

THE SOUTHERN NEVADA HEALTH DISTRICT'S WEEKLY WASTEWATER SURVEILLANCE REPORT

October 02, 2025

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Definitions

Clade: A group that includes a common ancestor and all its descendants.

Dominant Variants: Versions of a virus, gene, or trait that are currently the most widespread or prevalent in a population.

Grab Sample: A single, discrete sample of wastewater collected at a specific time and location.

Liquid matrices: Refers to the **fluid portion** of sewage collected for testing and analysis.

Solid matrices: Water refers to the **solid material (biosolids or sludge)** that is separated from liquid wastewater during the treatment process.

Wastewater Scan: An organization focused on sewage, community, and network-based efforts that conducts wastewater surveillance to detect pathogens present in wastewater.

Variants of Interest (VOI): Viral variants with genetic changes that may affect transmissibility, diagnostics, or immune escape and are showing signs of increased spread.

Variant of Concern (VOC): A mutated form of a virus that demonstrates one or more of the following characteristics: increased ability to spread, greater severity of illness, reduced effectiveness of treatments, vaccines, or diagnostic tools, and the ability to evade immune protection.

Variants Under monitoring (VOM): KS.1.1, KP.3.3, LP.8.1, NB.1.8.1, KP.3, XFG

Verily: A private laboratory vendor contracted by CDC to test wastewater across the country for pathogen markers.

PMMoV (Pepper Mild Mottle Virus): It is a plant virus commonly found in human feces due to widespread consumption of pepper-containing foods.

Concentration levels: The viral concentration levels classify them into Low, Medium, and High based on tertile cutoffs from the data's distribution. It then identifies the minimum and maximum values within each group to define the range for each concentration level.

Symbols: Increasing: ↑ Decreasing: ↓ No change: →

Purpose

This report highlights the changes in wastewater concentration for selected pathogens within Clark County, Nevada. This report includes data for SARS CoV-2, Influenza (Flu) A, Influenza (Flu) B, Respiratory syncytial virus (RSV), Measles, *Candida Auris*, Rotavirus, Adenovirus group F, Hepatitis A, Parvovirus, Norovirus, and Mpox (clade II). All data was obtained from the Clark County Water Reclamation District, Flamingo Water Resource Center, City of Mesquite, Boulder City, selected Utah wastewater treatment facilities and California wastewater treatment facilities and is analyzed and reported by **Wastewater Scan** (https://www.wastewaterscan.org/en) a collaborative project led by **Stanford University**, **Emory University**, and **Verily**, funded through philanthropic support to Stanford. and Verily laboratories (https://verily.com/). The map below visualizes the wastewater treatment facilities in Nevada. A map of wastewater treatment facilities in Nevada is provided in the appendix.

Note: The Southern Nevada Health District (SNHD) uses PMMoV microbial normalization, while the CDC and the state rely on viral-activity normalization.



Executive Summary of October 02, 2025, Report

This report summarizes the latest wastewater pathogen surveillance results for Clark County, Nevada, and surrounding regions. The analysis focuses on three key facilities, the Flamingo Water Reclamation Facility (FWRF), Mesquite Wastewater Treatment Plant, and Boulder Wastewater Treatment Plant with comparisons to selected sites in Utah and California. Surveillance was carried out by WastewaterSCAN and Verily, targeting a wide range of pathogens, including SARS-CoV-2 and its variants, seasonal respiratory viruses (Influenza A, Influenza B, RSV), and gastrointestinal pathogens (Norovirus, Rotavirus, Enterovirus D68, Hepatitis A). The study also accounts for site-level differences, noting that variations in sampling and analytical methods may influence results.

Key Findings (as of October 02, 2025)

Wastewater surveillance across Nevada, California, and Utah indicates generally stable pathogen activity with several localized increases. Measles, Mpox clade 1b, Influenza H5, and RSV was undetectable. Influenza A and B remained nearly absent, with only small detections at Ontario, Riverside, and Boulder City. *Candida auris* was mostly undetectable except for slight increases at FWRF and Ontario RP-1. Hepatitis A levels were minimal overall but showed a modest rise at Ontario RP-1.

Low but Mixed Activity: Parvovirus levels were near zero and stable. Enterovirus D68 stayed low, with small increases at A.K. Warren, Ontario RP-1, and Indio. Rotavirus trends were mixed declining across California but increasing at Flamingo, Central Valley UT, and Provo.

Elevated Circulation: Norovirus remained widespread and high, showing strong increases at FWR, A.K. Warren, Hyperion, Ontario RP-1, Riverside, and Central Valley UT, while declining at Provo and Indio. Adenovirus Group F continued elevated with notable rises at A.K. Warren, Hyperion, Ontario RP-1, Riverside, Indio, and Provo, but decreases at FWRF and Central Salt Lake Valley.

SARS-CoV-2: Concentrations declined across most facilities except Boulder City, which recorded very high levels. Variant analysis showed rapid Omicron diversification, with early XFG dominance giving way to NB.1.*, LP, and XFC sub lineages across FWRF, Mesquite, and Boulder.

Summary: Overall stability with high Norovirus and Adenovirus activity, localized increases in Rotavirus and Hepatitis A, and a significant SARS-CoV-2 surge in Boulder City warrant ongoing surveillance.

Methodological Notes

Sampling approaches differed by site. FWRF collected 24-hour composite solid samples analyzed by WastewaterSCAN, while Mesquite relied on liquid grab samples analyzed by Verily. Boulder Mesquite relied on liquid grab samples analyzed by Verily. These methodological differences likely influenced pathogen measurements and should be considered when comparing results across facilities.

Note: The last data point for the Boulder City Wastewater Treatment Plant is from September 10, 2025, which may make them an outlier in the SARS-CoV-2 results.



Summary of Select Pathogen Concentrations

- Latest data point for Flamingo Water reclamation district plant is October 01, 2025
- Latest data point for City of Mesquite Wastewater Treatment Plant is September 25, 2025
- Latest data point for Boulder City Wastewater Treatment Plant is September 10, 2025

Pathogen	Concentration Level / Presence- Flamingo	Concentration Level / Presence- Boulder	Concentration Level / Presence - Mesquite
SARS-CoV-2	Low	High	Medium
Influenza A	Low	Low	Low
Influenza B	Low	Low	Low
Respiratory Syncytial virus (RSV)	Low	Low	Low
Norovirus	Low	Not Tested	Not Tested
Rotavirus	Medium	Not Tested	Not Tested
Enterovirus D68	Low	Not Tested	Not Tested
Hepatitis A	Low	Not Tested	Not Tested
Candida Auris	High	Not Tested	Not Tested
Adenovirus Group F	Medium	Not Tested	Not Tested
Parvovirus	Low	Not Tested	Not Tested
Mpox – Clade I	No Presence	No Presence	No Presence
Measles	No Presence	No Presence	No Presence
Mpox – Clade II	No Presence	No Presence	No Presence
Influenza H5	No Presence	No Presence	No Presence

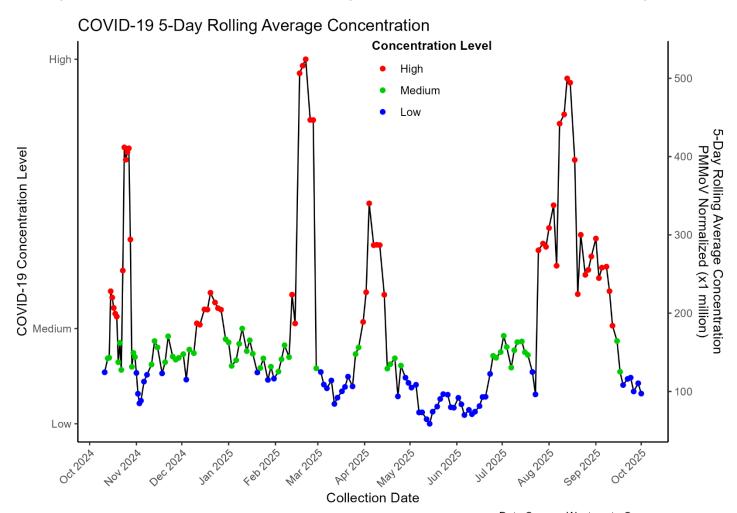
Note: The wastewater data for Las Vegas were collected from the Flamingo Water Reclamation District Plant, where samples were analyzed on solids and sourced from Wastewater SCAN. In contrast, data for the City of Mesquite and Boulder City were analyzed on liquid samples by Verily and provided by the State Wastewater Epidemiology Team. Due to the differences in sample matrices (solids vs. liquids) and analytical methods, variations in virus concentrations between the two facilities are expected. Mesquite and Boulder sampling is conducted using grab sampling and is not performed over a 24-hour period.



SARS-CoV-2 Viral Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

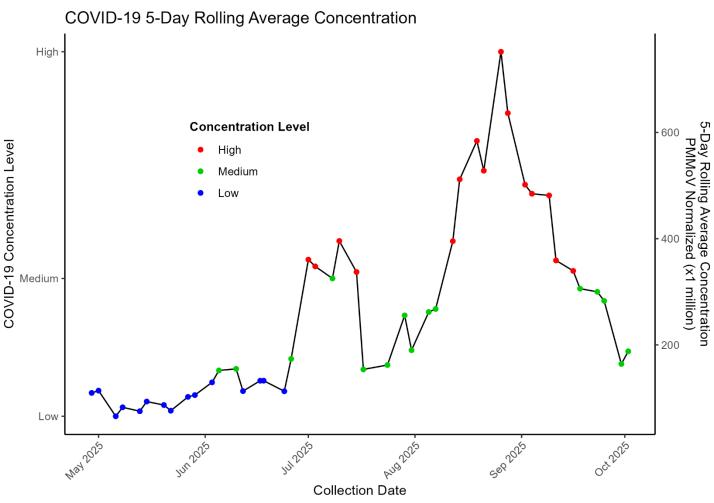
This chart shows SARS-CoV-2 concentrations in Clark County's wastewater (Flamingo Water Resource Center) from October 2024 to October 1, 2025, based on a 5-day rolling average normalized by PMMoV. Concentration levels ranged from low (blue) to medium (green) to high (red). Notable peaks occurred in mid-October 2024, mid-December 2024, February 2025, April 2025, and especially August 2025, which recorded the most significant spike. After that surge, concentrations steadily declined through September, reaching low levels by October 1, 2025. Periods of reduced activity were also observed in March, June, and July.





City of Mesquite Wastewater Treatment Plant

This chart shows SARS-CoV-2 concentrations in wastewater from the City of Mesquite, NV between May and September 2025, using a 5-day rolling average normalized to PMMoV. Levels were low through May and June with minor fluctuations, then rose in early July to medium and high by mid-July. After a brief dip in late July, concentrations surged in August, peaking in early September at the highest observed levels. Since then, values have declined but remain elevated compared to spring baselines. The most recent sample, collected on September 25, 2025, indicates a downward trend in community transmission.

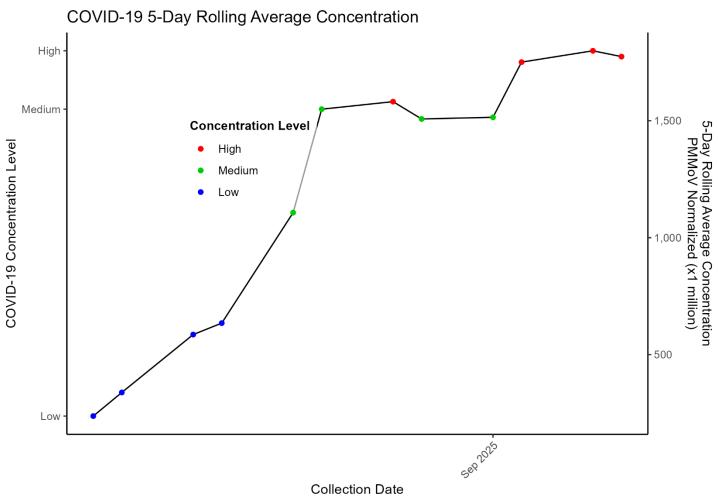


Data Source: State Data from Verily Sampling Location: City of Mesquite wastewater treatment plant Last Sampling Date:September 25,2025



Boulder City Wastewater Treatment Plant

This chart shows SARS-CoV-2 concentrations in Boulder City wastewater for September 2025, using a 5-day rolling average normalized to PMMoV. Concentrations began at low levels (blue), increased to medium (green), and have remained consistently high (red) in recent weeks. Levels peaked above 1,500 normalized units, indicating a strong upward trend. The tertile classification highlights this shift from low to medium, and ultimately to sustain high concentrations. The most recent sample, collected on September 10, 2025, reflects an elevated risk of community transmission at that time.



Data Source: State Data from Verily Sampling Location:Boulder City wastewater treatment plant Last Sampling Date: 09/10/25



SARS-CoV-2 Concentrations Interpretation

As of October 2, 2025, wastewater surveillance across Nevada, California, and Utah indicates mostly declining SARS-CoV-2 concentrations. Las Vegas (Flamingo WRC) reported 97.26 (\downarrow), Mesquite 282.93 (\downarrow), and Boulder City 1,774.14 (\uparrow). In California, A.K. Warren Facility measured 59.11 (\downarrow), Hyperion 35.02 (\downarrow), RP-1 in Ontario 59.05 (\downarrow), Riverside 82.26 (\downarrow), and Valley Sanitary District in Indio 35.44 (\downarrow). Utah sites also show declines, with Central Valley at 128.37 (\downarrow) and Provo at 244.37 (\downarrow).

Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	97.26	4	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	282.93	4	September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	1774.14	↑	September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	59.11	4	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	35.02	4	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	128.37	4	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	244.37	4	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	59.05	\	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	82.26	4	October 02 2025
Valley Sanitary District	Indio, CA	Current	35.44	4	October 02 2025

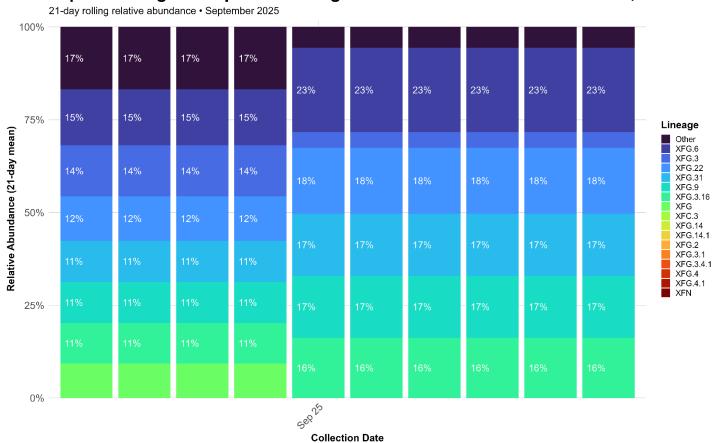


SARS-CoV-2 Variants Circulating

Flamingo Water Reclamation District Plant

The stacked bar chart displays the 21-day rolling relative abundance of SARS-CoV-2 Omicron subvariants detected in wastewater at the Flamingo Water Reclamation District Plant during September 2025. Wastewater sequencing showed rapid shifts in Omicron subvariant dynamics. By September 25, the distribution included Others (23%), XFG.6 (18%), XFG.3 (17%), XFG.22 (17%), and XFG.9 (16%). This shift from single-lineage dominance to multi-lineage co-circulation highlights the continued evolution of Omicron. Nationally, CDC data show that XFG accounts for 78–91% of cases and NB.1.81 for about 7%, consistent with trends observed in local wastewater samples.

Top 20 Lineage Groups — Flamingo Water Reclamation District Plant, Nevada



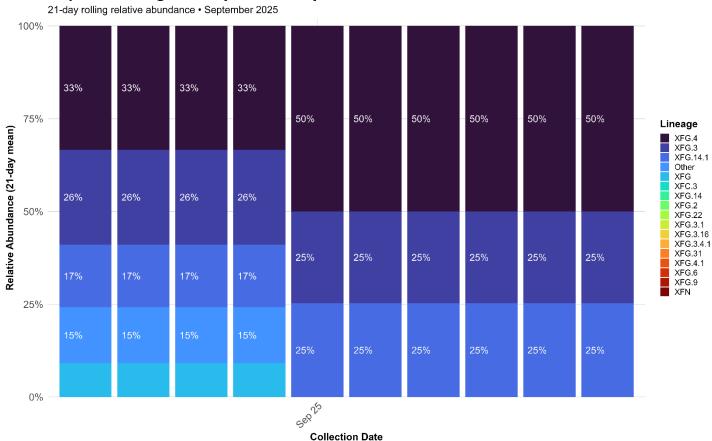
Notes: 21-day rolling mean over days with data. Figure generated on 2025-10-09.



Mesquite Wastewater Treatment Plant

The stacked bar chart shows the distribution of SARS-CoV-2 Omicron subvariants detected in wastewater at the Mesquite Water Reclamation Facility during September 2025. Sequencing results indicate rapid changes in variant composition over the month. By late September, subvariant XFG.4 increased from 33% to 50%, while XFG.14.1 declined slightly from 26% to 25%. All other lineages decreased to 0%. These shifts suggest consolidation within the XFG lineage, aligning with CDC data indicating that XFG accounted for approximately 78–91% of national detections during the same period.

Top 20 Lineage Groups — Mesquite Wastewater Treatment Plant, Nevada



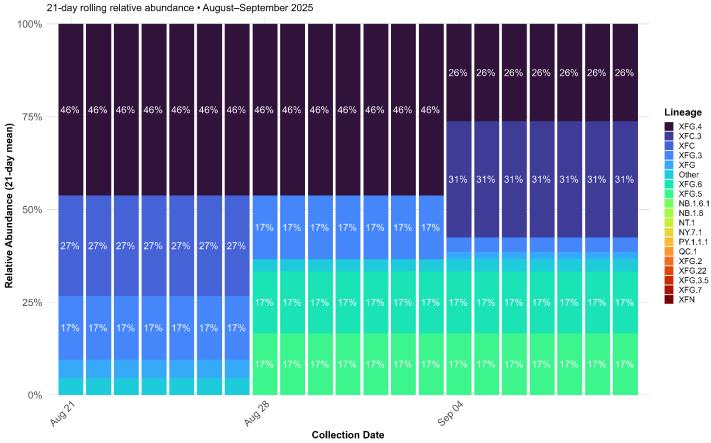
Notes: 21-day rolling mean over days with data. Figure generated on 2025-10-09.



Boulder City Wastewater Treatment Plant

The stacked bar chart shows the 21-day rolling relative abundance of SARS-CoV-2 Omicron subvariants in wastewater from the Boulder City Wastewater Treatment Plant, August–September 2025. Early in the period, XFG.4 dominated (~46%), followed by XFC.3 sub lineages (~27%) and other XFG lineages (~17%). By late August, the "Other" group expanded to ~17%. By early September, XFG.4 declined to ~26%, while XFC.3 lineages rose to ~31% and "Other" lineages held steady near ~17%. This shift from XFG.4 dominance to a more balanced distribution underscores ongoing viral evolution and mirrors CDC findings of diverse Omicron co-circulation nationwide.

Top 20 Lineage Groups — Boulder City Wastewater Treatment Plant, Nevada



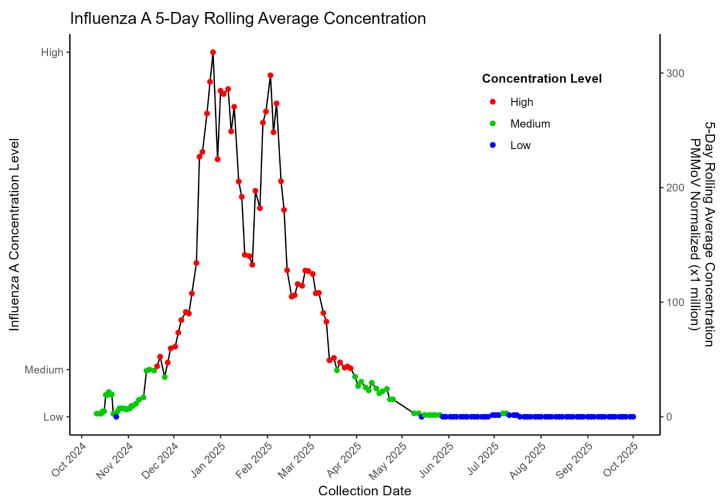
Notes: 21-day rolling mean over days with data. Figure generated on 2025-10-09.



Influenza A Viral Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

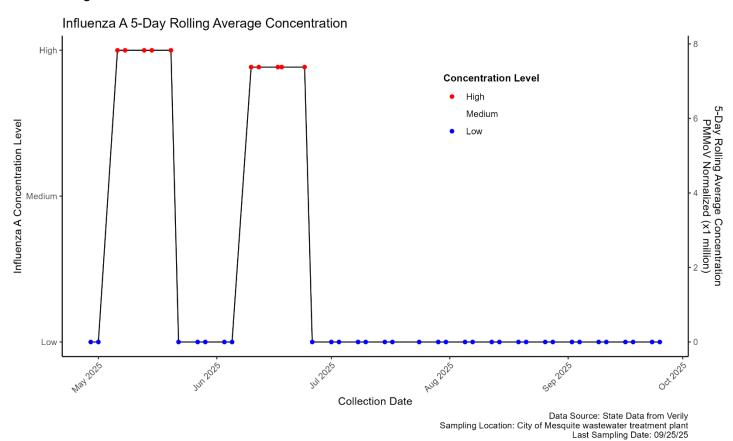
This chart tracks Influenza A concentrations in Clark County's wastewater (Flamingo Water Resource Center) from October 2024 to October 01, 2025, using a 5-day rolling average normalized by PMMoV. The levels were low through fall 2024, then rose sharply in December 2024, peaking at high concentrations from January 2025 through February 2025. Concentrations steadily declined in March 2025 and April 2025, returning to medium and then low levels by May. From June 2025 through October 01, 2025, levels remained consistently low with no notable resurgence. The last sampling date was October 01, 2025, showing minimal Influenza A activity in the community.





City of Mesquite Wastewater Treatment Plant

The chart shows Influenza A concentrations in wastewater from the City of Mesquite, NV between May and September 2025, based on a 5-day rolling average normalized to PMMoV. Levels were mostly low (blue) across the monitoring period, with two brief high spikes (red) observed in May and June. These peaks quickly subsided, returning concentrations to low levels by early July. From July through September, values remained consistently low, with no further medium-level signals detected. The most recent sample, collected on September 25, 2025, confirms that Influenza A activity in wastewater is currently minimal following earlier isolated surges.





Interpretation of Influenza A Concentrations

As of October 2, 2025, Influenza A wastewater surveillance across Nevada, California, and Utah indicates very low or non-detectable activity. Most facilities, including Las Vegas, Mesquite, Boulder City, Los Angeles, Indio, and Utah sites, reported 0.00 concentrations with stable trends (\rightarrow) . Only minor detections were observed at Ontario (0.30) and Riverside (2.10), also showing no upward movement. Sampling dates range from September 10 to October 2.

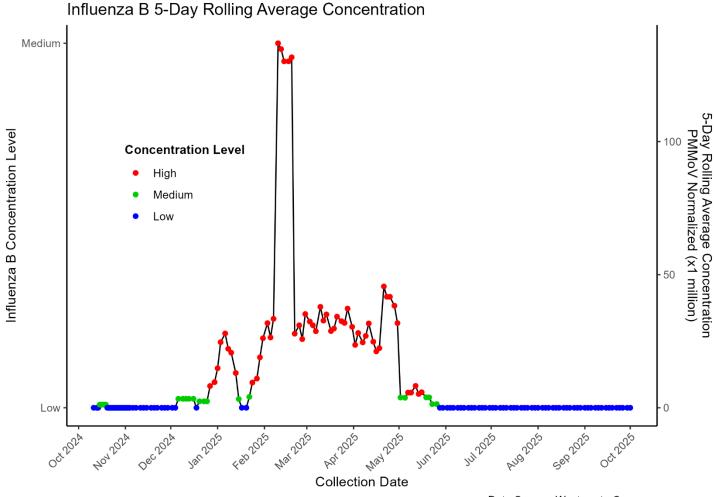
Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0.00	\rightarrow	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	0.00	→	September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	0.00	→	September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	0.00	→	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	0.00	→	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0.00	→	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	→	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	0.30	\rightarrow	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	2.10	→	October 02 2025
Valley Sanitary District	Indio, CA	Current	0.00	→	October 02 2025



Influenza B Viral Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

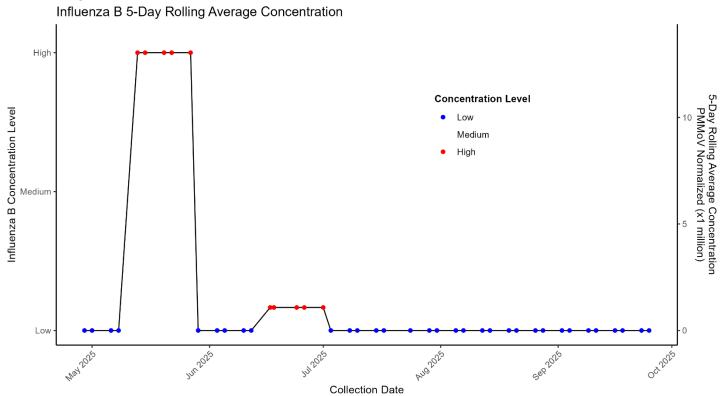
The chart shows Influenza B wastewater trends at the Flamingo Water Resource Center (Las Vegas, NV) from October 2024 to October 01, 2025. Levels remained low through late 2024, with only brief medium detections in mid-December 2024. A sharp rise began in early January 2025, peaking in March 2025 with sustained high concentrations. Moderate but elevated activity persisted into April,2025 and May 2025 before declining rapidly. By June 2025, signals returned to low or undetectable levels, where they remained through August. The last sampling date was October 01, 2025.





City of Mesquite Wastewater Treatment Plant

The chart tracks Influenza B concentrations in wastewater from the City of Mesquite, NV between May and September 2025, using a 5-day rolling average normalized to PMMoV. Concentrations were low (blue) for most of the monitoring period, with two briefly high spikes (red) one in mid-May to late June and another in mid-June to late June. Both peaks quickly declined, and levels returned to low by early July. From July through September, concentrations remained consistently low, with no medium-level activity observed. The most recent sample, collected on September 25, 2025, confirms minimal Influenza B activity following earlier isolated surges.



Data Source: State Data from Verily Sampling Location: City of Mesquite wastewater treatment plant Last Sampling Date: 09/25/25



Interpretation of Influenza B Concentrations

As of October 2, 2025, Influenza B wastewater surveillance across Nevada, California, and Utah shows minimal viral activity. Nearly all facilities, including Las Vegas (Flamingo), Mesquite, Los Angeles (A.K. Warren and Hyperion), Ontario (RP-1), Riverside, Indio, and Utah sites (Central Valley and Provo) reported 0.00 concentrations with stable trends (\rightarrow). The only increase was observed at Boulder City, recording 5.20 (\uparrow) on September 10.

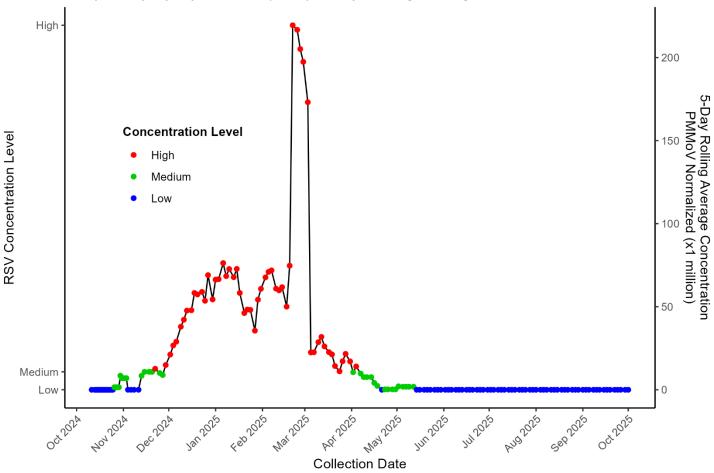
Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0.00	→	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	0.00	\rightarrow	September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	5.20	1	September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	0.00	\rightarrow	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	0.00	\rightarrow	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0.00	→	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	\rightarrow	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	0.00	\rightarrow	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0.00	\rightarrow	October 02 2025
Valley Sanitary District	Indio, CA	Current	0.00	\rightarrow	October 02 2025



Respiratory Syncytial Virus (RSV) Viral Concentration Trends in Clark County Flamingo Water Reclamation District Plant

The chart shows Respiratory Syncytial Virus (RSV) levels at the Clark County Water Reclamation District (Flamingo site) from October 2024 to October 01, 2025. RSV concentrations remained low through October, began rising in December 2024, and peaked sharply in March 2025. Levels declined through April 2025 and returned to low by June 2025, remaining low through late September 2025. Data was normalized using PMMoV, with the last sampling recorded on October 01, 2025.







Respiratory Syncytial Virus (RSV) Concentrations Interpretation

As of October 2, 2025, wastewater surveillance for Respiratory Syncytial Virus (RSV) across Nevada, California, and Utah showed no detectable concentrations. All monitored facilities including Las Vegas (Flamingo), Mesquite, Boulder City, Los Angeles (A.K. Warren and Hyperion), Ontario (RP-1), Riverside, Indio, and Utah sites (Central Valley and Provo) reported 0.00 levels with stable trends (→).

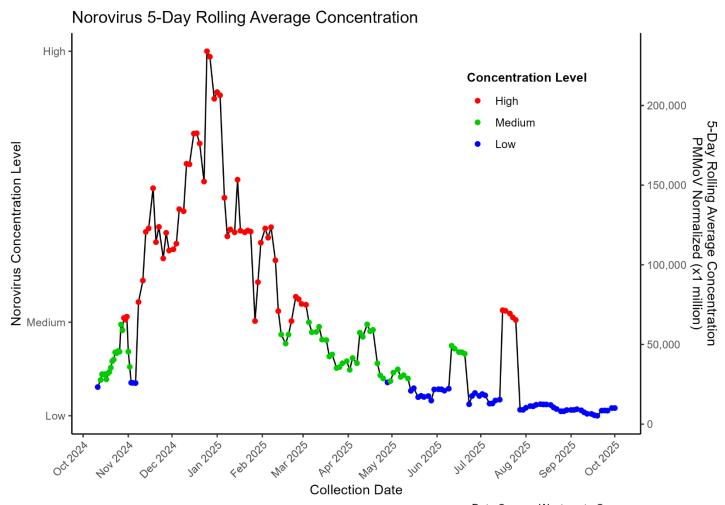
Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0.00	\rightarrow	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	0.00	\rightarrow	September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	0.00	\rightarrow	September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	0.00	→	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	0.00	→	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0.00	→	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	\rightarrow	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	0.00	→	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0.00	→	October 02 2025
Valley Sanitary District	Indio, CA	Current	0.00	\rightarrow	October 02 2025



Norovirus Viral Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The chart tracks Norovirus 5-day rolling average concentrations at the Flamingo Water Resource Center from October 2024 to October 01, 2025. Levels began low in fall 2024, rising sharply in November and peaking in December–January with sustained high concentrations. After January 2025, levels declined but fluctuated at medium to high levels through February and March. From April to June 2025, concentrations trended downward, returning mostly to low levels. A brief resurgence occurred in July 2025 to August 2025, before declining again.





Interpretation of Norovirus Concentrations

As of October 2, 2025, wastewater surveillance for Norovirus across Nevada, California, and Utah revealed elevated concentrations with mixed trends. Significant increases were observed at Las Vegas (10,100.09 \uparrow), Los Angeles facilities A.K. Warren (4,752.31 \uparrow) and Hyperion (5,773.03 \uparrow) and at Ontario (7,105.79 \uparrow), Riverside (5,689.43 \uparrow), and Central Valley, UT (16,221.89 \uparrow). In contrast, Provo (10,418.54 \downarrow) and Indio (1,188.32 \downarrow) showed declines, while Mesquite and Boulder City were not tested recently.

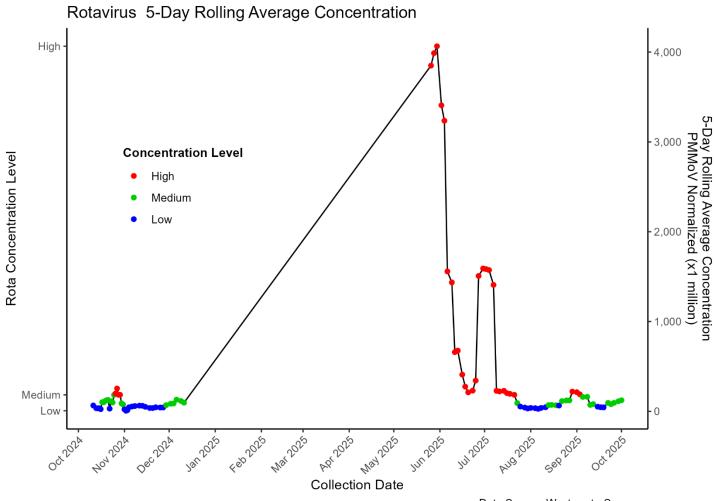
Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	10,100.09	↑	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	4,752.31	↑	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	5,773.03	↑	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	16,221.89	↑	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	10,418.54	1	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	7,105.79	↑	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	5,689.43	↑	October 02 2025
Valley Sanitary District	Indio, CA	Current	1,188.32	1	October 02 2025



Rotavirus Viral Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

This chart tracks the 5-day rolling average concentration of Rotavirus at the Clark County Water Reclamation District, Flamingo Water Resource Center, from October 2024 through October 01, 2025. Concentration levels were generally low to medium until late May 2025, when a sharp surge occurred, peaking above 4,000 normalized units in June. Following this peak, levels declined but showed a smaller resurgence in July before returning to low and medium levels by August. The pattern suggests seasonal or episodic increases, with June 2025 representing the highest risk period. Data was normalized using PMMoV, with the last sampling recorded on October 01, 2025.





Interpretation of Rotavirus Concentrations

As of October 2, 2025, wastewater surveillance for Rotavirus across Nevada, California, and Utah showed mixed activity. Las Vegas (Flamingo) reported 123.62 (\uparrow), indicating increased viral presence. In California, A.K. Warren (48.19 \downarrow), Hyperion (27.35 \downarrow), Ontario RP-1 (8.29 \downarrow), Riverside (49.08 \downarrow), and Indio (1.98 \downarrow) all showed declining trends. Utah facilities displayed increases, with Central Valley at 68.79 (\uparrow) and Provo at 72.05 (\uparrow). Mesquite and Boulder City were not recently tested.

Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	123.62	1	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	48.19	T	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	27.35	4	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	68.79	↑	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	72.05	1	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	8.29	4	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	49.08	T	October 02 2025
Valley Sanitary District	Indio, CA	Current	1.98	4	October 02 2025

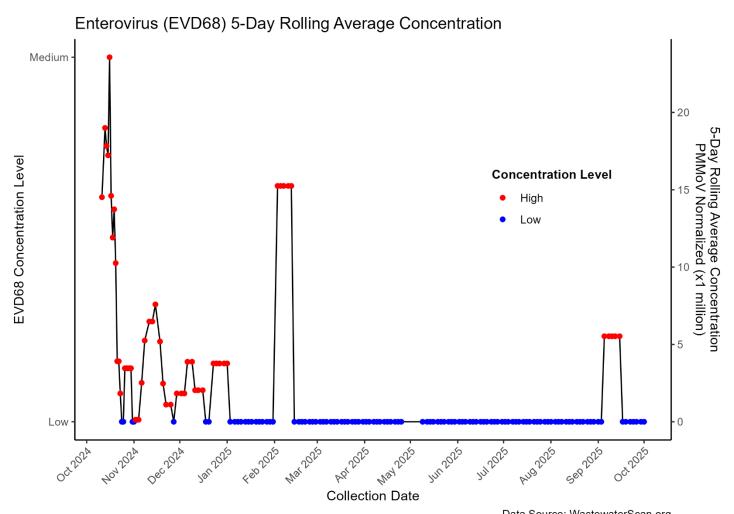


Enterovirus D68 Viral Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The chart illustrates Enterovirus D68 (EVD68) concentrations in wastewater at the Flamingo Water Reclamation District in Clark County from October 2024 through October 01, 2025. Between October 2024 and January 2025, concentrations fluctuated sharply, reaching peak levels in late October and November. Additional spikes were observed in December 2024, though these were generally lower to moderate in intensity. From February 2025 onward, concentrations declined to consistently low levels, with notable resurgence on September 10, 2025. The data indicates a significant outbreak in late 2024, followed by a steady decline and minimal community circulation in 2025.

Enterovirus (EVD68)





Interpretation of Enterovirus D68 Concentrations

As of October 2, 2025, wastewater surveillance for Enterovirus D68 across Nevada, California, and Utah showed generally low concentrations with mixed trends. Las Vegas (Flamingo) reported $0.00~(\rightarrow)$, indicating no detectable activity, while Mesquite and Boulder City were not recently tested. In California, A.K. Warren (4.21 \uparrow), Ontario RP-1 (11.34 \uparrow), and Indio (10.22 \uparrow) showed slight increases, whereas Hyperion (0.00 \rightarrow) and Riverside (3.88 \downarrow) remained stable or declined. Utah facilities, Central Valley (0.63 \rightarrow) and Provo (0.56 \rightarrow) showed steady levels.

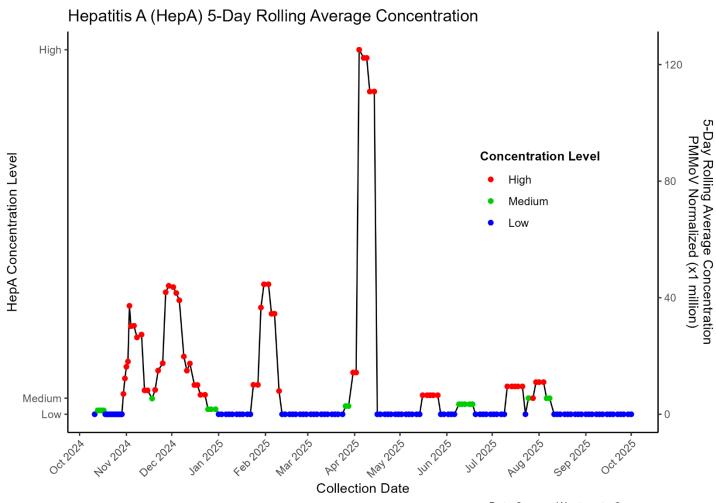
Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0.00	\rightarrow	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	4.21	1	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	0.00	\rightarrow	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0.63	→	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.56	\rightarrow	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	11.34	1	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	3.88	4	October 02 2025
Valley Sanitary District	Indio, CA	Current	10.22	↑	October 02 2025



Hepatitis A (HepA) Viral Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The chart shows Hepatitis A (HepA) concentrations in wastewater at the Clark County Water Reclamation District's Flamingo Water Resource Center from October 2024 to October 1, 2025, based on a 5-day rolling average. Concentrations peaked in November and December 2024, dropped to low levels in January 2025, rose again in February and April, and declined from May onward. Brief spikes occurred in late May, late July, and early August 2025. Between peaks, concentrations fluctuated between low and medium levels. From May through October 2025, values remained mostly low to moderate, with the latest sample on October 1 showing low detection.





Interpretation of Hepatitis A Concentrations

As of October 2, 2025, wastewater surveillance for Hepatitis A across Nevada, California, and Utah showed mostly non-detectable levels. Las Vegas (Flamingo) and Utah facilities—Central Valley and Provo—reported 0.00 (\rightarrow), indicating no detectable viral presence. In California, A.K. Warren (2.43 \downarrow), Hyperion (44.80 \downarrow), and Riverside (5.47 \downarrow) showed declining concentrations, while Ontario RP-1 (24.26 \uparrow) recorded a modest increase. Indio remained stable at 0.00 (\rightarrow), and Mesquite and Boulder City were not recently tested.

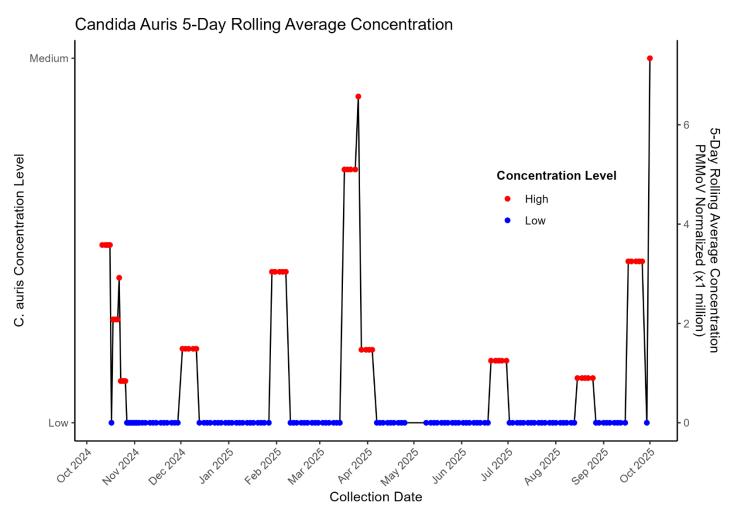
Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0.00	\rightarrow	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	2.43	4	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	44.80	4	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0.00	→	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	\rightarrow	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	24.26	↑	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	5.47	4	October 02 2025
Valley Sanitary District	Indio, CA	Current	0.00	→	October 02 2025



Candida Auris Fungal Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The graph displays *Candida auris* (C. auris) 5-day rolling average concentrations at the Flamingo Water Resource Center from October 2024 through October 01, 2025. While most measurements remained at low levels, several notable spikes were observed: in late October 2024 to November 2024, December 2024, February 2025, early April 2025, mid-July 2025, mid-August 2025, late-September 2025 and October 2025. The highest concentration occurred in early October 2025. These surges suggest periods of elevated *Candida Auris* presence in the community, followed by returns to baseline low levels. Results are shown as 5-day rolling averages, normalized by PMMoV. The most recent sample was collected on October 01, 2025.





Interpretation of Candida Auris Concentrations

As of October 2, 2025, wastewater monitoring for *Candida auris* across Nevada, California, and Utah showed almost entirely undetectable levels. Most facilities including Los Angeles County's A.K. Warren and Hyperion plants, Utah's Central Valley and Provo sites, Riverside, and Indio reported $0.00~(\rightarrow)$, indicating no detectable activity. Slight increases were observed at Las Vegas (Flamingo, 7.34 \uparrow) and Ontario (RP-1, 0.40 \uparrow), while Mesquite and Boulder City were not recently tested.

Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	7.34	↑	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	0.00	→	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	0.00	→	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0.00	→	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	→	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	0.40	↑	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0.00	→	October 02 2025
Valley Sanitary District	Indio, CA	Current	0.00	→	October 02 2025

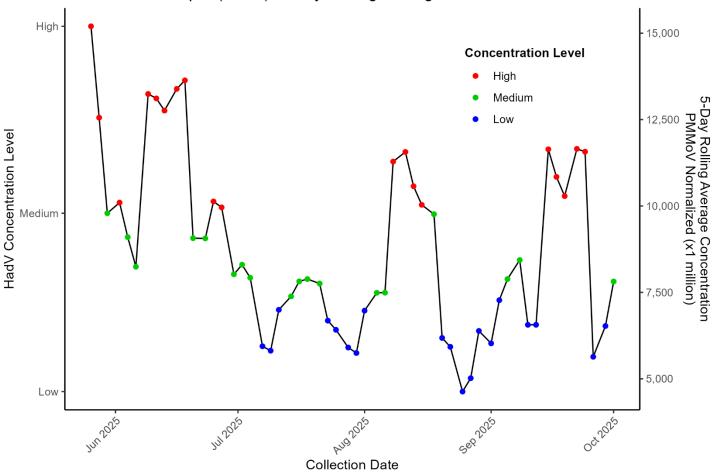


Adenovirus Group F Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

This chart tracks Adenovirus Group F (HadV) concentrations in wastewater at Clark County's Flamingo Water Resource Center from June to October 01, 2025. The 5-day rolling average shows fluctuations between high, medium, and low concentration levels. In early June, levels were consistently high but dropped to medium and low by late June. July saw mostly medium levels, trending downward. In August, concentrations dipped into the low range, then rose back toward medium. By September, levels fluctuated widely, peaking again in high range mid- and late months. The last sample was collected on October 01, 2025.

Adenovirus Group F (HadV) 5-Day Rolling Average Concentration





Interpretation of Adenovirus Group F Concentrations

As of October 2, 2025, Adenovirus Group F wastewater levels across Nevada, California, and Utah remain elevated but variable. Concentrations were 7,815.22 in Las Vegas (\downarrow), 10,432.72 at A.K. Warren (\uparrow), 5,899.82 at Hyperion (\uparrow), 14,213.30 at Ontario RP-1 (\uparrow), 10,874.40 at Riverside (\uparrow), 2,310.85 at Indio (\uparrow), 14,501.02 in Central Salt Lake Valley (\downarrow), and 14,797.97 in Provo (\uparrow). Mesquite and Boulder, NV, were not tested. Utah showed the highest values, California trends were rising, and Nevada's limited data suggested decline, indicating uneven regional adenovirus activity.

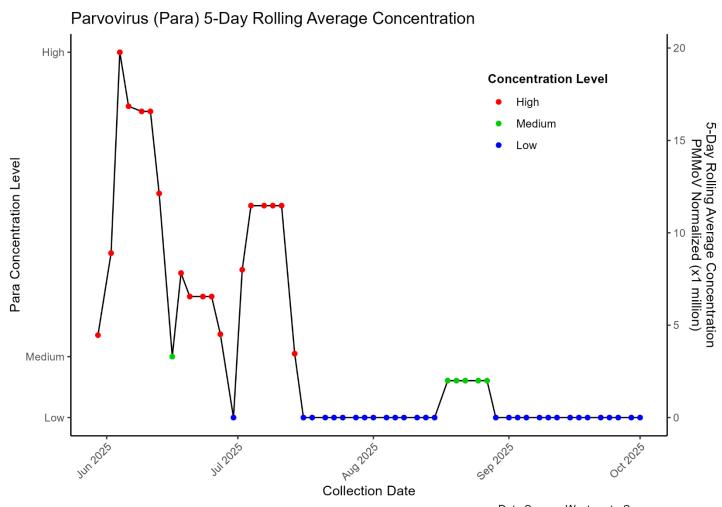
Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	7,815.22	4	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	10,432.72	1	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	5,899.82	1	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	14,501.02	4	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	14,797.97	1	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	14,213.30	1	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	10,874.40	↑	October 02 2025
Valley Sanitary District	Indio, CA	Current	2,310.85	↑	October 02 2025



Parvovirus Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The graph presents Parvovirus 5-day rolling average concentrations at the Flamingo Water Resource Center from June to October 01, 2025. Concentrations peaked in early June at high levels (red) and gradually declined through mid-June. After a brief resurgence of high levels in early July, the concentration dropped sharply. From mid-July to the end of the month, levels remained consistently low (blue). The trend shows two distinct spikes followed by a sustained decline. The last sample, taken on October 01, 2025, showed medium concentration.





Parvovirus Concentrations Interpretation

As of October 2, 2025, Parvovirus levels in wastewater across Nevada, California, and Utah were largely non-detectable. Concentrations measured 0.00 in Las Vegas, 1.88 at A.K. Warren, 0.00 at Hyperion, 1.92 in Central Salt Lake Valley, 0.00 in Provo, 1.32 at Ontario RP-1, 0.00 in Riverside, and 0.00 in Indio, with all trends stable (→). Mesquite and Boulder, NV, were not tested.

Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0.00	\rightarrow	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	1.88	\rightarrow	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	0.00	\rightarrow	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	1.92	→	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	\rightarrow	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	1.32	\rightarrow	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0.00	→	October 02 2025
Valley Sanitary District	Indio, CA	Current	0.00	→	October 02 2025



Influenza H5 Viral Detection Comparing to Neighboring States

As of October 02, 2025, wastewater surveillance from ten treatment facilities in California, Nevada, and Utah detected no Influenza H5 activity. All sites reported a five-day rolling average of zero with no change in the 14-day trend, indicating stable conditions and no current evidence of Influenza H5.

Plant Name	City	Time frame	5 Day Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0	→	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	0	\rightarrow	September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	0	\rightarrow	September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	0	→	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	0	→	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0	→	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0	→	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	0	→	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0	→	October 02 2025
Valley Sanitary District	Indio, CA	Current	0	→	October 02 2025



MPOX Clade 1b Viral Detection Comparing to Neighboring States

As of October 02, 2025, wastewater surveillance from ten facilities in California, Nevada, and Utah detected no Mpox clade 1b. Across all sites, monitoring within the past 90 days reported no recent presence. These findings indicate continued absence of detectable Mpox clade 1b in sampled wastewater across the three states

Plant Name	City	Time frame	Detect/ Non-detect	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	Non-detect	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Non-detect	September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Non-detect	September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	Non-detect	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	Non-detect	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	Non-detect	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	Non-detect	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	Non-detect	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	Non-detect	October 02 2025
Valley Sanitary District	Indio, CA	Current	Non-detect	October 02 2025



Measles Viral Detection Comparing to Neighboring States

As of October 02, 2025, wastewater monitoring at ten facilities in California, Nevada, and Utah shows no signs of measles activity. The only recent detection occurred at the Flamingo Water Resource Center in Las Vegas on August 1, but a follow-up sample on August 6 was negative. All other sites, including Los Angeles County, Ontario, Riverside, Indio, and Central Salt Lake Valley, reported non-detectable levels in their most recent samples.

Plant Name	City	Time frame	Detect/ Non-detect	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	Non-detect	October 01 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Non-detect	September 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Non-detect	September 10 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	Non-detect	September 30 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	Non-detect	September 30 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	Non-detect	October 01 2025
Provo City Water Reclamation Facility	Provo, UT	Current	Non-detect	October 01 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	Non-detect	October 02 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	Non-detect	October 02 2025
Valley Sanitary District	Indio, CA	Current	Non-detect	October 02 2025



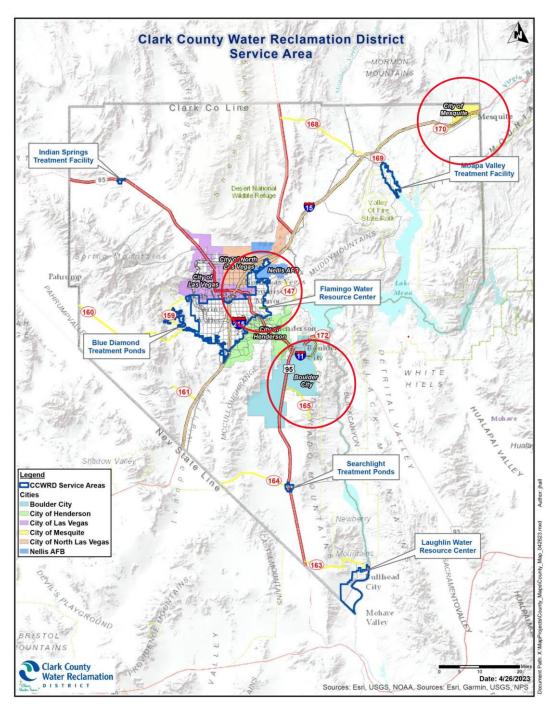
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- 3. Boehm, A. B., Wolfe, M. K., Bidwell, A. L., Zulli, A., Vikram-Chan-Herur, V., White, B. J., Shelden, B., & Duong, D. (2024). *Human pathogen nucleic acids in wastewater solids from 191 wastewater treatment plants in the United States. Scientific Data*, 11, 1141.



Appendix

Wastewater Sampling Sites in Clark County, Nevada (red circles).



Source: Clark County Water Reclamation District