoV-2 virus – the presence and concentration of characteristic RNA of the SARS-CoV-2 virus. We can also test for additional targets including influenza A & B (seasonal flu) and RSV (Respiratory Syncytial Virus), as well as test for SARS-CoV-2 variants of concern (VOCs) or novel variants. We do not assess the infectivity/viability of the virus.

III. Results

How will the results and interpretation be shared with us?

- Results will be emailed to the specified personnel as a pdf report at least on a weekly basis.

Results will be displayed on the state and national wastewater surveillance dashboards:

- <https://www.dhs.wisconsin.gov/covid-19/wastewater.htm>
- <https://covid.cdc.gov/covid-data-tracker/#wastewater-surveillance>
- <https://dataportal.slh.wisc.edu/sc2dashboard>

IV. Safety

Is SARS-CoV-2 in wastewater a risk to human health?

- Our laboratory is not evaluating the infectivity of the ***influent*** samples. However, up to date scientific data strongly suggests that the SARS-CoV-2 virus in the influent is no longer infectious and therefore the health risk to wastewater operators is low. In addition, multiple labs have shown that the virus RNA is absent from WWTP ***effluents***. Also according to the U.S. Centers for Disease Control and Protection (CDC), no additional COVID-19-specific protections are recommended for workers involved in wastewater management, including those at wastewater treatment facilities. For more information please visit: <https://www.who.int/publications/i/item/WHO-2019-nCoV-IPC-WASH-2020.4>

V. Glossary

- <http://www.slh.wisc.edu/environmental/covid-19-wastewater/>

Have additional questions? Please feel free to contact the WSLH COVID Sewage Team at:

Email: CovidSewageTeam@slh.wisc.edu

Phone: (608) 263-2444