

Background

In September 2020 Yarmouth, Maine, submitted its first wastewater specimen to the St. Joseph's College Microbiology Department to begin community surveillance for COVID using wastewater*. Funding was initially provided via municipal funds as part of the American Rescue Plan and then continued with municipal and private funds until late February 2022.

On February 10, 2022, Yarmouth became a participant in Phase 1 of the US CDC's National Wastewater Surveillance System (NWSS) and began sending wastewater samples to LuminUltra Technologies of Frederickton, New Brunswick, for testing. From February 10th through April 11th, 2022, Yarmouth submitted 13 wastewater samples to LuminUltra for testing. During the transition from the YCWWTP to LuminUltra, the Yarmouth Community Coronavirus Task Force and its subcommittee on wastewater testing arranged testing for overlapping specimen collections from Yarmouth's wastewater system to compare SARS-CoV-2 virus levels as measured by the different laboratories.

On May 3, 2022, Phase 2 of the US CDC NWSS testing program began for Yarmouth, and the laboratory contract shifted to Biobot Analytics of Cambridge, Massachusetts. Phase 2 is expected to continue with Biobot for the remainder of 2022. During phase 2, Yarmouth will submit wastewater samples twice a week for testing and analysis.

The wastewater testing results from the three laboratories are shown in Figure 1. The testing results from St. Joseph's College are shown in red for August 26, 2021 to February 22, 2022. The 13 results from LuminUltra are shown in blue, and the 8 results from Biobot are shown in orange.

The YCWWTP, LuminUltra, and Biobot use different methods for analyzing wastewater samples for SARS-CoV-2 and for adjusting results for wastewater flow, fecal content, viral recovery during analysis, and other factors. Because their methods differ, the adjusted results from the laboratories' analyses may not be comparable. The Yarmouth Wastewater Testing Team is reviewing the analysis and adjustment methods used by YCWWTP, LuminUltra and Biobot to assess their comparability. For now, the best approach for interpreting test results is to monitor viral trends for each of the laboratories separately.

* Yarmouth's community wastewater testing program (YCWWTP) was a joint effort by the Town of Yarmouth, Yarmouth's wastewater treatment plant, the Microbiology Department of St. Joseph's College, and the Yarmouth Community Coronavirus Task Force.

Yarmouth SARS-CoV-2 (COVID-19) Wastewater Testing Results — June 1, 2022

- The adjusted virus levels were 692.4 and 1174.2 copies/mL in last week's wastewater samples (May 23–24 and May 25–26).

- After three weeks of high, and generally increasing, virus levels, last week's decline is welcome.
- Viral testing with a new laboratory (Biobot) started on May 3, 2022, which coincided with a surge in the Omicron SARS-CoV-2 variant in Maine. The higher viral levels reported during May might be due to the surge, the change in laboratory, or both.
- The Maine CDC reported 24 cases of COVID-19 for Yarmouth for May 23–29, 30 cases for May 16–22, and 35 cases for May 9–15. These case counts are likely to be lower than the actual number of cases due to reduced testing and increased self-testing (home tests), which is not reported to Maine CDC.
- The Yarmouth Schools reported 26 cases of COVID-19 for the weeks of May 23–27 and May 16–20, and 25 cases for May 9–13.
- In light of the high—but decreasing—level of SARS-CoV-2 in Yarmouth's wastewater last week, we are setting the COVID-O-Meter at the High level.
- If viral levels continue to decrease, a change in the COVID-O-Meter to the Moderate level may be warranted in the next week or two.



Figure 1. Results of weekly Wastewater Testing for SARS-CoV-2 for Yarmouth, Maine, between August 26, 2021, and May 26, 2022.

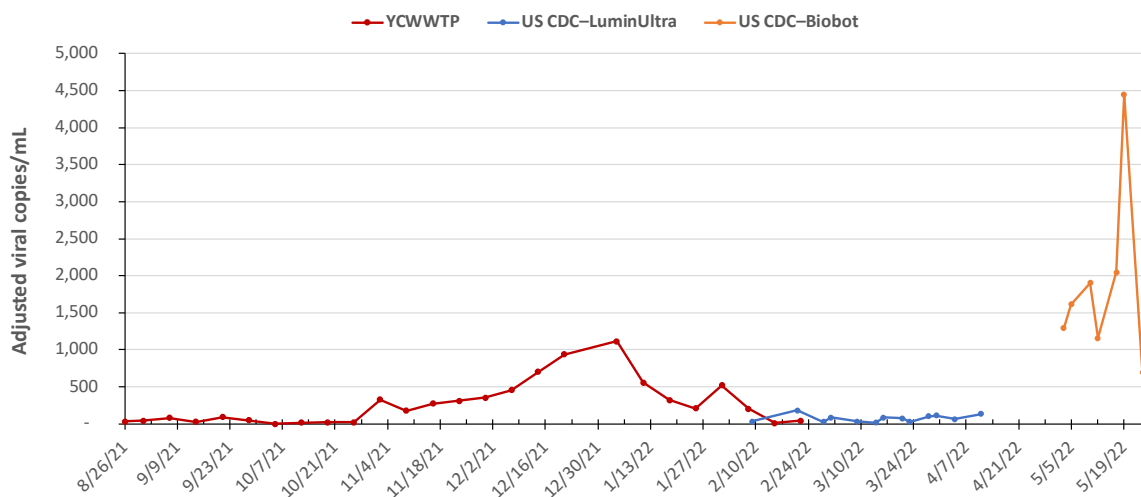


Table 1. Results of US CDC–Biobot wastewater testing for SARS-CoV-2 for Yarmouth, Maine, May 3–26, 2022

Sample submission date†	Effective virus concentration‡ (copies/mL)
3-May-2022	1,292
5-May-2022	1,612
10-May-2022	1,903
12-May-2022	1,156
17-May-2022	2,047
19-May-2022	4,447
24-May-2022	692
26-May-2022	1,174

† 24-hour influent wastewater samples are collected proportional to flow from 7am on day 1 to 7am on day 2. Day 2 is the sample submission date.

‡ Effective virus concentration value is derived by adjusting the raw virus concentration to account for dilution and other factors.

We suggest that the Yarmouth Community continue to exercise caution:

- Get vaccinated and boosted.
- Consider wearing a mask in indoor public places.
- Avoid crowded indoor spaces.
- When indoors, good ventilation (air exchange) is important.
- Test with a rapid antigen test when gathering with friends and family who have been out and about, or if you will be spending time with people at higher risk.
- If you have COVID, leave isolation only after you have a negative rapid antigen test.
- Persons that are immune compromised due to medical conditions or medical treatments should take particular care, as should those around them.