

INDIANA LABORATORY SYSTEM MONTHLY PARTNER WEBCAST

Thank you for joining us.
The webcast will begin shortly.

10/9/2025





Indiana
Department
of
Health

INDIANA LABORATORY SYSTEM MONTHLY PARTNER WEBCAST

MARK GLAZIER
DEPUTY LABORATORY DIRECTOR

10/9/25

Agenda

- 1. Welcome and laboratory updates** – Mark Glazier, deputy laboratory director
- 2. Courier/NW Screwworm updates** – Brian Pope, Virology & Biological Preparedness division director
- 3. IDOH Wastewater Surveillance Program** – Jason Wenning, wastewater epidemiologist
- 4. Q & A** – IDOHL webcast team



Updates and Reminders



Indiana
Department
of
Health

IDOH Laboratory

Three ways to stay in the know:

1. Email us at IDOH-Lab-Info@health.in.gov
2. Sign up for IHAN – Indiana Health Alert Network
<https://www.in.gov/health/emergency-preparedness/indiana-health-alert-network-ihan/>
3. Update your laboratory's contact information [here](#)



APHL Infectious Diseases Webinars

The Association of Public Health Laboratories (APHL) is excited to announce its upcoming infectious diseases webinar lineup. P.A.C.E.® credits will be offered for the webinars (most are eligible for one contact hour).

Vaccine Preventable Disease Reference Center: 2025 Update

November 4 | 3 p.m. ET

Considerations For Improving Laboratory Efficiencies For Sequencing in Public Health

November 19 | 2 p.m. ET

***Bordetella* Bacteria: Current Trends and Impacts**

December 10 | 2 p.m. ET

For more information about these webinars, email infectious.diseases@aphl.org.

CDC Issues Alert for Ebola Outbreak in the Democratic Republic of the Congo

- On Sept. 19, 2025, the U.S. Centers for Disease Control and Prevention (CDC) issued a Health Alert Network (HAN) Health Advisory to notify clinicians, public health officials, and potential travelers about an Ebola outbreak in the Democratic Republic of the Congo and offer guidance for prevention and monitoring.
- The risk for widespread Ebola in the United States remains low due to robust surveillance programs and outbreak response capacity supported by federal, state, tribal, local, and territorial health partners.
- Please review the [HAN](#) for more information including recommendations for healthcare professionals, state and local health departments, and international and domestic travelers to outbreak areas.
- Online Resources:
[About Ebola | Ebola Disease Basics | CDC](#)
[Ebola Outbreak in the Democratic Republic of the Congo](#)

2025 ILS webcast updates

- ILS webcasts will be held from 10:30-11 a.m. ET on the second **Thursday** each month
- Webcasts will require registration via the links provided:
 - November 13 – [Registration Link](#)
 - December 11 – [Registration Link](#)
- Recordings will be sent to the email provided during registration following the conclusion of the webcast



Indiana
Department
of
Health

COURIER SURVEY & NEW WORLD SCREW WORM

BRIAN POPE

VIROLOGY & BIOLOGICAL
PREPAREDNESS DIVISION
DIRECTOR

Courier Survey – New & Interested Facilities

A survey is now live on the IDOH Courier website for facilities who are interested in becoming a site for the Indiana Courier System. The courier system only transports packages between the IDOH Laboratory in Indianapolis, IN and the pickup site. This form is reviewed whenever space is open and available for the courier service.

Completing this form does not guarantee a spot in the courier system and will take approximately 15 – 20 minutes.

<https://forms.office.com/g/m3hrtQLkuv>

New World Screwworm

New World Screwworm continues to expand in Central America and further into Mexico. A Travel associated case has been reported in Maryland.

CDC has critical information on the resurgence of new world screwworm in the Americas:
<https://www.cdc.gov/new-world-screwworm/about/index.html>

A critical reminder from CDC: **If you are a healthcare provider removing larvae from a patient, place all larvae in a leak-proof container, directly into 70% ethanol (Acceptable alternatives include 70% (or greater) isopropanol or 5% – 10% formalin). Make sure the alcohol fully submerges the larvae entirely. Do not dispose of any larvae or eggs in the trash or outside on the ground.**

If you have a suspect case, please reach out to Kira Richardson at 317-234-9727.



Indiana
Department
of
Health

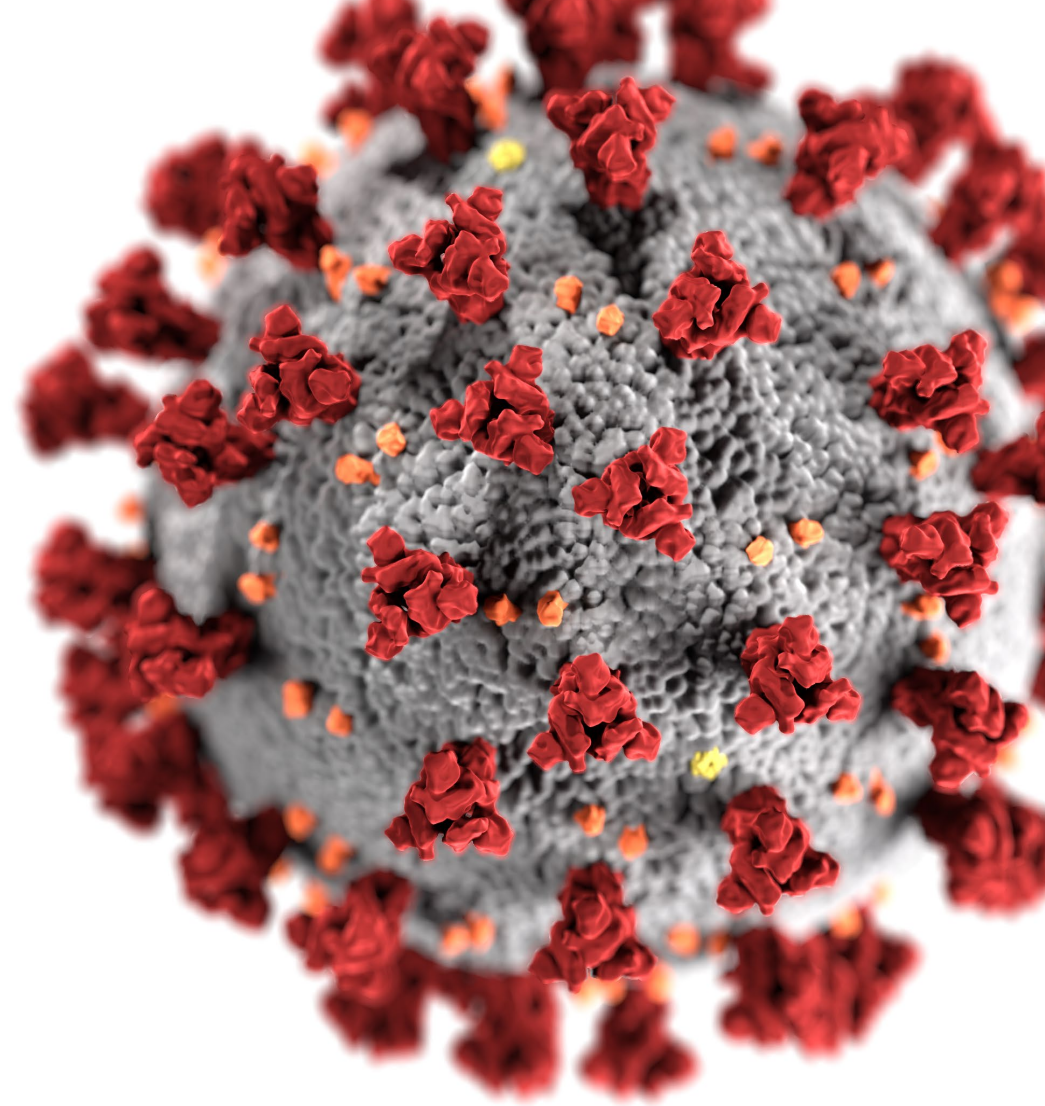
IDOH WASTEWATER SURVEILLANCE PROGRAM

JASON WENNING

WASTEWATER EPIDEMIOLOGIST

Learning Objectives

- Summarize the history of wastewater-based epidemiology
- Review the use of wastewater surveillance
- Evaluate new wastewater surveillance data in Indiana
- Expanding to new targets



Historical and Future Uses

Wastewater has been used globally for decades to monitor communities for:

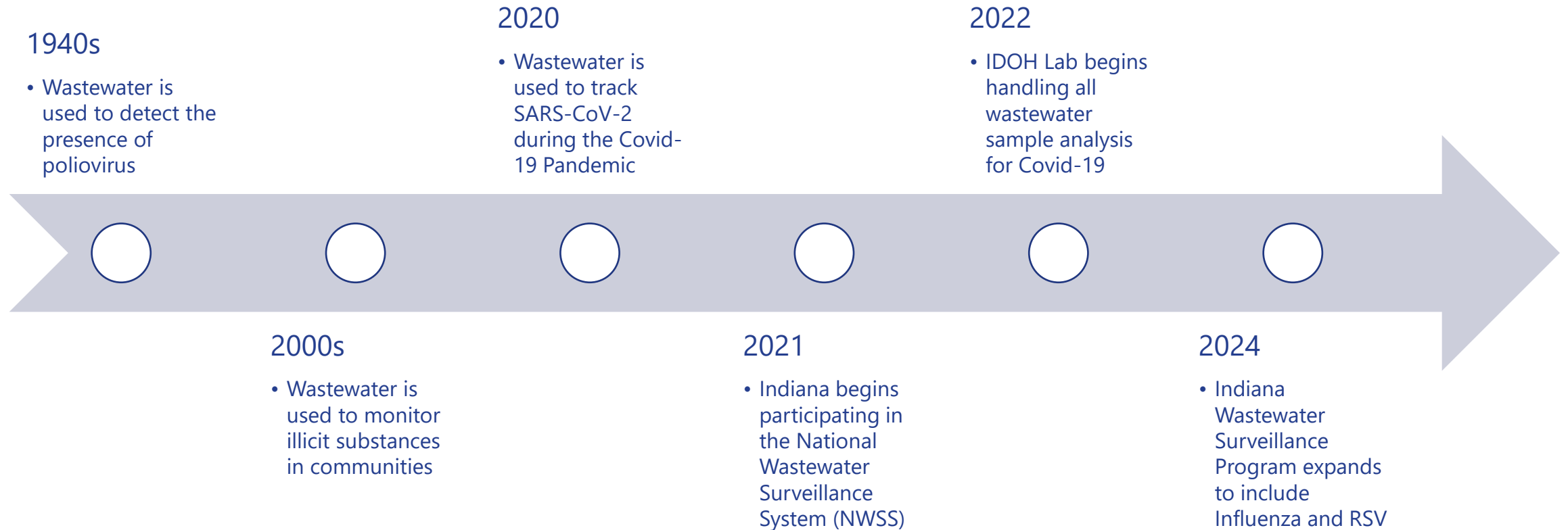
- Drug use or presence
- Level of disease or spread of pathogen

New research being performed for potential wastewater surveillance for:

- Antimicrobial-resistant bacteria
- Biomarkers of health



A Short History of Wastewater Surveillance



Wastewater Monitoring Today

Currently Being Monitored by the CDC

- COVID-19
- RSV
- Influenza
 - Flu A
 - H5 Subtype
- Mpox
- Measles

Currently Being Monitored by Other Programs

- Mpox clade II
- Hepatitis A
- Human metapneumovirus
- Rotavirus
- Norovirus GII
- Candida auris
- Measles
- Enterovirus D68
- Parainfluenza
- Human Adenovirus Group F

Power in the Poo

- **Everyone contributes to wastewater systems**
- RNA is detected in stool samples among infected individuals
- Depending on the specific target, Infected people may shed virus in feces 5-14 days before symptoms develop



Wastewater Use for COVID-19

- **Wastewater surveillance can be used as an early warning indicator for community level detection**
 - Identifies whether transmission is increasing or decreasing
 - Supplements case-based surveillance as well as hospitalization data and deaths
 - Cost-effective and less invasive
 - Collects data from everyone, regardless of access to healthcare



Limitations and barriers

- Doesn't include data from communities not served by the sewer systems being tested
 - ~20% of US residences are not connected to sewer
- Many environmental factors can affect test results (i.e., pretreatment, wastewater system design, weather)
 - Onsite treatment increasingly common at correctional facilities, universities
- Unfamiliarity with interpretation and utilization for the data



Using Wastewater to Inform Public Health

Another Piece to the Puzzle

- Used to complement traditional surveillance methods for early action
- Most helpful when used with other data

Warning Indicator

- Notify communities of higher risk of spread
- Increase individual and public health measures in impacted communities

Informing Hospitals

- 10-14 day lead time before hospitalization rates increase
- Increase staffing needs and bed space

IDOH Lab Testing Protocol

Collection

- WWTP collects wastewater samples twice a week using IDOHL provided sampling kit and guidelines
- Grab sample or composite sample is acceptable

Transportation

- Sampling containers and shipping supplies provided by IDOHL
- Samples should be kept at 4°C and shipped to IDOHL via UPS

Testing/Analysis

- IDOHL uses QIAGEN QIAcuity digital PCR testing method for SARS-CoV-2, Influenza A, Influenza B, and Respiratory Syncytial virus (RSV) detection and quantification
- Can take two or three days, approximately, from sample collection to data reporting

IN Wastewater Treatment Plant Sites

- Started the IDOH COVID-19 Wastewater Surveillance Program in March 2022
 - Goal: 30 sites with representation in each district
- Currently have 29 sites enrolled
 - Over 2.4 million people
- 2025 Goals
 - Maintain currently participating facilities
 - Enrolling new sites in representative areas
 - Expand target pathogens
 - Increase engagement & collaboration



Normalization

The raw amount of virus present is not particularly usable because of dilution, stormwater, chemicals, etc.

Flow-pop. normalization

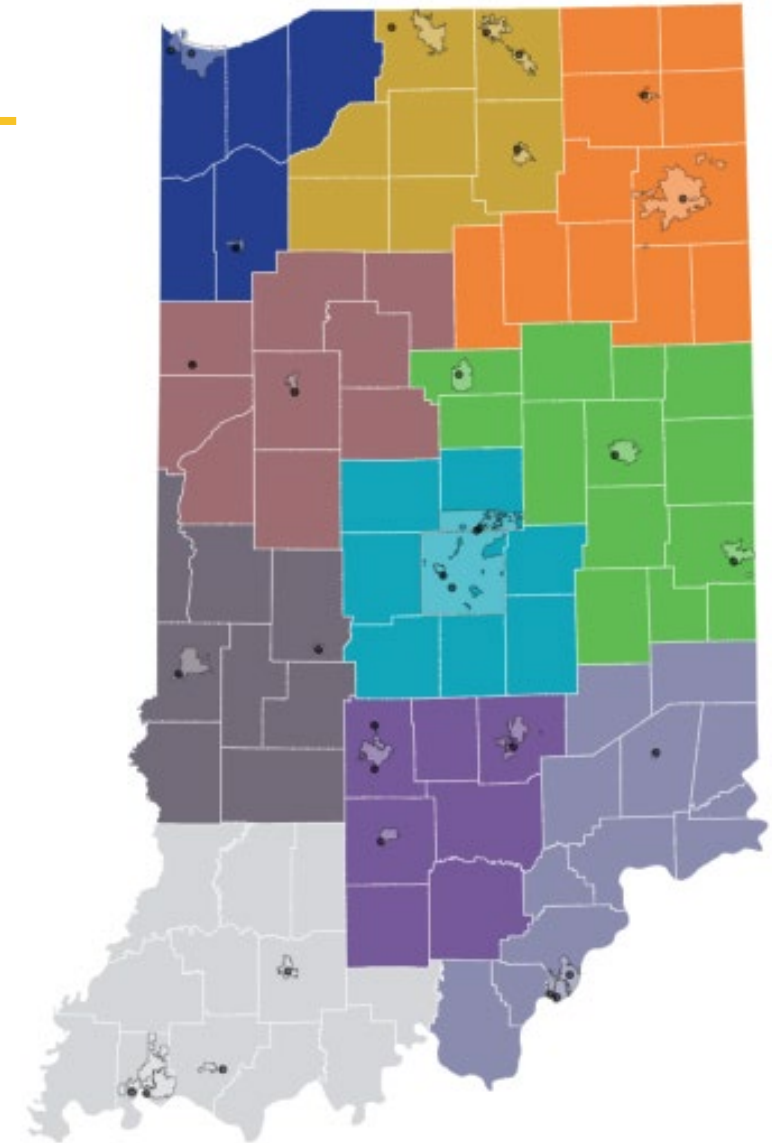
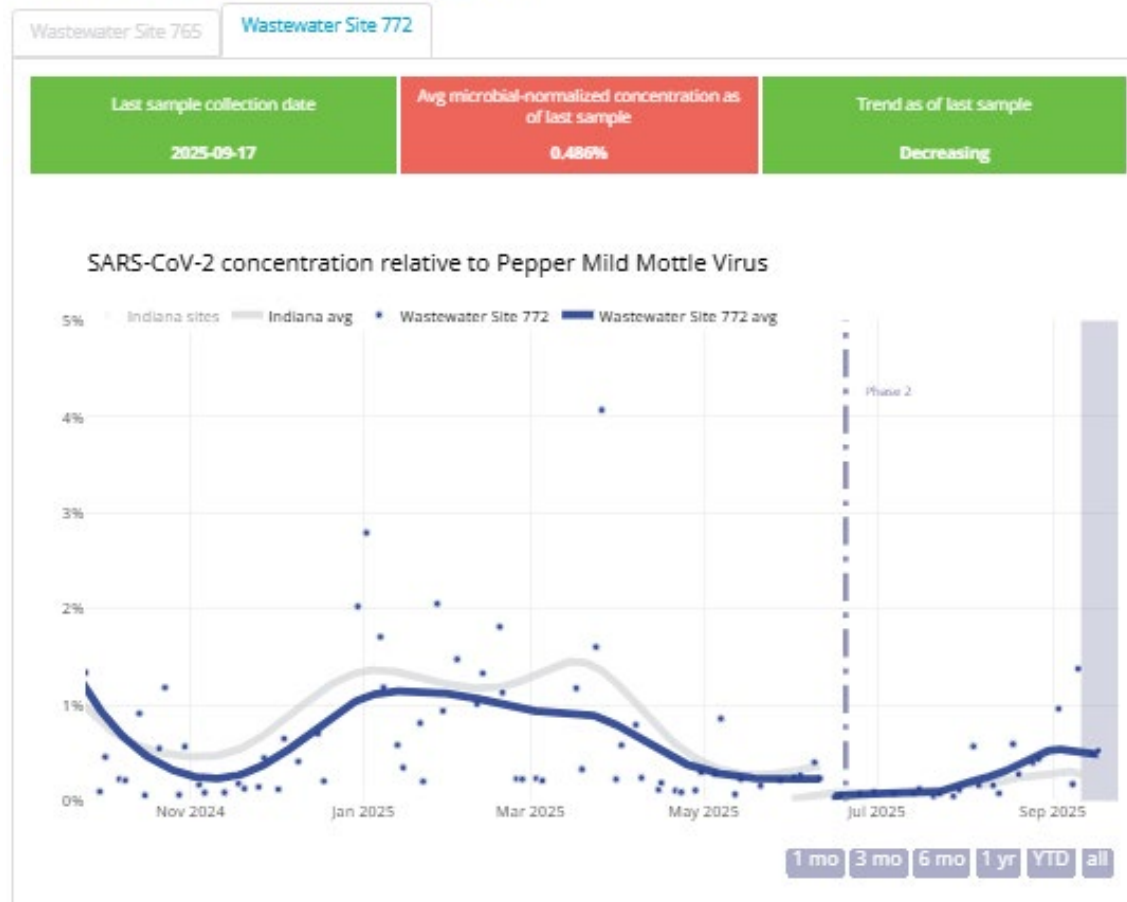
- Calculating for dilution factors associated with average flow and population served
- Other technical factors can be included but are more complicated

Microbial-normalization

- Calculating based on estimated fecal presence using an indicator
- Pepper mild mottled virus is commonly used

SARS-CoV-2 Wastewater Reports

Wastewater concentration



Indiana Wastewater Surveillance Network



Indiana COVID-19 Wastewater Dashboard

Data are updated as of 9/23/2025 and refreshed on a weekly basis every Wednesday by 5 p.m.

[Biobot Dashboard](#)[CDC Information](#)[Show Dashboard Explanation](#)

Number of Active Wastewater Treatment Plants

27
Statewide

Population Served by Active Wastewater Treatment Plants

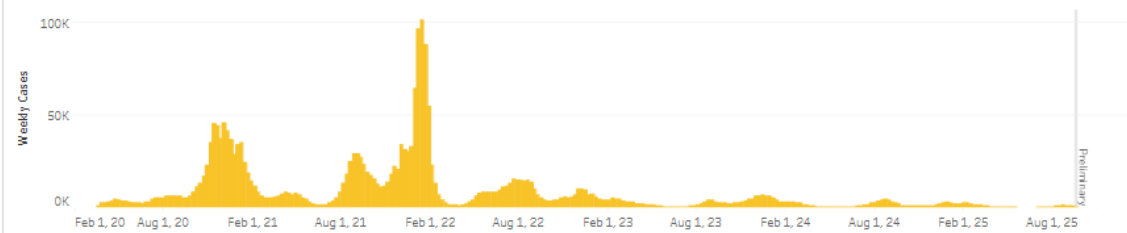
2,351,277
Statewide

Statewide Wastewater Sample Concentration

Data displayed after June 2020, 2025, uses a more sensitive laboratory testing methodology and a change in SARS-CoV-2 gene target sequence. This data has been scaled to align with historical values. Line indicates separation between phase 1 and phase 2 data.



Statewide Cases

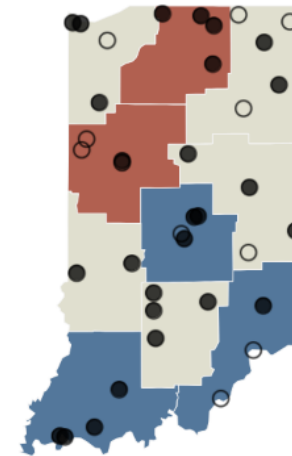


All numbers are provisional and reflect only those reported to IDOH. Numbers should not be characterized as a comprehensive total and may change as more data is reported. Wastewater data is provided to IDOH by CDC National Wastewater Surveillance System, with additional data from Biobot Analytics.

Wastewater Treatment Plant Locations

Select a preparedness district to filter page metrics. Current statewide wastewater trend: **Transitioning**

- Active Sites
- No samples in the past 2 weeks or Withdrawn from program
- Decreasing
- Transitioning
- Increasing
- No Trend Available



35% of the
Total
Population

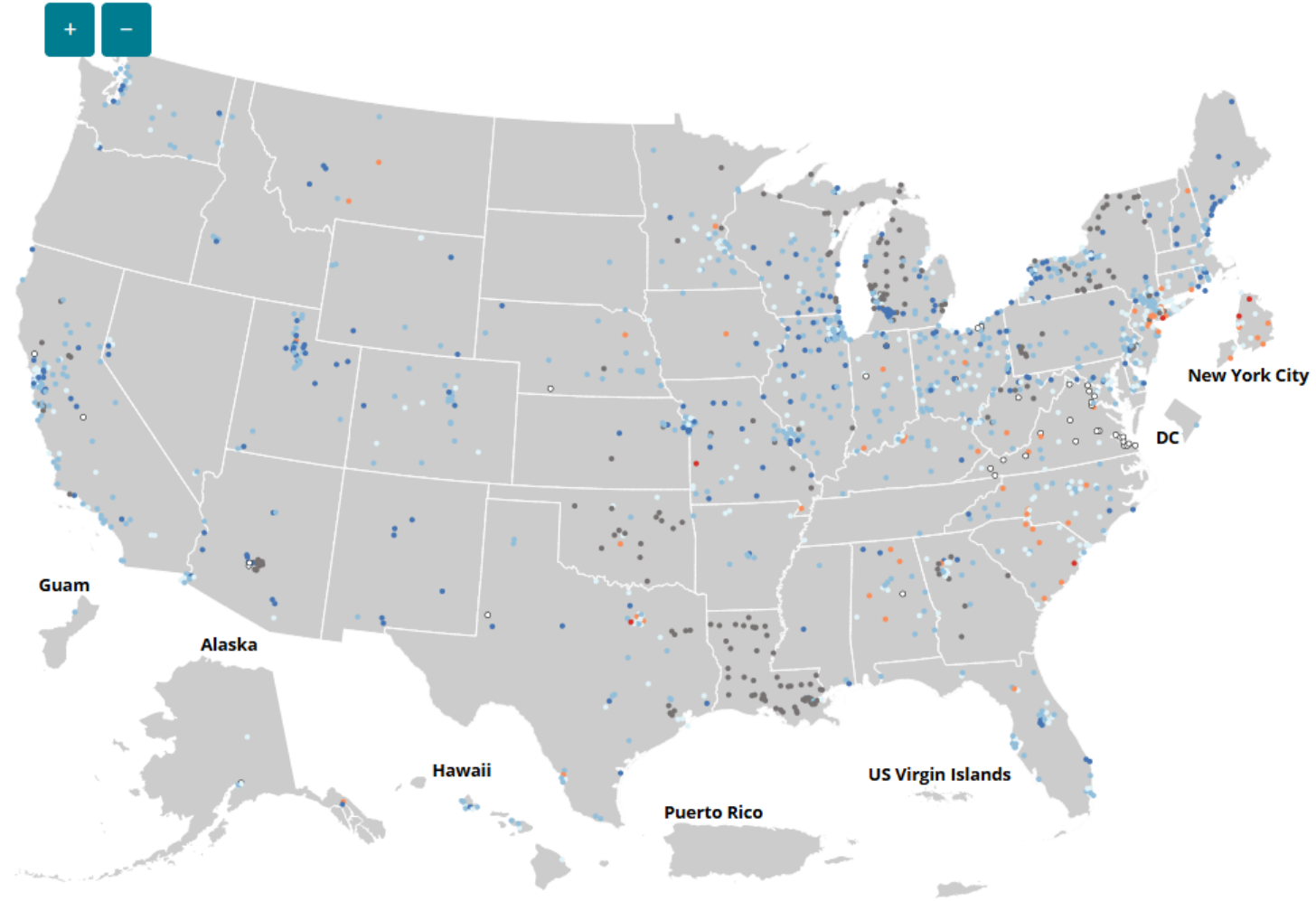


Indiana
Department
of
Health

CDC National Wastewater Surveillance System



- CDC launched the National Wastewater Surveillance System (NWSS) in September 2020
- Designed to build the nation's capacity to track the presence of SARS-CoV-2 in wastewater samples collected across the country
- CDC works with some corporate partners to provide lab testing support
- All IN sites currently testing through the IDOH Laboratory



CDC NWSS Dashboard

Current Site Levels

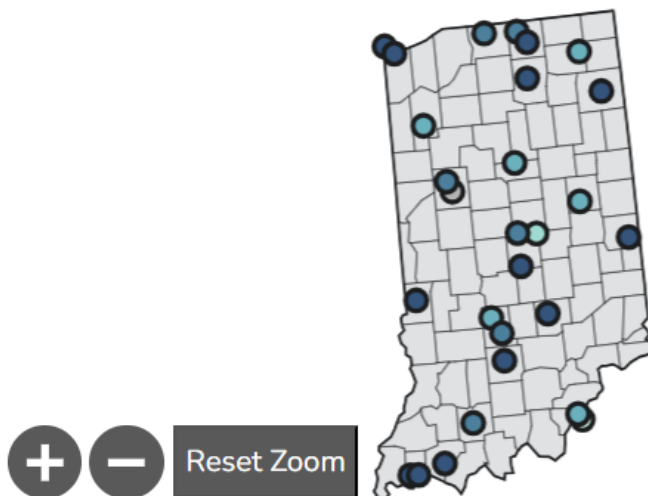
This map shows current wastewater viral activity levels of SARS-COV-2 at individual wastewater treatment plants or sampling locations reporting in the last week. A site may serve multiple counties, including those in another state.

Time Period: September 14, 2025 - September 20, 2025

In Indiana, the wastewater viral activity level for COVID-19 is currently **High**.

Sites reporting in the last week: 27

Sites reporting in the last 30 days: 28



Current Site Levels

Select a level to add or remove from map.

- Very High
- High
- Moderate
- Low
- Very Low
- No Data

COVID-19 Data

CDC NWSS Dashboard

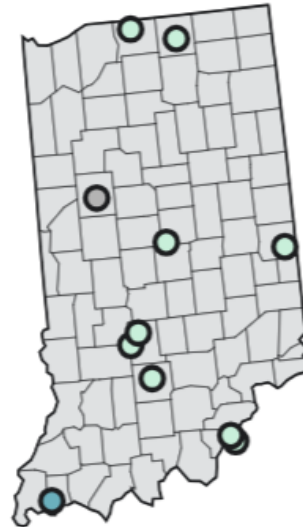
Current Site Levels

This map shows current wastewater viral activity levels of RSV at individual wastewater treatment plants or sampling locations reporting in the last week. A site may serve multiple counties, including those in another state.

Time Period: September 14, 2025 - September 20, 2025

In Indiana, the wastewater viral activity level for RSV is currently **Very Low**.

Sites reporting in the last week: 10
Sites reporting in the last 30 days: 11



Current Site Levels

Select a level to add or remove from map.

- Very High
- High
- Moderate
- Low
- Very Low
- No Data

RSV Data

CDC NWSS Dashboard

Current Site Levels

This map shows current wastewater viral activity levels of influenza A at individual wastewater treatment plants or sampling locations reporting in the last week. A site may serve multiple counties, including those in another state.

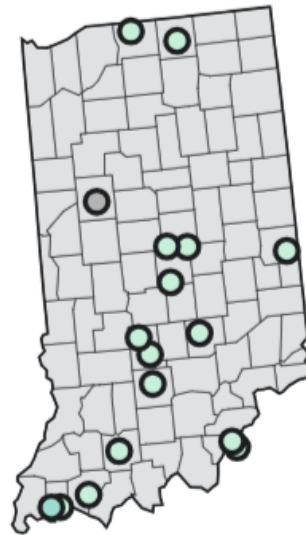
Time Period: September 14, 2025 - September 20, 2025

In Indiana, the wastewater viral activity level for influenza A is currently **Very Low**.

Sites reporting in the last week: 16

Sites reporting in the last 30 days: 17

VERY LOW



Current Site Levels

Select a level to add or remove from map.

- ☒ Very High
- ☐ High
- ☐ Moderate
- ☐ Low
- ☒ Very Low
- ☐ No Data

Influenza A Data

CDC NWSS Infectious Disease Response: Measles

Measles detections in wastewater in the past week

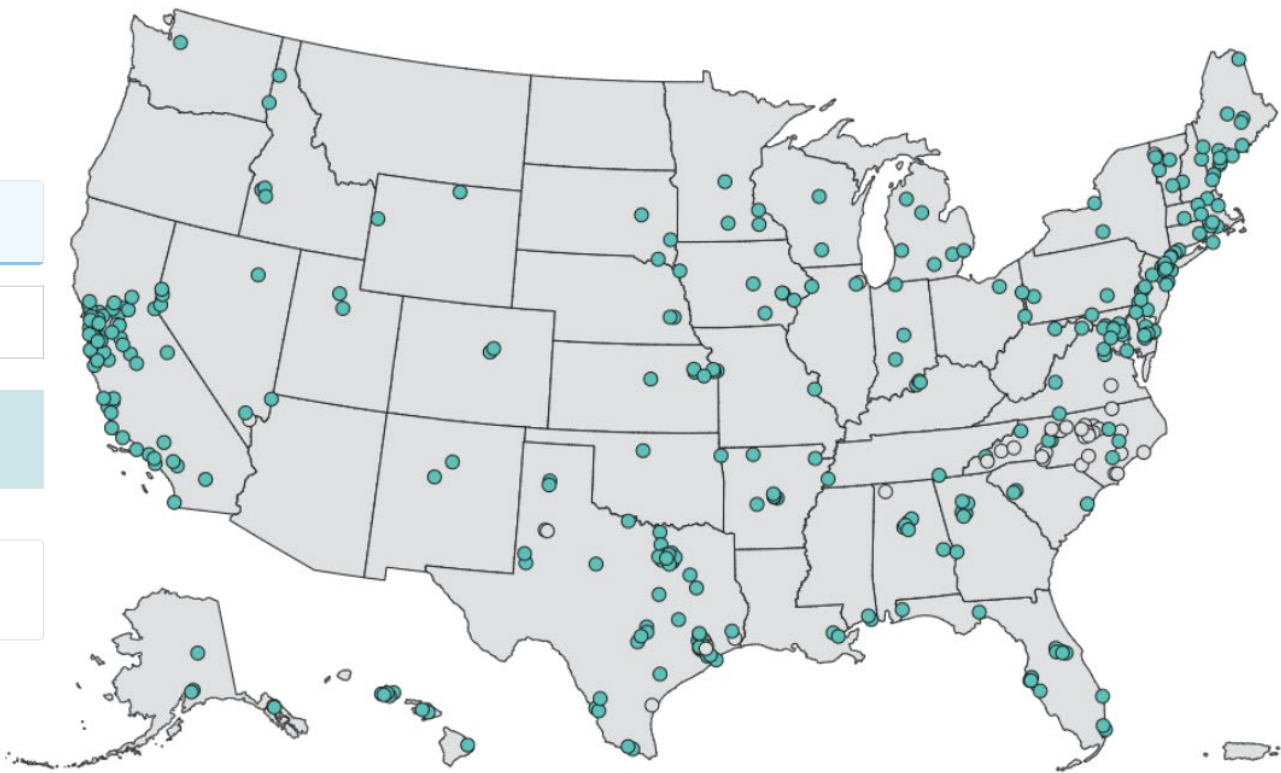
Time Period: September 14, 2025 - September 20, 2025

For the week ending September 20, 2025, 322 sites reported results for measles in wastewater, and 0 (0.0%) sites from 0 states reported measles detections.

Measles Detection
0 sites (0.0%)

No Detection
322 sites (100.0%)

No Data
41 sites

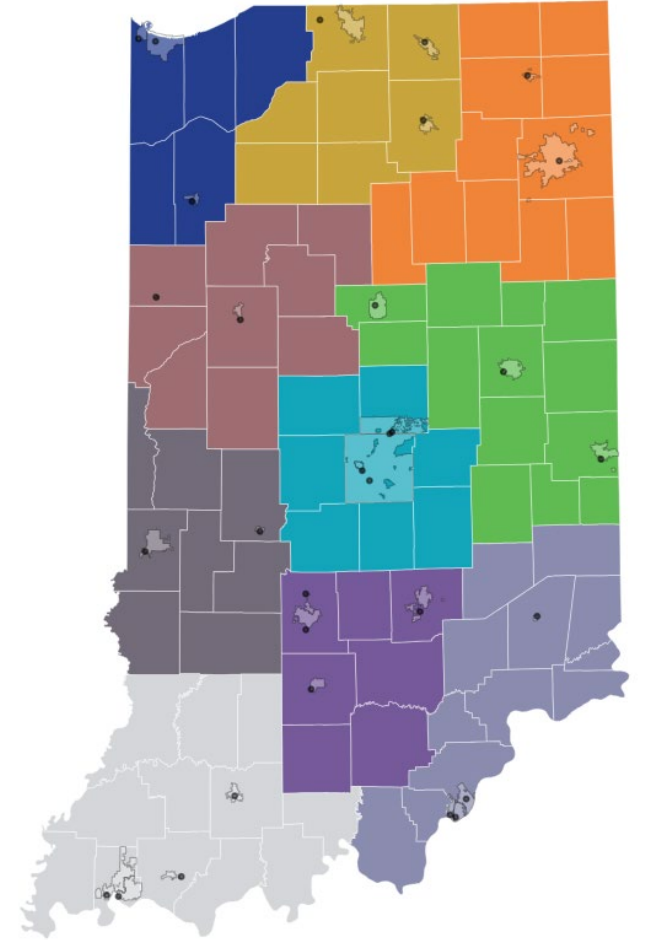


Select a detection type below to add or remove it from the map.

● Detection ● No Detection ● No Data

How are we using this?

- Local health departments
 - Social media/public outreach
 - Targeted vaccination clinics
- Hospitals
 - Surge planning
 - Staffing
 - Optimize resources



Acknowledgements

Our biggest thank-you goes to our participating wastewater utility operators, as well as the following agencies:

Indiana Department of Health:

Robert Gottlieb
Mike Mettler
Nicole Stone
Shawn Pence
Eric Hawkins
Matt Simmons
Lajari Alandkar

CDC NWSS

Various state health departments

Local health departments

Indiana Department of Health Laboratory:

Ryan Gentry
Dr. Lixia Liu
Jamie Yeadon

Resultant:

Dan Labar
Alexa Myers
Anna Munoz
Hannah King
Alexander Watkins

Resources

- Bowers, I., & Subedi, B. (2021) Isoprostanes in wastewater as biomarkers of oxidative stress during COVID-19 pandemic. Chemosphere, 271, 129489.
- Centers for Disease Control and Prevention. (2022, March 21). National Wastewater Surveillance System (NWSS) – a new public health tool to understand COVID-19 spread in a community. National Wastewater Surveillance System (NWSS). Retrieved August 4, 2022, from https://www.cdc.gov/healthy-water-data/?CDC_AAref_Val=https://www.cdc.gov/healthywater/surveillance/wastewater-surveillance/wastewater-surveillance.html
- *Covid-19 Wastewater Monitoring in the U.S.* Biobot Analytics. (n.d.). Retrieved August 4, 2022, from <https://biobot.io/data/>
- Larsen, D. A., & Wigginton, K. R. (2020). Tracking COVID-19 with wastewater. Nature Biotechnology, 38(10), 1151-1153.
- Metcalf, T. G., Melnick, J. L., & Estes, M. K. (1995). Environmental virology: from detection of virus in sewage and water by isolation to identification by molecular biology-a trip of over 50 years. Annual review of microbiology, 49, 461-488. Bowers – Isoprostanes in wastewater as biomarkers of oxidative stress during COVID-19 pandemic
- National Association of County and City Health Officials. Wastewater surveillance for SARS-CoV-2. What's SARS-CoV-2 got to do with it? Retrieved August 5, 2022, from https://www.naccho.org/uploads/downloadable-resources/Wastewater-Surveillance-SARS-CoV-2_final_2021.pdf
- O'Keeffe, J. (2021). Wastewater-based epidemiology: current uses and future opportunities as a public health surveillance tool. Environmental Health Review, 64(3), 44-52.
- Wölfel, R., Corman, V. M., Guggemos, W., Seilmaier, M., Zange, S., Müller, M. A., ... & Wendtner, C. (2020). Virological assessment of hospitalized patients with COVID-2019. Nature, 581(7809), 465-469.

Questions?

Jason Wenning

Wastewater Epidemiologist

jwenning@health.in.gov





Question & Answer Session



Indiana
Department
of
Health

Questions?

IDOH Laboratory

317-921-5500

IDOH-lab-info@health.in.gov



Next webcast

The next Indiana Laboratory System webcast is scheduled for:

Date: Thursday, Nov. 13

Time: 10:30 – 11 a.m. EST





Indiana
Department
of
Health



**THANK YOU FOR JOINING
THE WEBCAST!**

- IDOH Laboratory Team