COVID-19 Wastewater

MHOA October 2022

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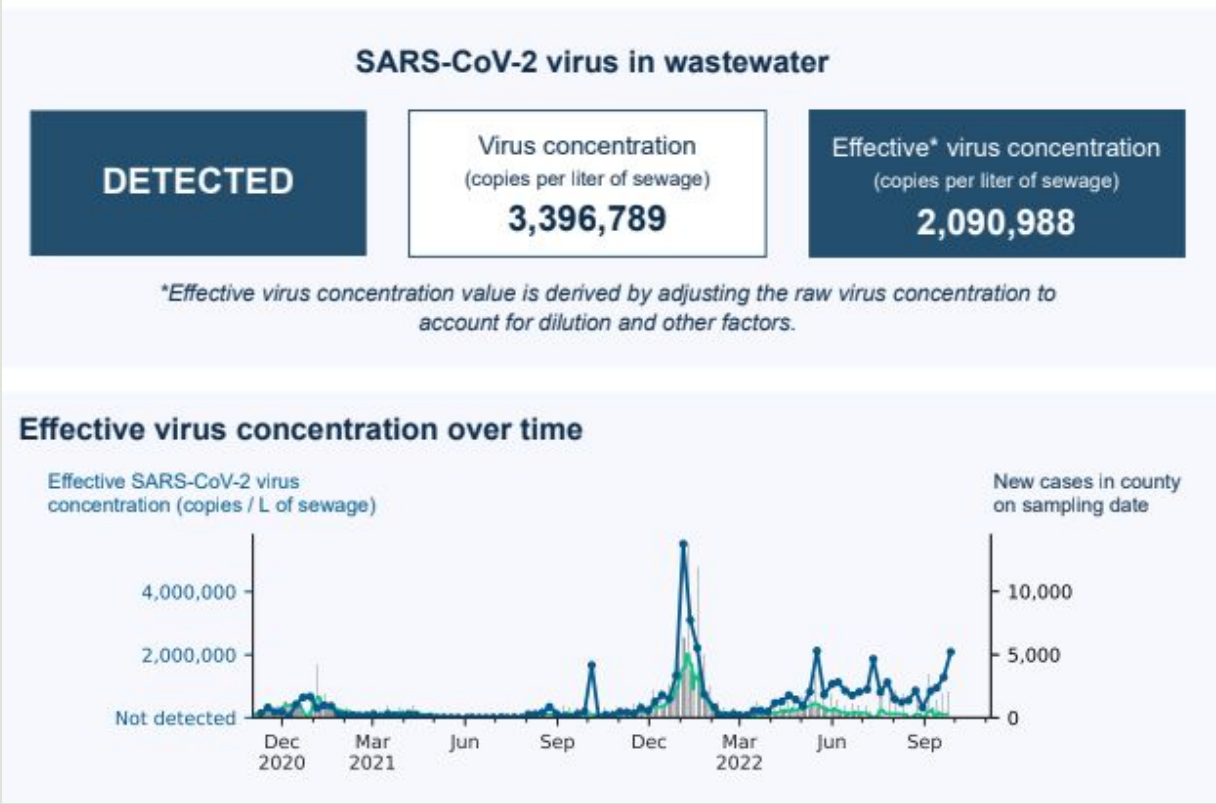
Cambridge Wastewater Timeline

- **November 2020:** Cambridge divided into four quadrants; weekly local sampling
- **September 2021:** Additional four "sentinel sites" added
  - 3 high case burden neighborhoods (very small catchments)
  - 1 long term care
- **November 2021:** End sentinel site sampling
  - LTCF: redundant with surveillance testing; contamination of sample from laundry
  - High burden neighborhoods: Variability/"noise" in data hard to interpret
    - Successful walking outreach did occur!
- **September 2022:**
  - Extended contract through June 2023 for four large catchments
  - Hope for further testing for other pathogens/areas of interest

Current Use Case

- Four weekly sampling sites
- PDF & raw data reporting from Biobot
- Public-facing dashboard of the results
- Comparison with MWRA regional data



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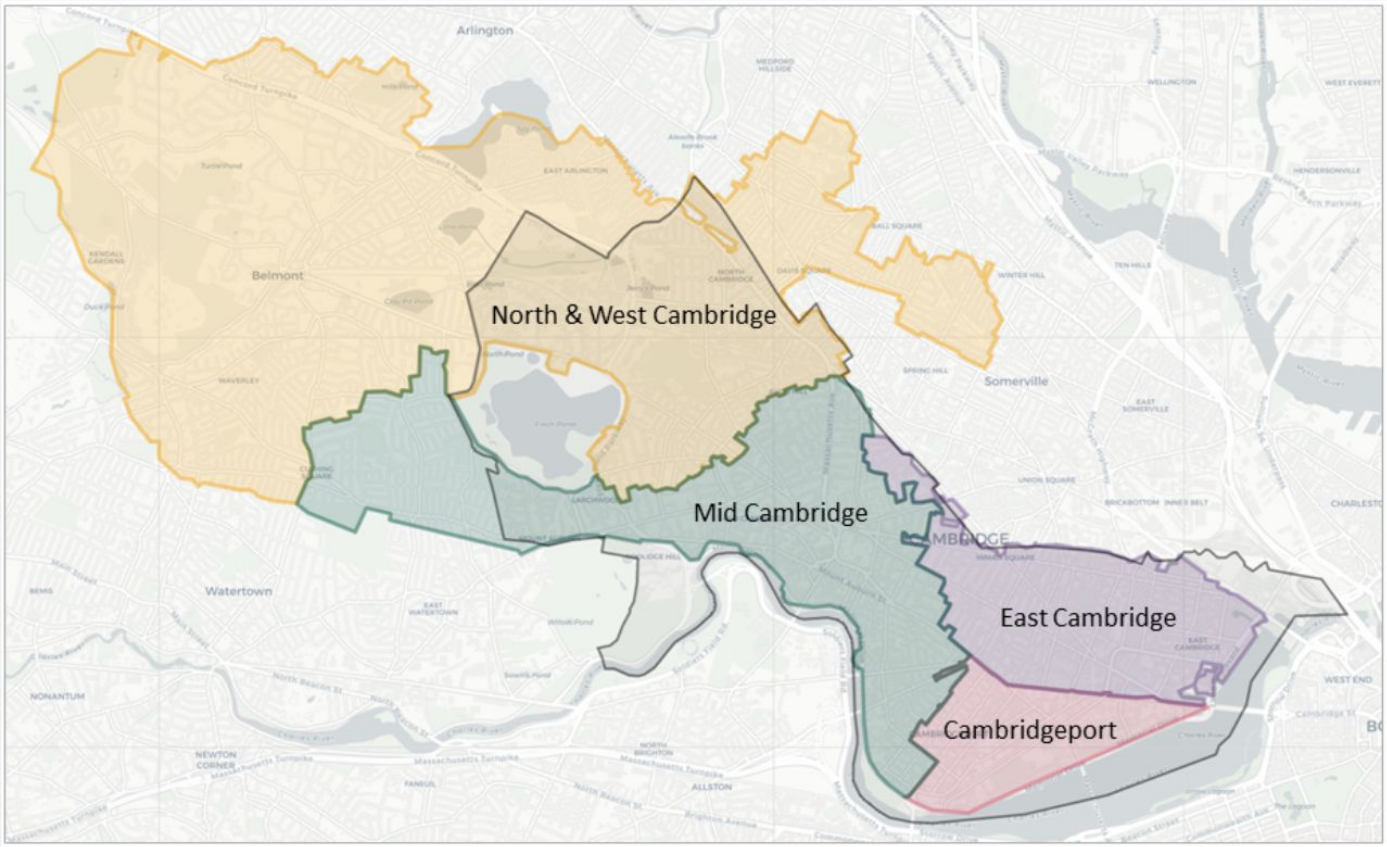
Catchment Map



Sampling Location

- 11 Granite
- 16 Medford
- 2 Waverly
- 41 Alewife

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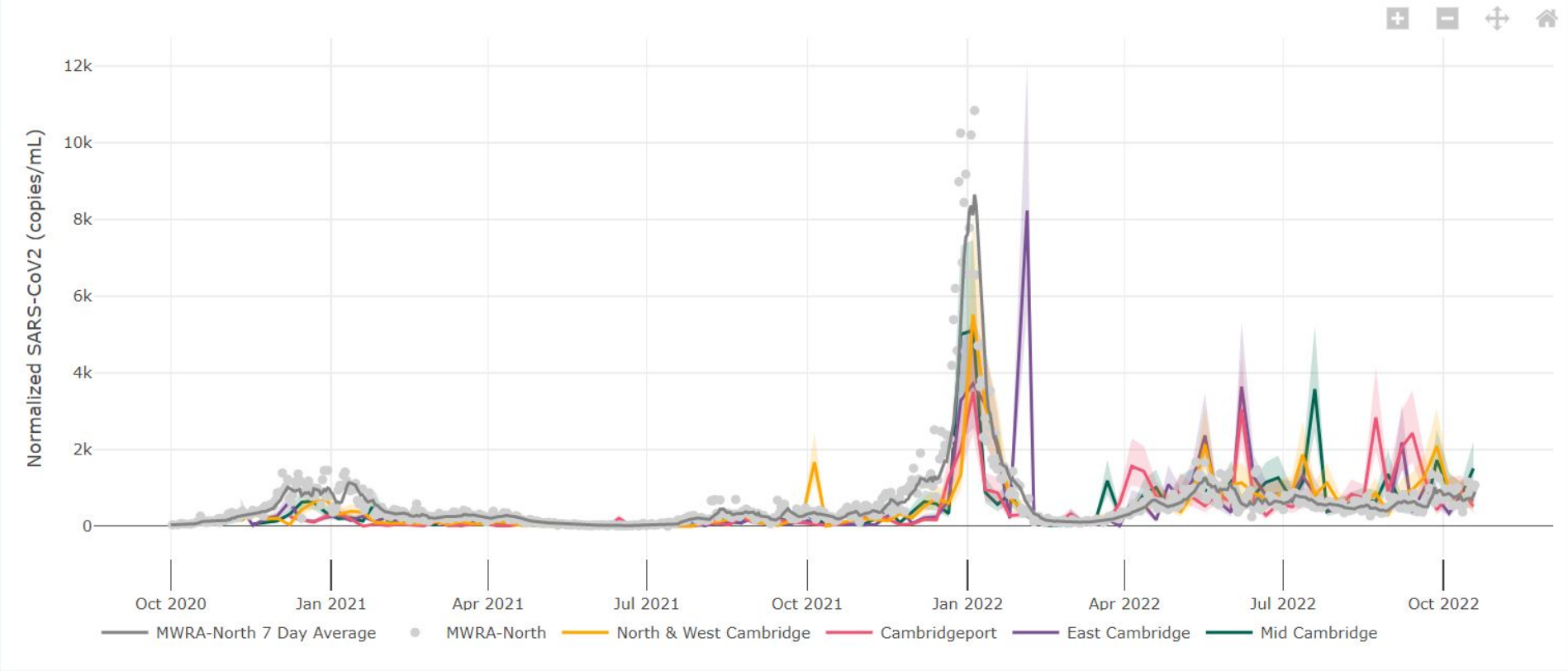
Public Dashboard

Weekly Municipal Wastewater Sampling Data

Select Sample Site



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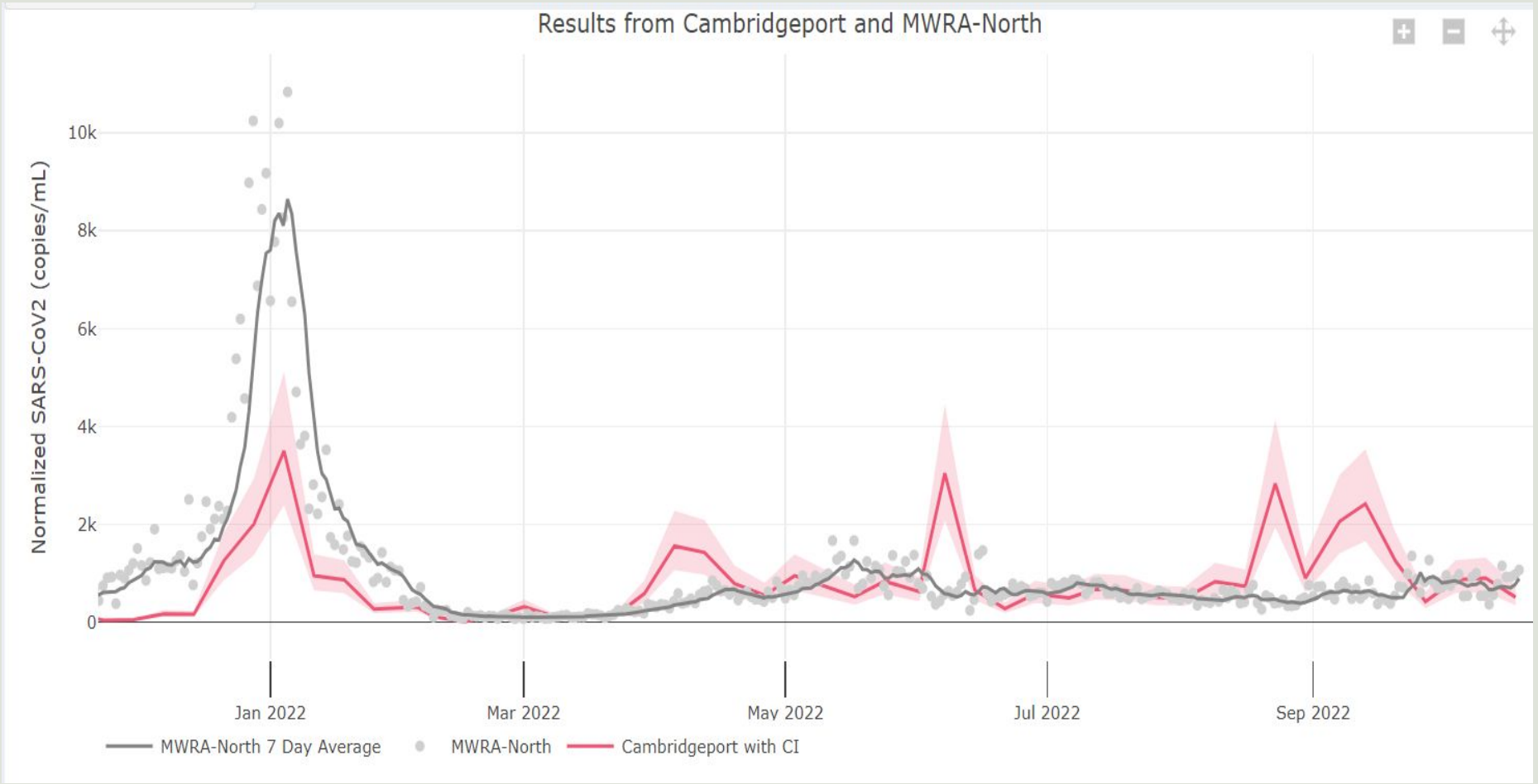
Public Dashboard



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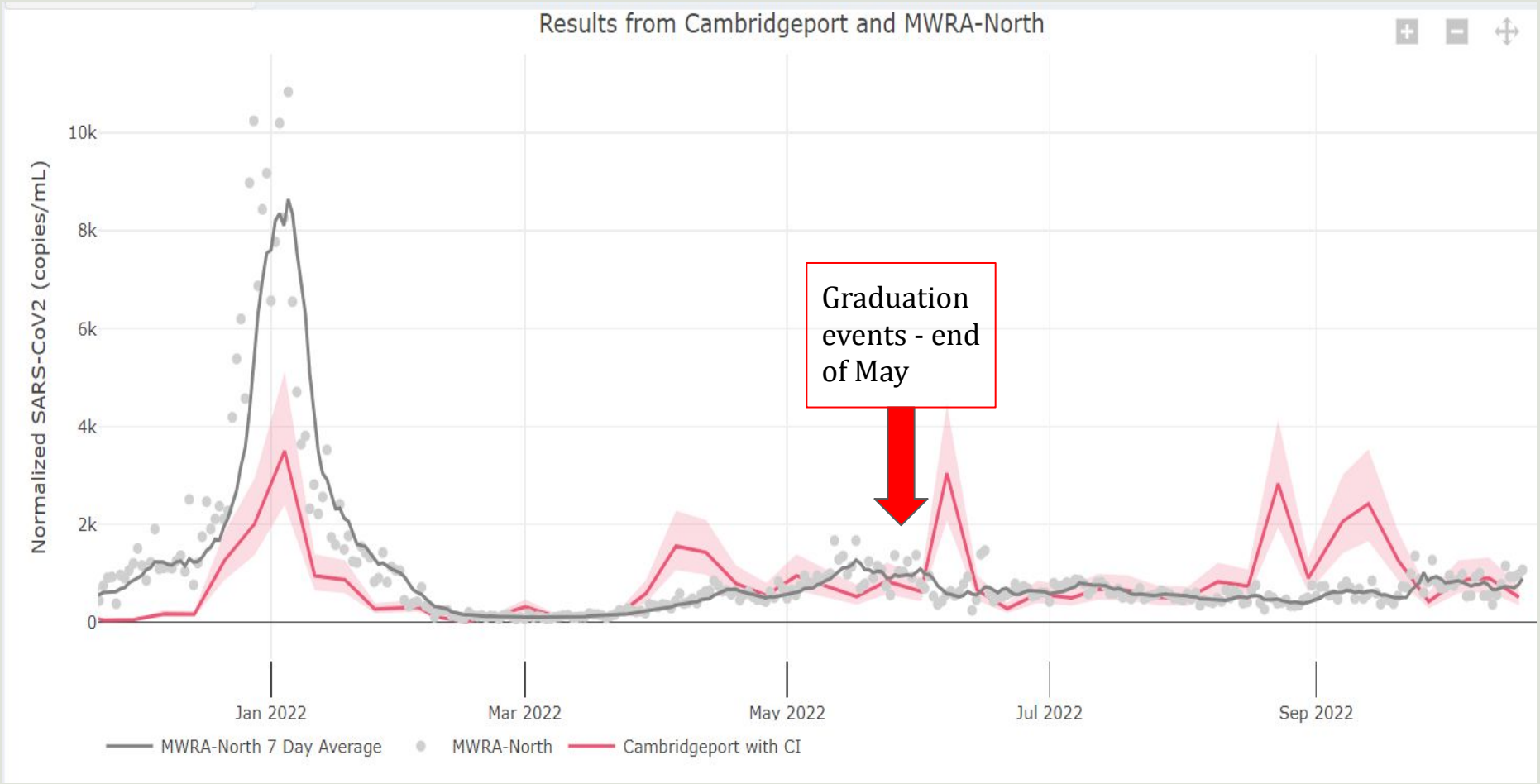

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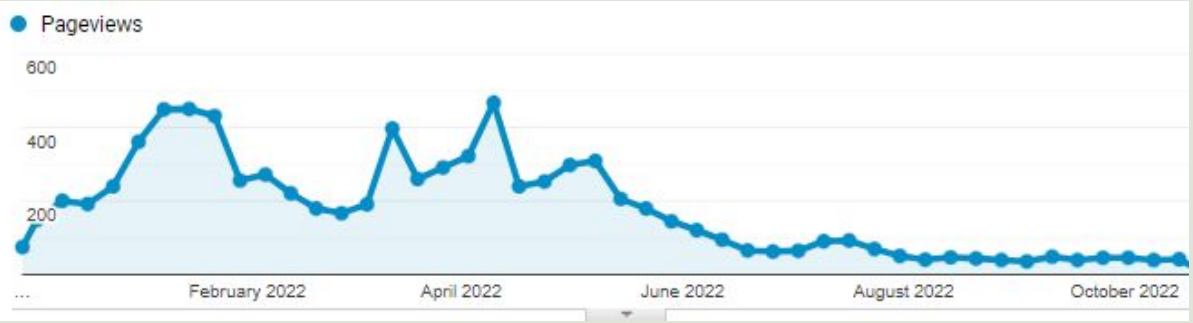
Public Engagement

- **General Public**
  - **High point:** Avg. 383 viewers per week (Dec ‘21 - Feb ‘22)
  - **Current:** Avg. 43 viewers per week (Labor Day ‘22 - present)
  - Avg. of 4 minutes of engagement per visit
    - 1-2 min on the “New Cases page”; 30 seconds on landing page



- **Collaboration with City staff and Local Politicians**
  - High engagement from City Council
  - Close collaboration with City OpenData & Comms groups
- **Outreach Team Deployment**
  - Outreach teams deployed with masks, test kits, and general information in affected neighborhoods

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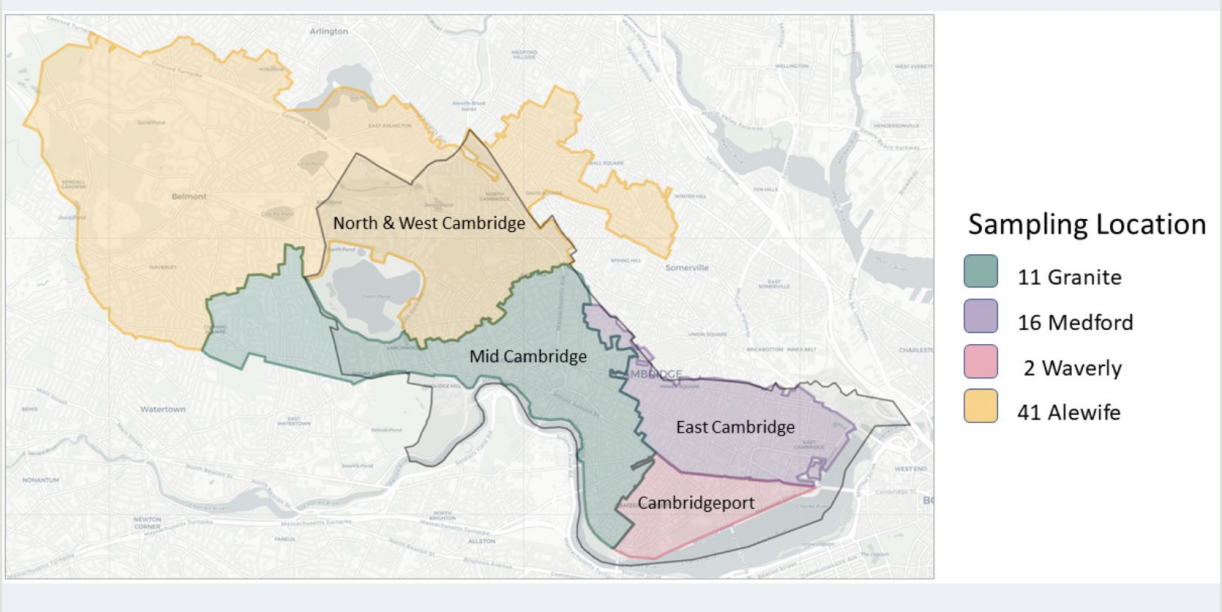
Challenges

- **Granularity of data - large catchment areas**
  - Resident population of ~118,000 people
  - City population doubles during the day; what do the data tell us?
  - Hard to send an outreach team to hand out information
- **Catchments vs City borders**
- **Sentinel Sites**
  - Redundant coverage
  - Timing of signals
  - Noise in data



Future Directions for Local Wastewater

- Continue to monitor for unusual COVID-19 spikes
  - Regional context is key
- Emerging communicable disease
  - Novel viruses
  - Existing pathogens
    - MPV
    - Polio
    - Influenza
- High risk substance use

Thank you!

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