THE SOUTHERN NEVADA HEALTH DISTRICT'S WEEKLY WASTEWATER SURVEILLANCE REPORT

November 25, 2025

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Contents

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[2,3],** and **Verily[1]**, 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 November 25, 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, Human Metapneumovirus (HMPV)), 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 November 25, 2025)
As of November 25, 2025, wastewater surveillance across Nevada, California, and Utah indicates generally low activity for several priority pathogens. No detections were observed for Measles except at Provo City, UT, where Measles was detected on November 24. The only previous detection occurred at FWRF, Nevada on August 1, with all samples since testing negative. No detections were observed for Mpox Clade II, Mpox Clade 1b, West Nile virus, Influenza H5, or RSV, all of which remain at low or non-detect levels.

SARS-CoV-2 levels are mostly declining across the region; however, Boulder City, NV shows a high and rising signal, and Central Valley, UT also shows increasing activity. Variant sequencing indicates continued dominance of lineage XFG, alongside intermittent circulation of XFC, JN.1 sub-lineages, LF.7, NB.1.8.1, NW.1, and others. Influenza A remains mostly low or stable, though notable increases occur at Boulder City (high), FWRF (medium), A.K. Warren, Central Valley, Provo City, and RP-1 Ontario. Influenza B is very low or undetectable at nearly all facilities. RSV and Human Metapneumovirus display typical seasonal declines after earlier peaks.

Enteric pathogens exhibit more varied patterns. Norovirus, Rotavirus, Adenovirus Group F, and Parvovirus show elevated or rising concentrations at FWRF, A.K. Warren, Hyperion, Central Valley, Provo, RP-1, Riverside, and Valley Sanitary District. FWRF shows high Parvovirus, Adenovirus F, and Hepatitis A. Hepatitis A is also increasing at A.K. Warren and remains high but stable at Riverside. *Enterovirus D68 is* rising at A.K. Warren and Hyperion, while absent at FWRF, Central Valley, and Provo. *Candida auris* remains nearly undetected regionwide.

In summary, SARS-CoV-2 and Influenza A are rising in Boulder City, while FWRF shows high Parvovirus and Hepatitis A. Multiple facilities report elevated enteric viruses, Enterovirus D68 is increasing at A.K. Warren and Hyperion, and Measles was detected only in Provo City.

Methodological Notes: Sampling methods varied across sites. FWRF in Nevada, all California facilities (A.K. Warren, Hyperion, RP-1, Riverside, Valley Sanitary District), and Utah facilities (Central Valley and Provo City) collected 24-hour composite solid samples analyzed by WastewaterSCAN. In contrast, Mesquite and Boulder City relied on liquid grab samples analyzed by Verily. These methodological differences likely influenced pathogen measurements.

Summary of Select Pathogen Concentrations in three wastewater treatment facilities in Neveda

- Latest data point for Flamingo Water reclamation district plant November 24, 2025
- Latest data point for City of Mesquite Wastewater Treatment Plant is November 25, 2025
- Latest data point for Boulder City Wastewater Treatment Plant November 24, 2025

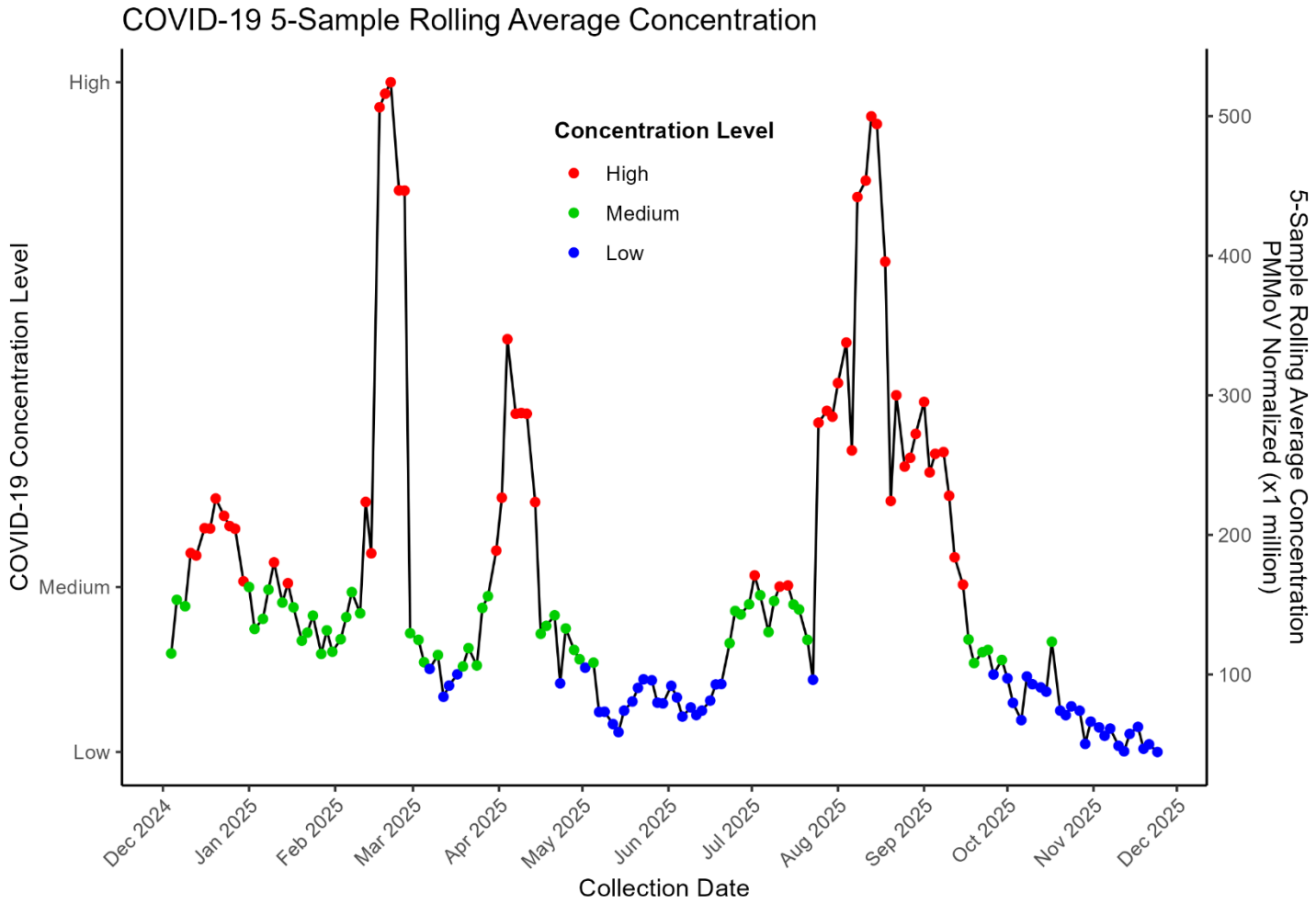
Pathogen	Concentration Level / Presence- Flamingo	Concentration Level / Presence- Boulder	Concentration Level / Presence - Mesquite
SARS-CoV-2	Low	High	Low
Influenza A	Medium	High	Low
Influenza B	Low	Low	Low
Respiratory Syncytial virus (RSV)	Low	Low	Low
Norovirus	Low	Not Tested	Not Tested
Rotavirus	Medium	Not Tested	Not Tested
Enterovirus D68	Low	Not Tested	Not Tested
Hepatitis A	High	Not Tested	Not Tested
Candida Auris	Low	Not Tested	Not Tested
Adenovirus Group F	High	Not Tested	Not Tested
Parvovirus	High	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 three 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

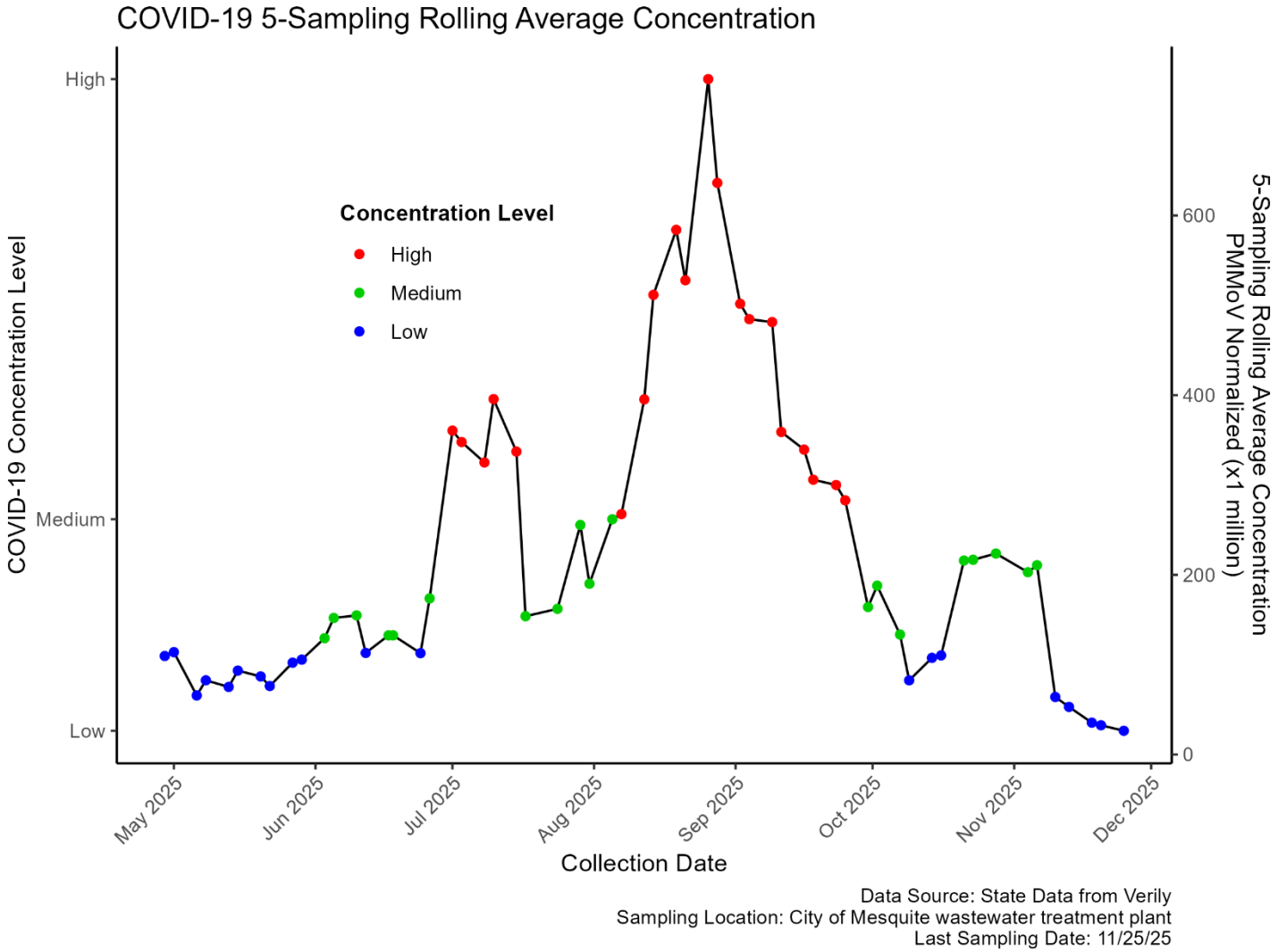
Flamingo Water Reclamation District Plant

The chart displays the 5-sample rolling average of COVID-19 concentrations at the Flamingo Water Resource Center from December 2024 through November 2025. Several waves are visible, including a winter rise in early 2025, followed by a major peak in March reaching high levels. After a brief decline, another moderate increase occurred in May. The largest surge appears in September 2025, with concentrations again reaching high levels before steadily decreasing through the fall. By November 24, 2025, COVID-19 levels had dropped to low, indicating reduced viral activity. Overall, the data reflect clear seasonal and mid-year waves with subsequent declines.



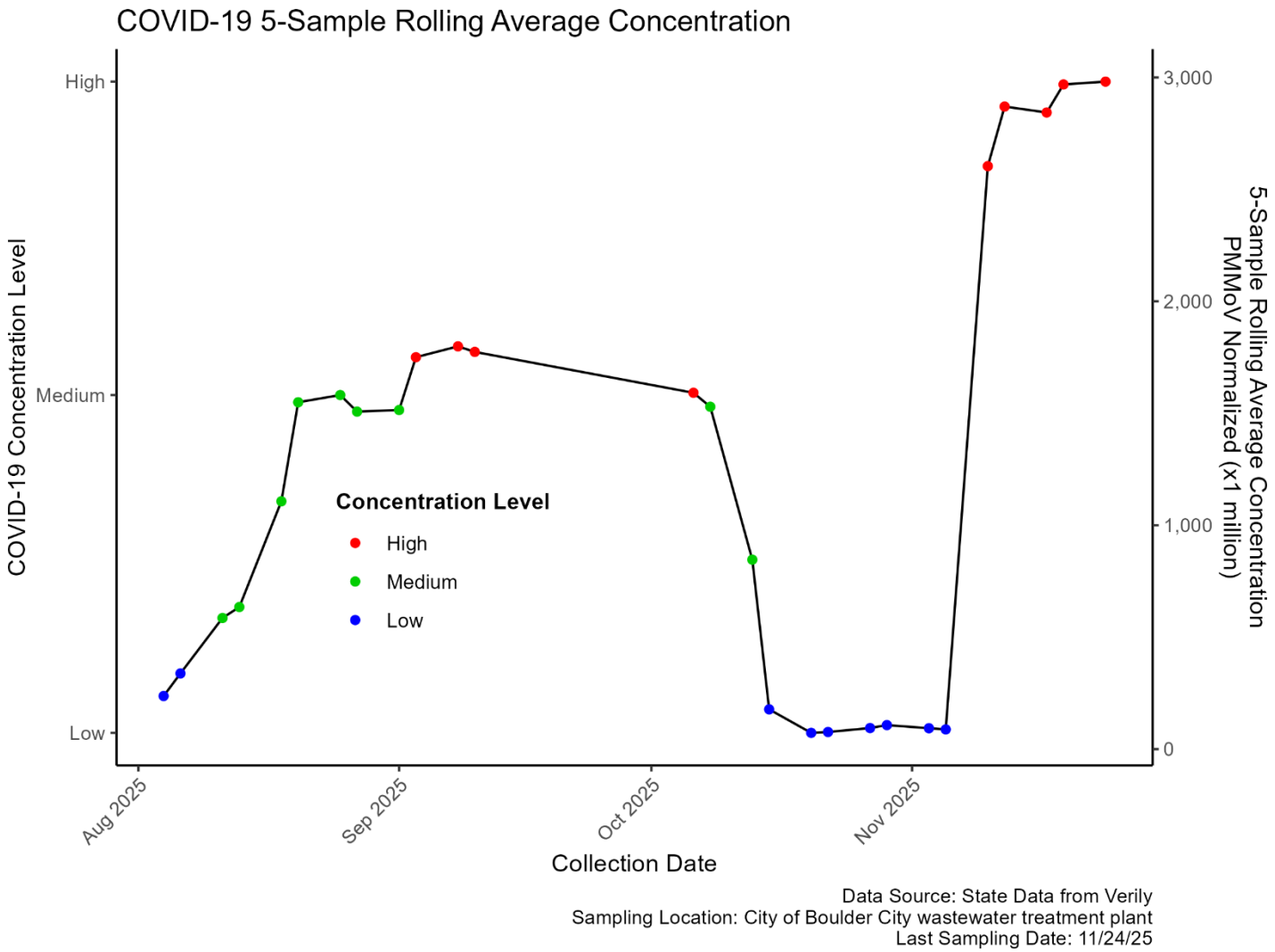
City of Mesquite Wastewater Treatment Plant

The chart shows COVID-19 concentrations at the Mesquite wastewater treatment plant from May to November 2025. Levels began low in May and early June, gradually rising into medium by late June. A strong upward trend followed in July and August, leading to a major peak in early September, with concentrations reaching high levels. After the September surge, levels declined steadily through October. A smaller secondary rise occurred in November, reaching medium levels before dropping again. By the last sampling date, November 25, 2025, concentrations had returned to low, indicating decreasing recent transmission.



Boulder City Wastewater Treatment Plant

The chart shows COVID-19 concentrations at the Boulder City wastewater treatment plant from August to November 2025. Levels began low in early August, rising steadily into medium by late August. Concentrations reached high levels in early September and remained elevated through mid-September before gradually declining. By October, levels fell sharply to low, staying at minimal levels for several weeks. However, in mid-November, a dramatic surge occurred, with concentrations spiking back into the high range, reaching the chart's highest values. As of the last sampling date, November 24, 2025, COVID-19 levels remained high, indicating significant ongoing transmission.



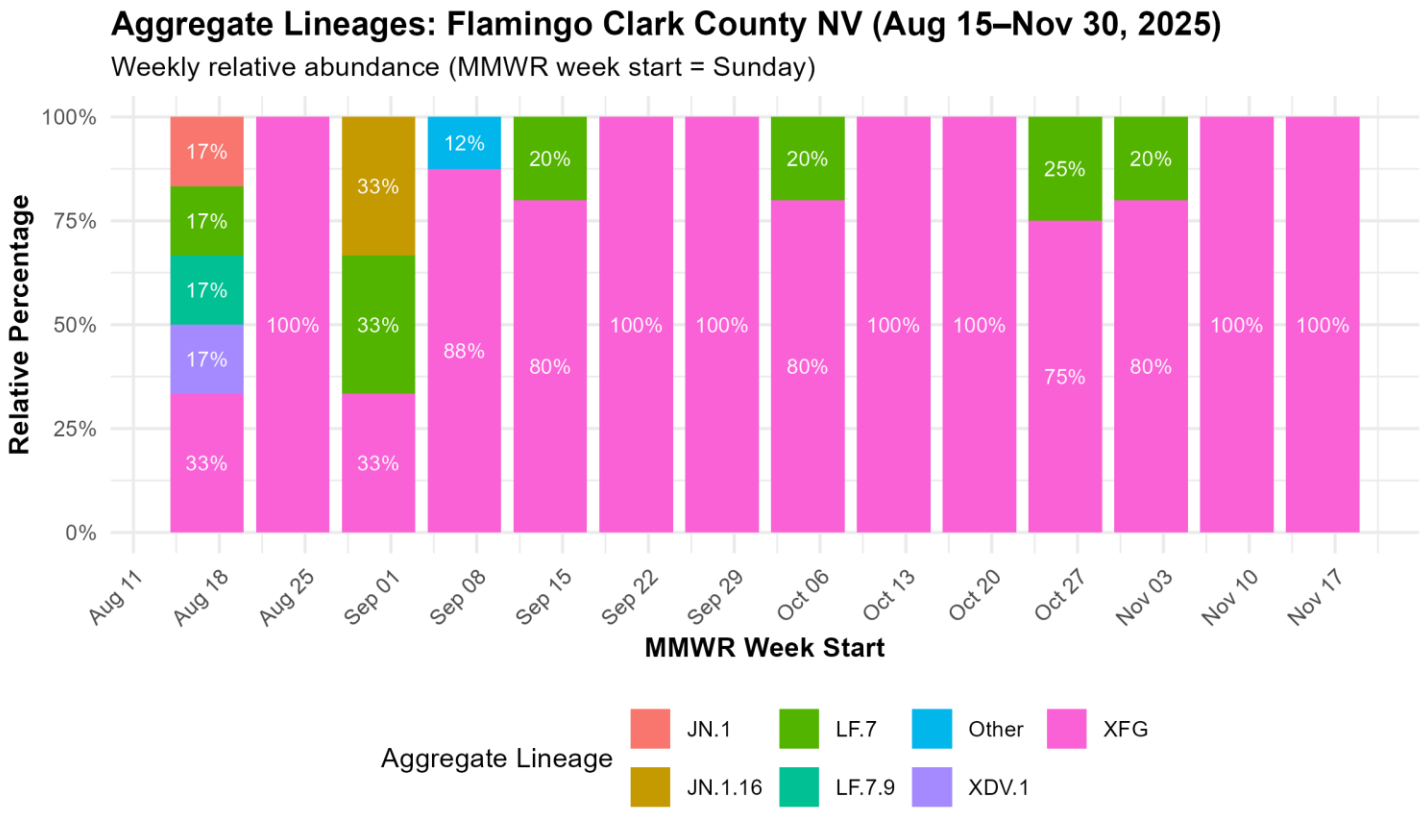
SARS-CoV-2 Concentrations Interpretation
As of November 25, 2025, wastewater data across Nevada, California, and Utah shows mostly low or stable SARS-CoV-2 levels, with mixed trends across facilities. Several sites report declining concentrations, including Flamingo, NV (44.51 GC/L ↓), Mesquite, NV (26.38 GC/L ↓), A.K. Warren, CA (8.09 GC/L ↓), Hyperion, CA (4.54 GC/L ↓), Provo, UT (68.97 GC/L ↓), RP-1 Ontario, CA (24.66 GC/L ↓), Riverside, CA (8.22 GC/L ↓), and Valley Sanitary District, CA (34.96 GC/L ↓). Rising signals occur at Boulder City, NV (2,981.26 GC/L ↑) and Central Valley, UT (57.15 GC/L ↑).

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	44.51	↓	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	26.38	↓	November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	2,981.26	↑	November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	8.09	↓	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	4.54	↓	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	57.15	↑	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	68.97	↓	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	24.66	↓	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	8.22	↓	November 25 2025
Valley Sanitary District	Indio, CA	Current	34.96	↓	November 25 2025

SARS-CoV-2 Variants Circulating

Flamingo Water Reclamation District Plant

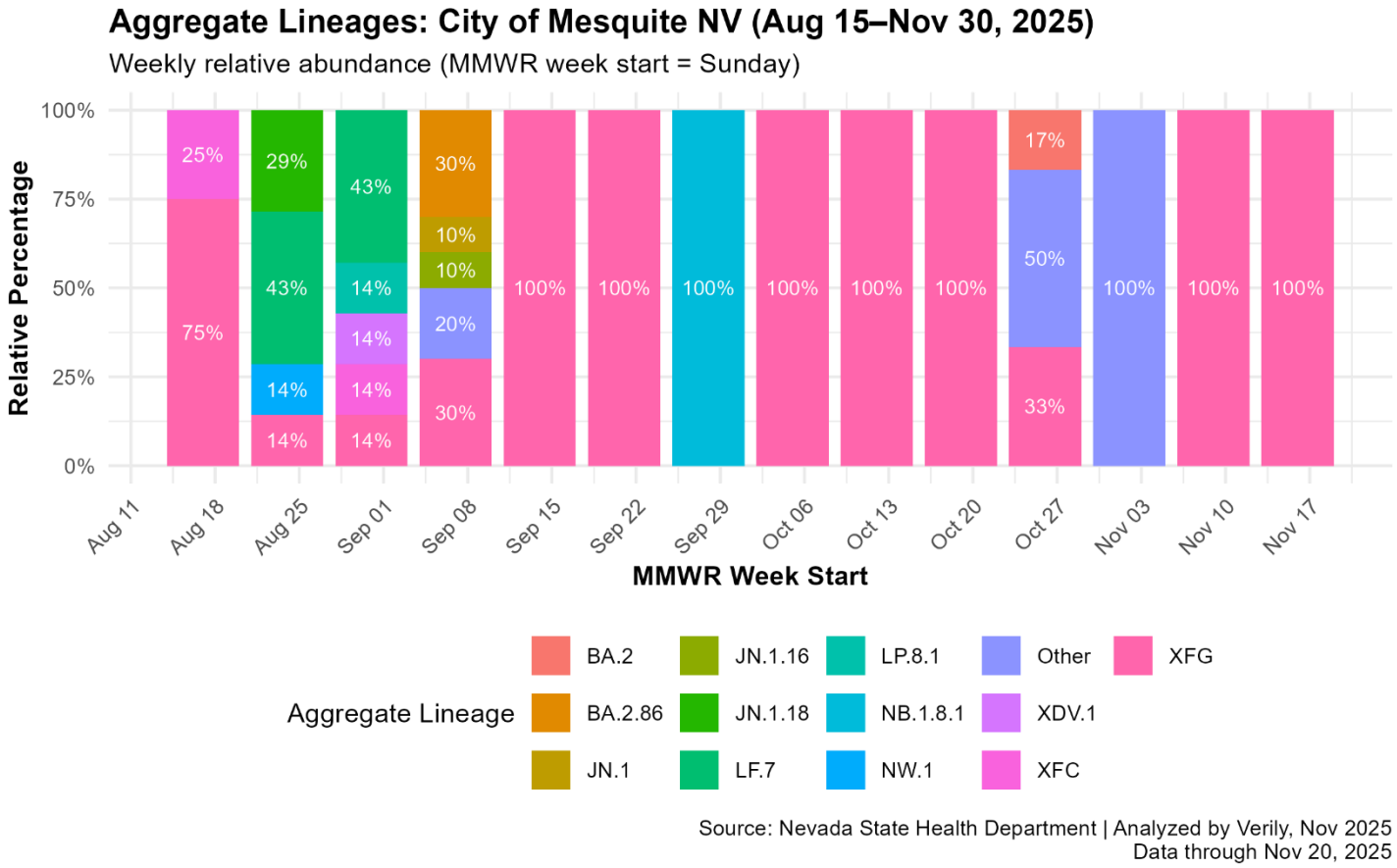
The chart shows weekly changes in viral composition from August 11 to November 17. During this period, SARS-CoV-2 lineage proportions shift from early diversity to sustained dominance by lineage XFG. In mid-August, five lineages each account for 16.7–33.3% of detections. By August 24, XFG rises to 100% and remains the primary lineage for most subsequent weeks. Brief diversification occurs on August 31 and September 7, when JN.1.16, LF.7, and “Other” lineages appear at 12–33%. From mid-September onward, XFG consistently represents 75–100% of detections, with only occasional minor contributions from LF.7.



Source: Nevada State Health Department | Analyzed by Verily, Nov 2025
Data through Nov 20, 2025

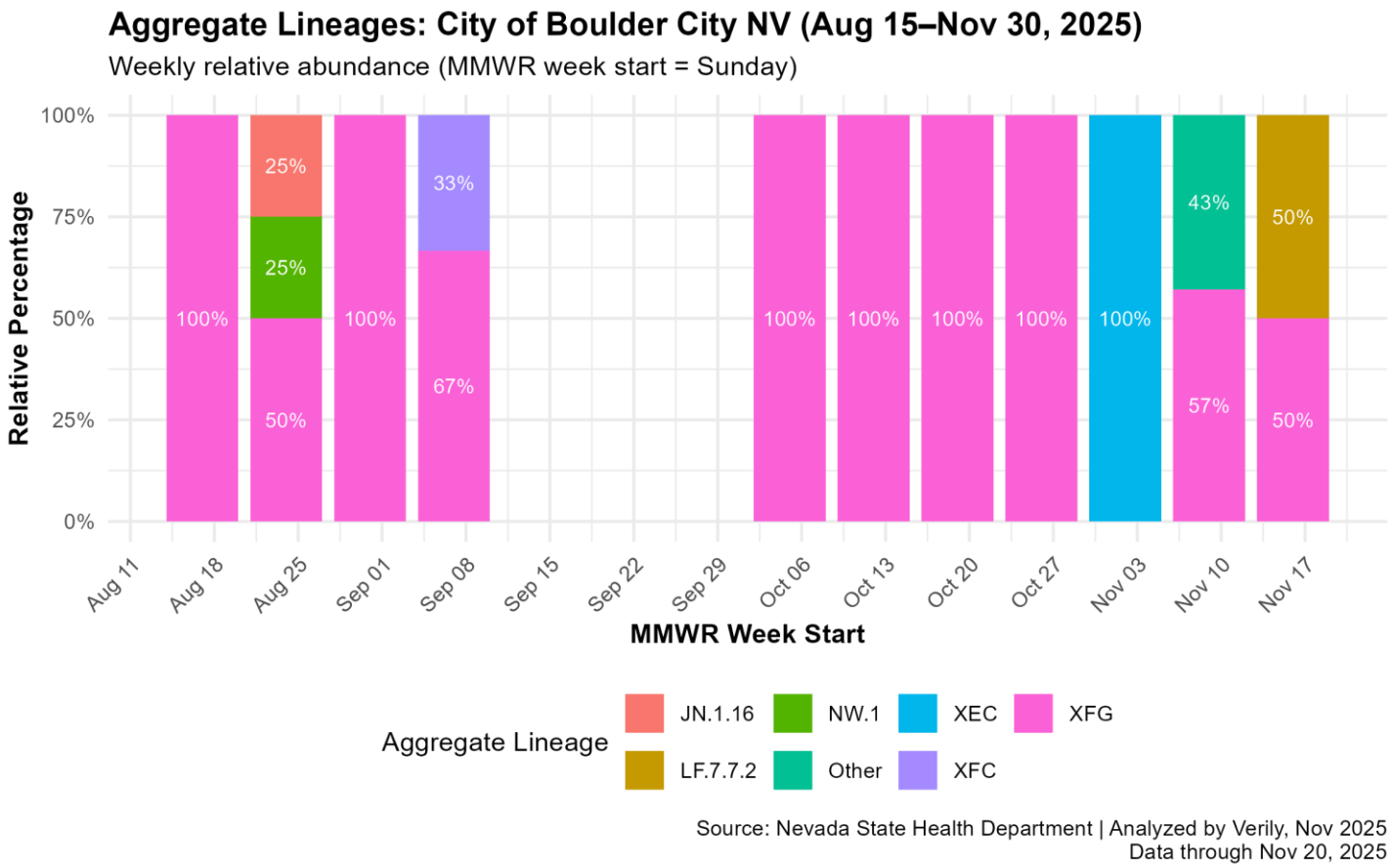
Mesquite Wastewater Treatment Plant

The chart illustrates the SARS-CoV-2 lineage groups detected in Mesquite wastewater f From August 17 through November 16, wastewater data show an initial period of substantial lineage diversity followed by a shift to strong single-lineage dominance. Mid-August detections are led by XFC (25%) and XFG (75%). By August 24 and 31, multiple lineages including JN.1.18, LF.7, NW.1, XDV.1, LP.8.1, and XFC circulate at 10–43%. Early September remains mixed with BA.2.86, JN.1, JN.1.16, and other lineages present. Beginning September 14, XFG or NB.1.8.1 dominate entirely, and after brief late-October diversification, XFG returns to complete dominance by mid-November.



Boulder City Wastewater Treatment Plant

The chart shows SARS-CoV-2 lineages detected in Boulder City wastewater From August 17 to November 16, 2025, SARS-CoV-2 lineage patterns in Boulder wastewater show strong dominance by XFG with intermittent brief appearances of other lineages. XFG begins at 100% on August 17, then shares the week of August 24 with JN.1.16 (25%) and NW.1 (25%), while XFG holds 50%. It returns to 100% on August 31. On September 7, XFG represents 66.7% and XFC 33.3%. XFG again reaches 100% from October 5 through October 26. November 2 features XEC at 100%. On November 9, XFG accounts for 57.1% and Other for 42.9%. November 16 shows LF.7.7.2 and XFG each at 50%.

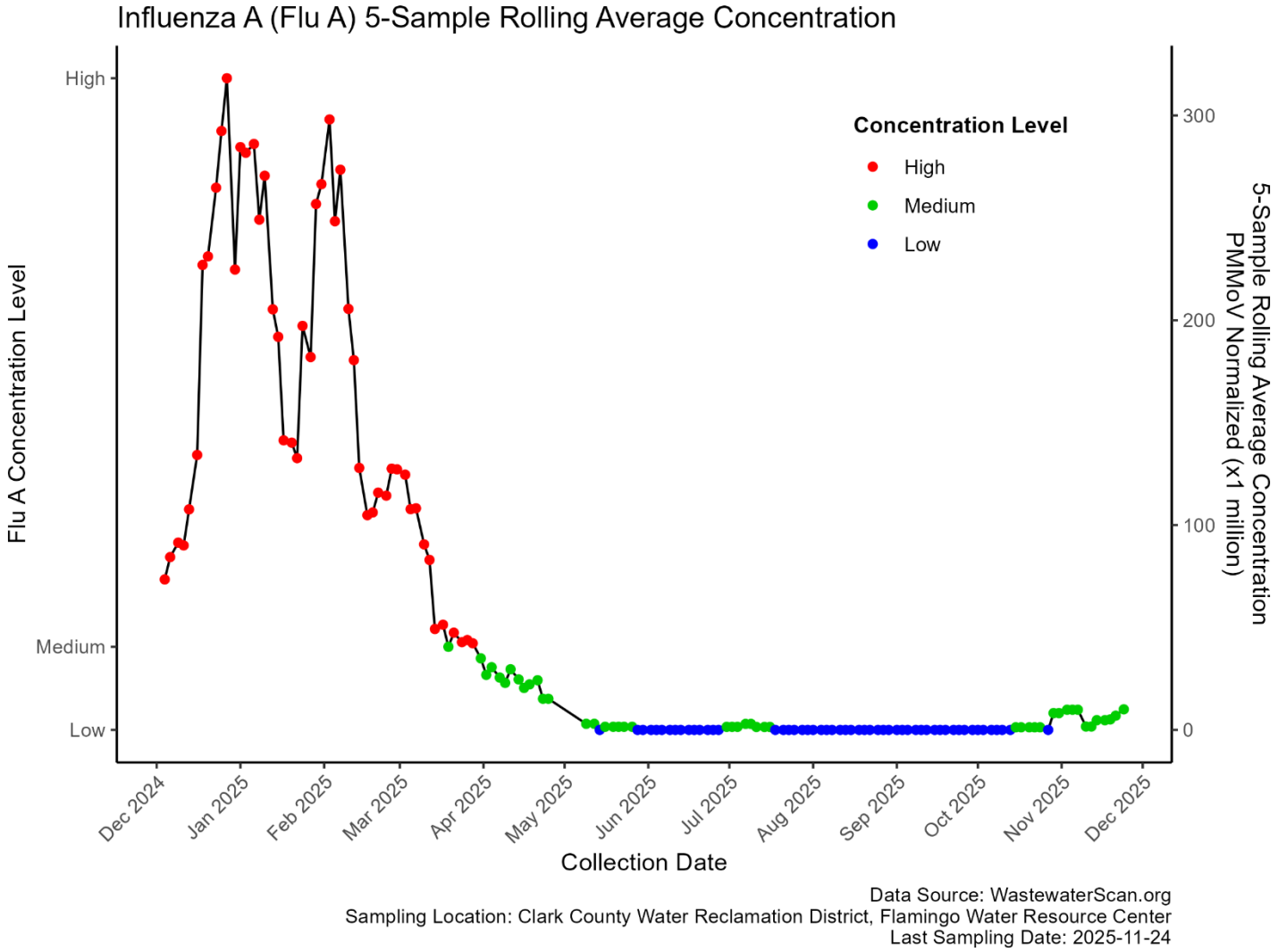


Note: Data for the weeks of September 15, 22, and 29, 2025, were missing and are not represented in the dataset.

Influenza A Viral Concentration Trends in Clark County

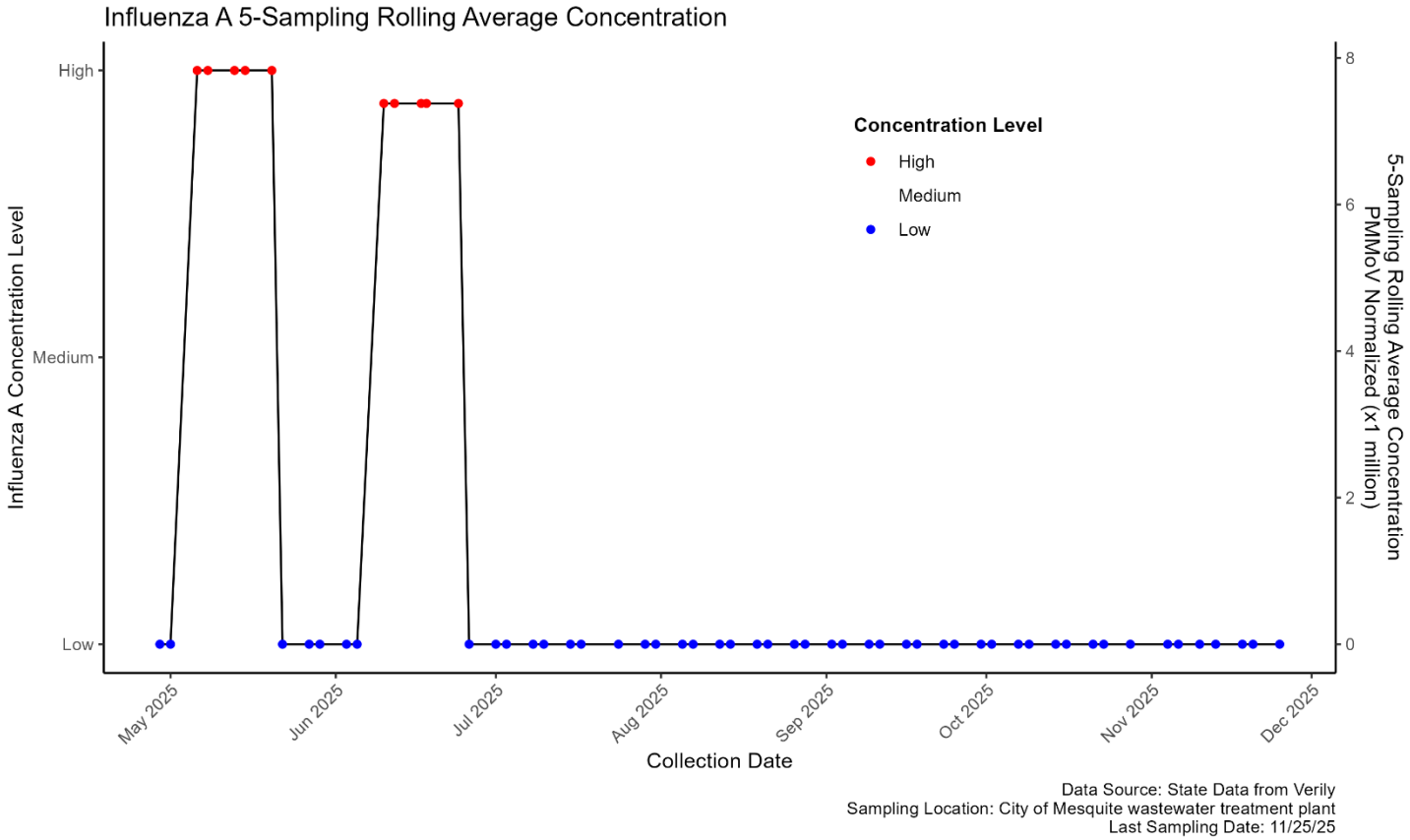
Flamingo Water Reclamation District Plant

The chart shows Influenza A (Flu A) concentrations in wastewater at the Flamingo Water Reclamation District, Clark County, from December 2024 to November 24, 2025, using 5-sample rolling averages. Levels were high from December through March, with multiple peaks exceeding 300 normalized units. Concentrations declined in April to medium levels and dropped to low by May. From June through October, Flu A remained consistently low with minimal variation. In November, levels increased slightly, reaching medium concentrations.



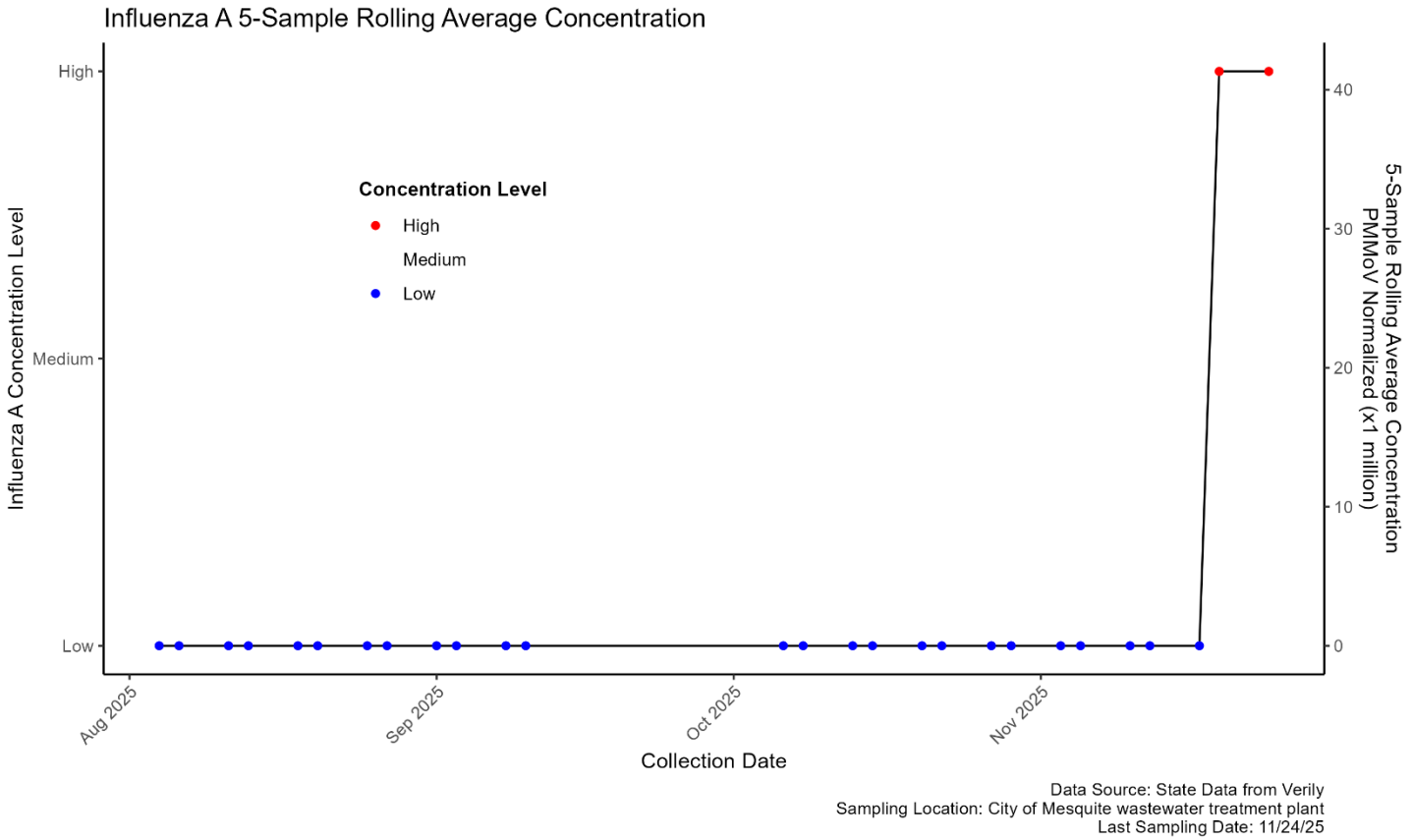
City of Mesquite Wastewater Treatment Plant

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



Boulder City Wastewater Treatment Plant

The chart shows Influenza A concentrations in wastewater at the City of Mesquite treatment plant from August through November 24, 2025, using 5-sample rolling averages. Levels remained consistently low from August to mid-November, with minimal variation. However, in late November, concentrations spiked sharply to high levels, reaching approximately 40 normalized units. This indicates a sudden and significant increase after months of low activity. The most recent sample was collected on November 24, 2025.



Interpretation of Influenza A Concentrations

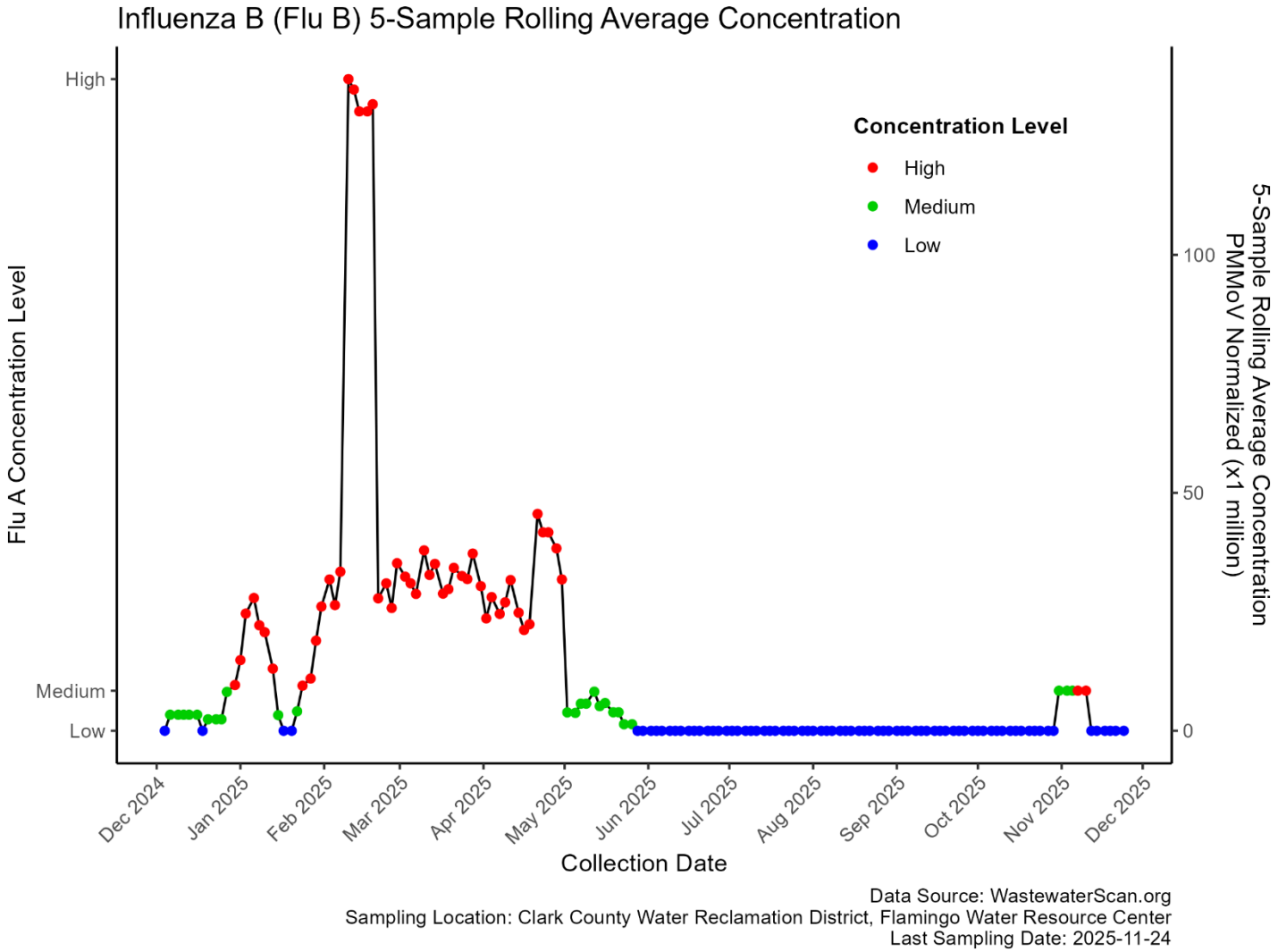
As of November 25, 2025, Influenza A wastewater concentrations across Nevada, California, and Utah show mostly low or stable signals. Mesquite and Riverside report 0.00 GC/L, while Indio is minimal at 0.60 GC/L. Moderate levels appear at Flamingo (10.05 GC/L), Central Valley (13.72 GC/L), and Provo (14.78 GC/L). Boulder City (41.32 GC/L) and Hyperion (26.68 GC/L) indicate significant presence. Several sites show upward trends, suggesting localized increases.

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	10.05	↓	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	0.00	→	November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	41.32	↑	November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	2.00	↑	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	26.68	→	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	13.72	↑	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	14.78	↑	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	6.36	↑	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0.00	→	November 25 2025
Valley Sanitary District	Indio, CA	Current	0.60	→	November 25 2025

Influenza B Viral Concentration Trends in Clark County

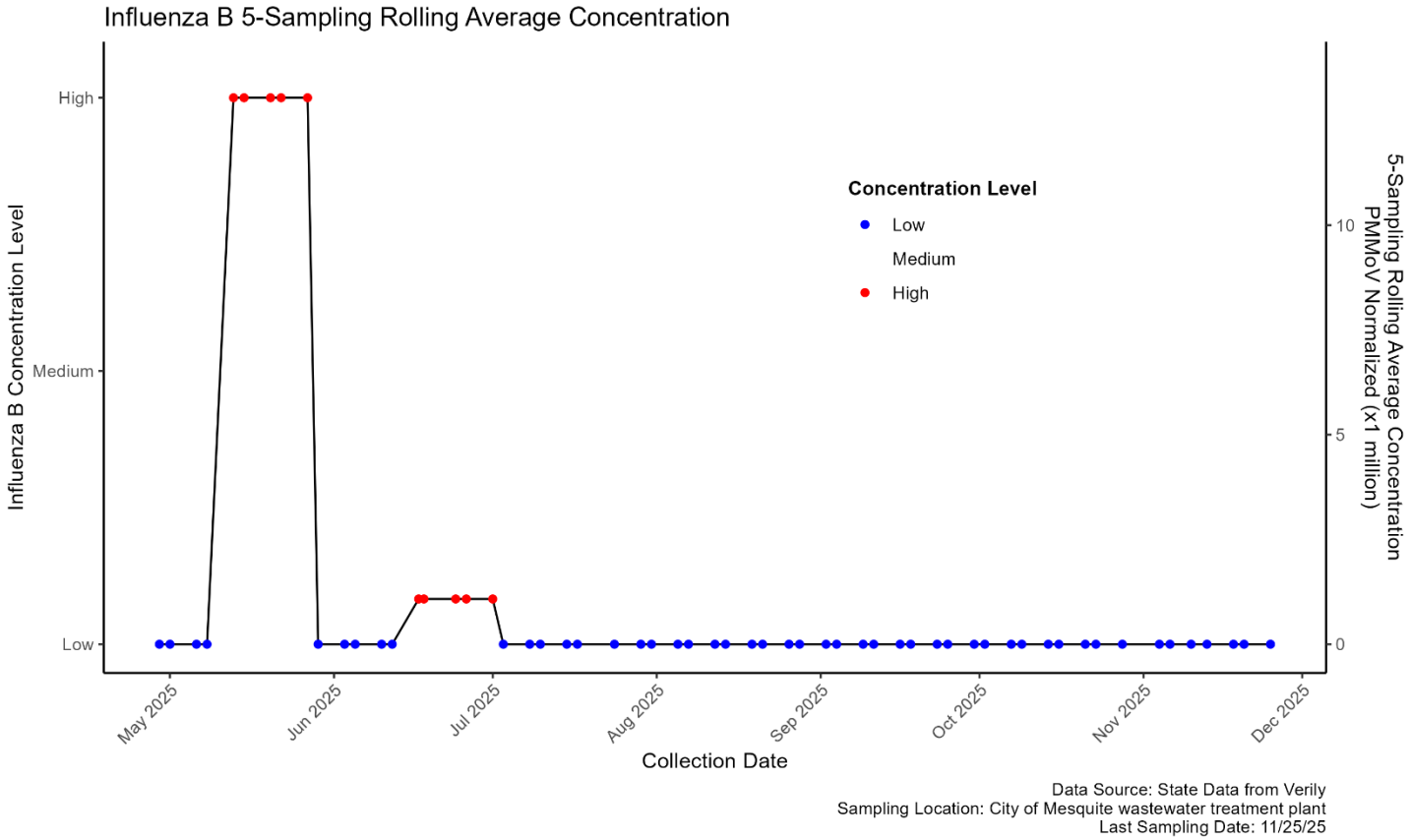
Flamingo Water Reclamation District Plant

The chart shows Influenza B (Flu B) concentrations in wastewater at the Flamingo Water Reclamation District from December 2024 to November 24, 2025, using 5-sample rolling averages. Levels were medium in December, rose to high in January, and peaked in February and March. Concentrations declined to medium in April and May, then dropped to low by June, remaining stable through October. A slight increase to medium occurred in late November, indicating a minor resurgence.



City of Mesquite Wastewater Treatment Plant

The chart shows Influenza B concentrations in wastewater at the City of Mesquite treatment plant from May to November 25, 2025, using 5-sample rolling averages. Levels were low in early May, spiked to high at the end of May, then dropped to low by mid-June. A smaller high-level increase occurred in mid-June and July before returning to low. From July through November, levels remained consistently low. Overall, the data indicates two brief summer surges and prolonged low activity.



Interpretation of Influenza B Concentrations

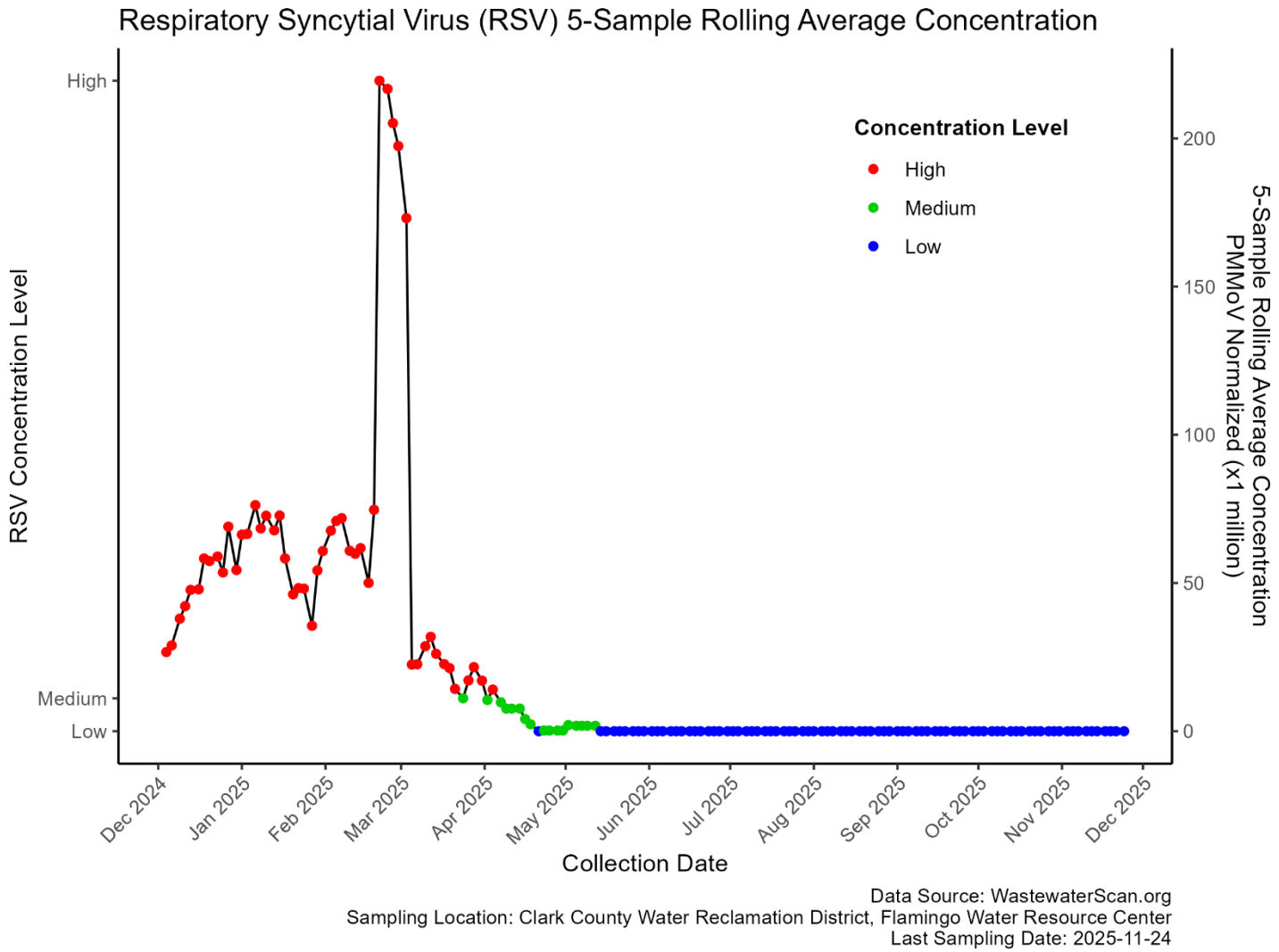
As of November 25, 2025, wastewater surveillance for Influenza B across Nevada, California, and Utah shows very low or undetectable levels (GC/L) at nearly all monitored facilities. Most sites including Flamingo, Mesquite, Boulder City, A.K. Warren, Hyperion, Provo, RP-1 Ontario, Riverside, and Valley Sanitary District report 0.00 GC/L with stable trends (→). The only measurable signal appears at the Central Valley Water Reclamation Facility in Utah, reporting 3.66 GC/L (↑), indicating a slight upward trend. Overall, regional Influenza B activity remains minimal.

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0.00	→	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	0.00	→	November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	0.00	→	November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	0.00	→	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	0.00	→	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	3.66	↑	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	→	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	0.00	→	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0.00	→	November 25 2025
Valley Sanitary District	Indio, CA	Current	0.00	→	November 25 2025

Respiratory Syncytial Virus (RSV) Viral Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The chart shows Respiratory Syncytial Virus (RSV) concentrations in wastewater at the Flamingo Water Reclamation District from December 2024 to November 24, 2025, using 5-sample rolling averages. Levels were high in December and remained elevated through January and February, with a sharp peak in March exceeding 200 normalized units. Concentrations declined in April to medium levels and dropped to low by May. From June through November, RSV levels stayed consistently low with no significant variation. Overall, the data reflects a strong winter surge, rapid spring decline, and prolonged low activity during summer and fall. The latest sample was collected November 24, 2025.



Respiratory Syncytial Virus (RSV) Concentrations Interpretation

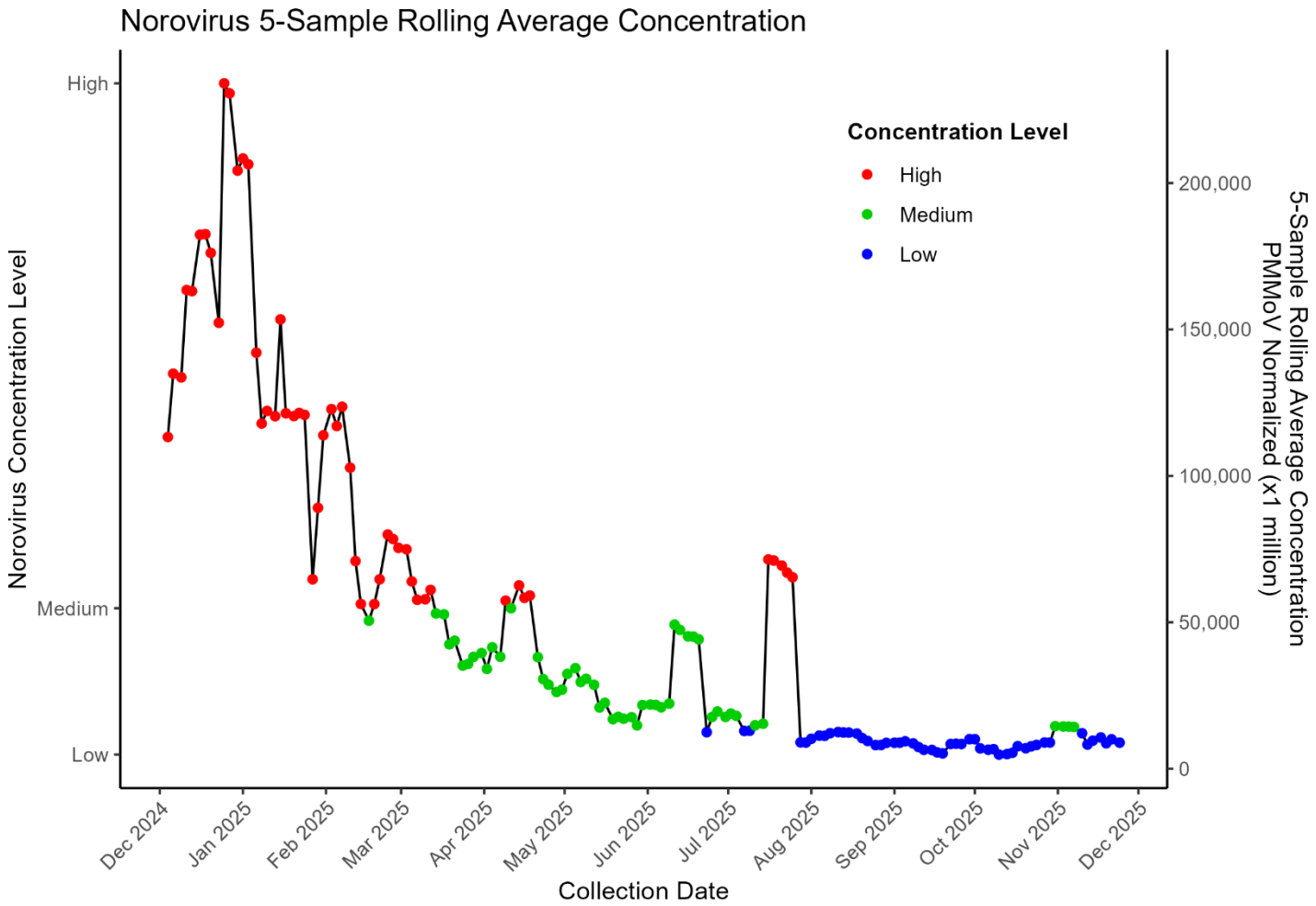
As of November 25, 2025, wastewater surveillance for Respiratory Syncytial Virus (RSV) across Nevada, California, and Utah shows uniformly low or undetectable concentrations (GC/L) with stable 14-day trends (→). Most facilities including Flamingo, Mesquite, Boulder City, Provo, Riverside, and Valley Sanitary District report 0.00 GC/L. Mild detectable levels appear at A.K. Warren (0.98 GC/L), Hyperion (2.20 GC/L), Central Valley UT (1.58 GC/L), and RP-1 Ontario (1.12 GC/L), all stable and showing no increasing activity.

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0.00	→	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	0.00	→	November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	0.00	→	November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	0.98	→	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	2.20	→	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	1.58	→	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	→	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	1.12	→	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0.00	→	November 25 2025
Valley Sanitary District	Indio, CA	Current	0.00	→	November 25 2025

Norovirus Viral Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The chart shows Norovirus concentrations in wastewater at the Flamingo Water Reclamation District from December 2024 to November 24, 2025, using 5-sample rolling averages. Levels were high in December and January, with multiple peaks exceeding 200,000 normalized units. Concentrations gradually declined through February and March, shifting to medium levels by April and May. From June onward, levels dropped to low, except for a brief high spike in August. September through November remained consistently low with minimal variation. Overall, the data indicates a strong winter surge, gradual spring decline, and sustained low activity through summer and fall. Last sample: November 24, 2025.



Data Source: WastewaterScan.org
Sampling Location: Clark County Water Reclamation District, Flamingo Water Resource Center
Last Sampling Date: 11/24/25

Interpretation of Norovirus Concentrations

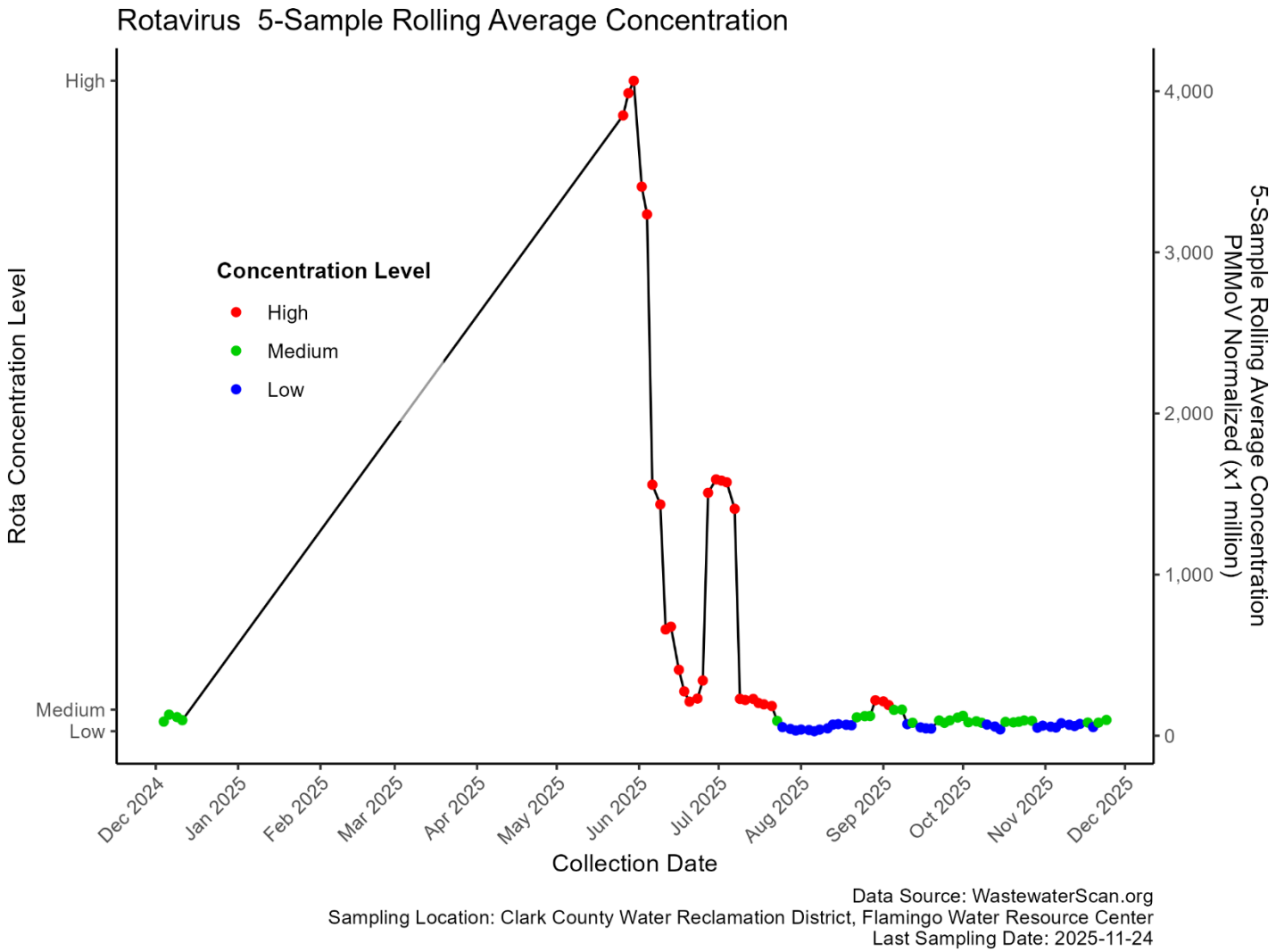
As of November 25, 2025, wastewater surveillance across Nevada, California, and Utah shows mixed Norovirus activity, with several facilities reporting notable GC/L concentrations. Declining levels are observed at Flamingo, NV (8,914.28 GC/L ↓), Hyperion, CA (8,149.59 GC/L ↓), and Provo, UT (12,691.49 GC/L ↓). Increasing signals appear at A.K. Warren, CA (4,835.15 GC/L ↑), Central Valley, UT (13,652.97 GC/L ↑), RP-1 Ontario, CA (6,791.64 GC/L ↑), Riverside, CA (5,221.30 GC/L ↑), and Valley Sanitary District, CA (3,778.84 GC/L ↑). Mesquite and Boulder City were not tested.

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	8,914.28	↓	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	4,835.15	↑	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	8,149.59	↓	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	13,652.97	↑	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	12,691.49	↓	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	6,791.64	↑	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	5,221.30	↑	November 25 2025
Valley Sanitary District	Indio, CA	Current	3,778.84	↑	November 25 2025

Rotavirus Viral Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The chart shows Rotavirus concentrations in wastewater at the Flamingo Water Reclamation District from December 2024 to November 24, 2025, using 5-sample rolling averages. Levels began low in December and steadily increased through winter and spring, reaching a sharp peak in June at high concentrations exceeding 4,000 normalized units. After June, concentrations dropped quickly to medium and then low by July, with a brief resurgence in mid-July. From August through October, levels remained mostly low with minor fluctuations, including small medium-level increases. In November, concentrations rose again to medium levels, indicating a slight late-year uptick. Last sample: November 24, 2025.



Interpretation of Rotavirus Concentrations

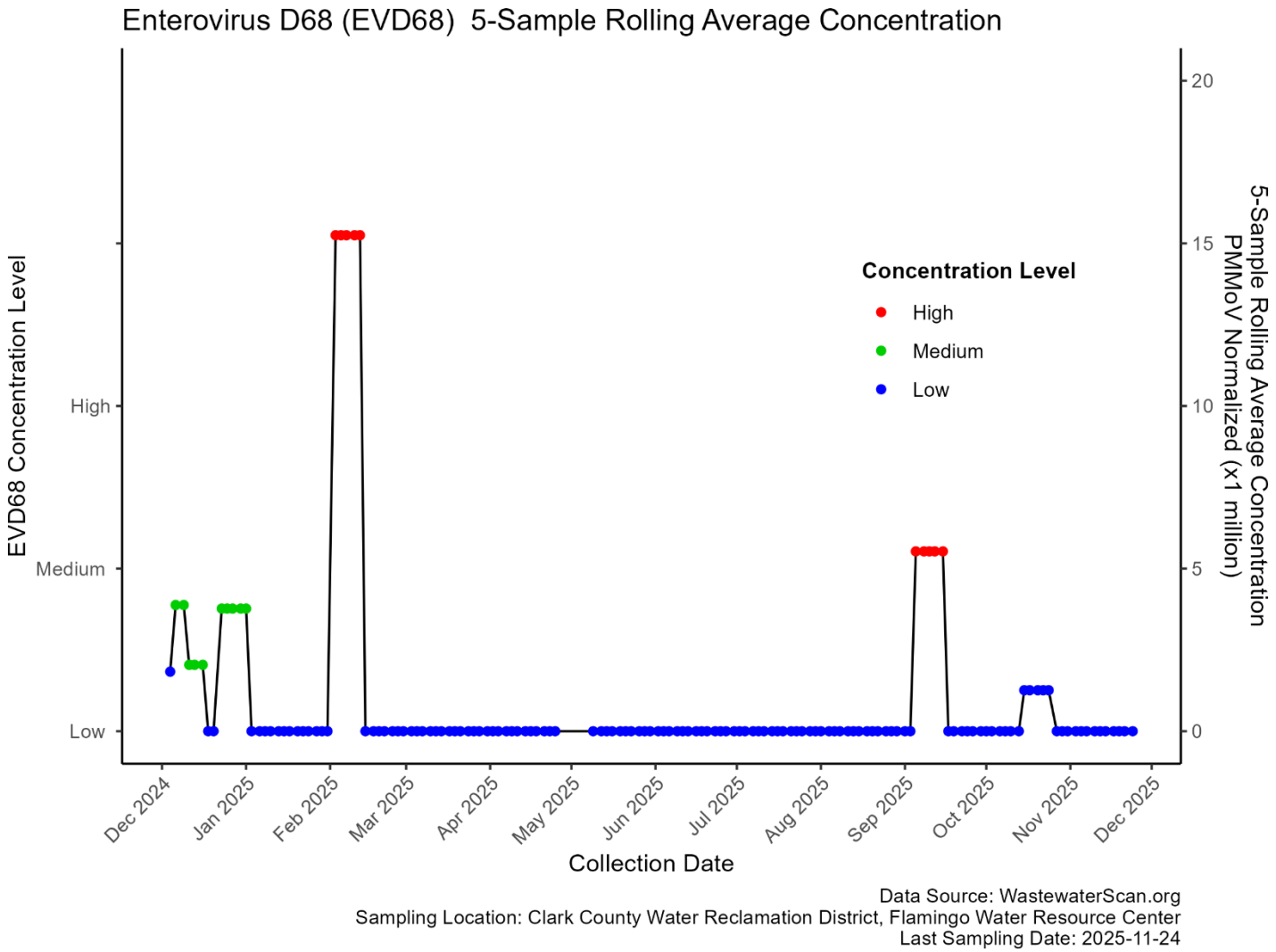
As of November 25, 2025, Rotavirus wastewater concentrations across Nevada, California, and Utah show mixed activity, with several facilities exhibiting increasing GC/L signals. Rising levels include Flamingo, Las Vegas (97.76 GC/L ↑), Central Valley, UT (76.31 GC/L ↑), Provo, UT (167.33 GC/L ↑), RP-1 Ontario, CA (25.17 GC/L ↑), and Valley Sanitary District, Indio (7.31 GC/L ↑). Declining GC/L levels appear at A.K. Warren (22.78 GC/L ↓), Hyperion (17.45 GC/L ↓), and Riverside (16.49 GC/L ↓). Mesquite and Boulder City were not tested.

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	97.76	↑	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	22.78	↓	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	17.45	↓	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	76.31	↑	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	167.33	↑	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	25.17	↑	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	16.49	↓	November 25 2025
Valley Sanitary District	Indio, CA	Current	7.31	↑	November 25 2025

Enterovirus D68 Viral Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The chart shows *Enterovirus D68 (EVD68)* concentrations in wastewater at the Flamingo Water Reclamation District from December 2024 to November 24, 2025, using 5-sample rolling averages. Levels were mostly low throughout the year, with brief medium spikes in December and January. A sharp increase to high occurred in February, followed by a return to low levels through spring and summer. Another short high-level surge appeared in September, then dropped back to low. November showed a minor uptick but remained low overall. The data indicates sporadic, short-lived surges rather than sustained activity. The latest sample was collected on November 24, 2025.



Interpretation of *Enterovirus D68* Concentrations

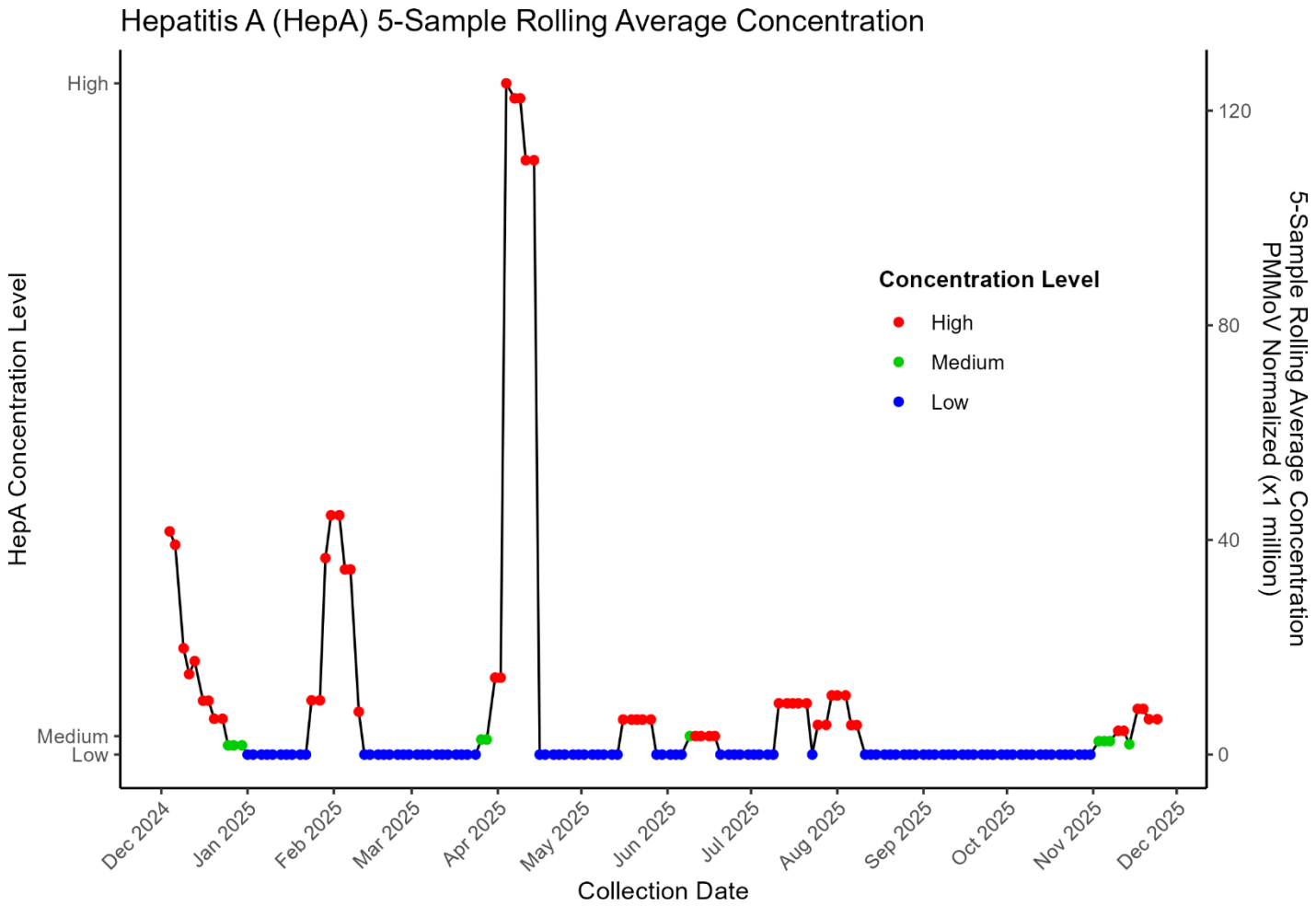
As of November 25, 2025, *Enterovirus D68* wastewater surveillance across Nevada, California, and Utah shows low to moderate concentrations (GC/L) with mixed 14-day trends. Nevada's Flamingo plant reports 0.00 GC/L, while Mesquite and Boulder City were not tested. In California, A.K. Warren shows 13.40 GC/L (↑) and Hyperion 10.47 GC/L (↑). RP-1 (Ontario) reports 27.02 GC/L (↓), and Riverside shows 27.61 GC/L (↑). Utah's Central Valley and Provo report 0.00 GC/L, both stable. Valley Sanitary District (Indio) shows 2.74 GC/L (↓).

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0.00	→	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	13.40	↑	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	10.47	↑	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0.00	→	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	→	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	27.02	↓	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	27.61	↑	November 25 2025
Valley Sanitary District	Indio, CA	Current	2.74	↓	November 25 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 Flamingo Water Reclamation District from December 2024 to November 24, 2025, using 5-sample rolling averages. Levels fluctuated throughout the year, starting with high spikes in December and mid-January through February. After a brief low phase in March, concentrations surged sharply in April, reaching high levels above 120 normalized units. From May onward, levels were mostly low, with intermittent small spikes to medium or high during summer and early fall. November showed a slight increase to medium, then high. Overall, the data indicates sporadic surges without a sustained trend.



Interpretation of Hepatitis A Concentrations

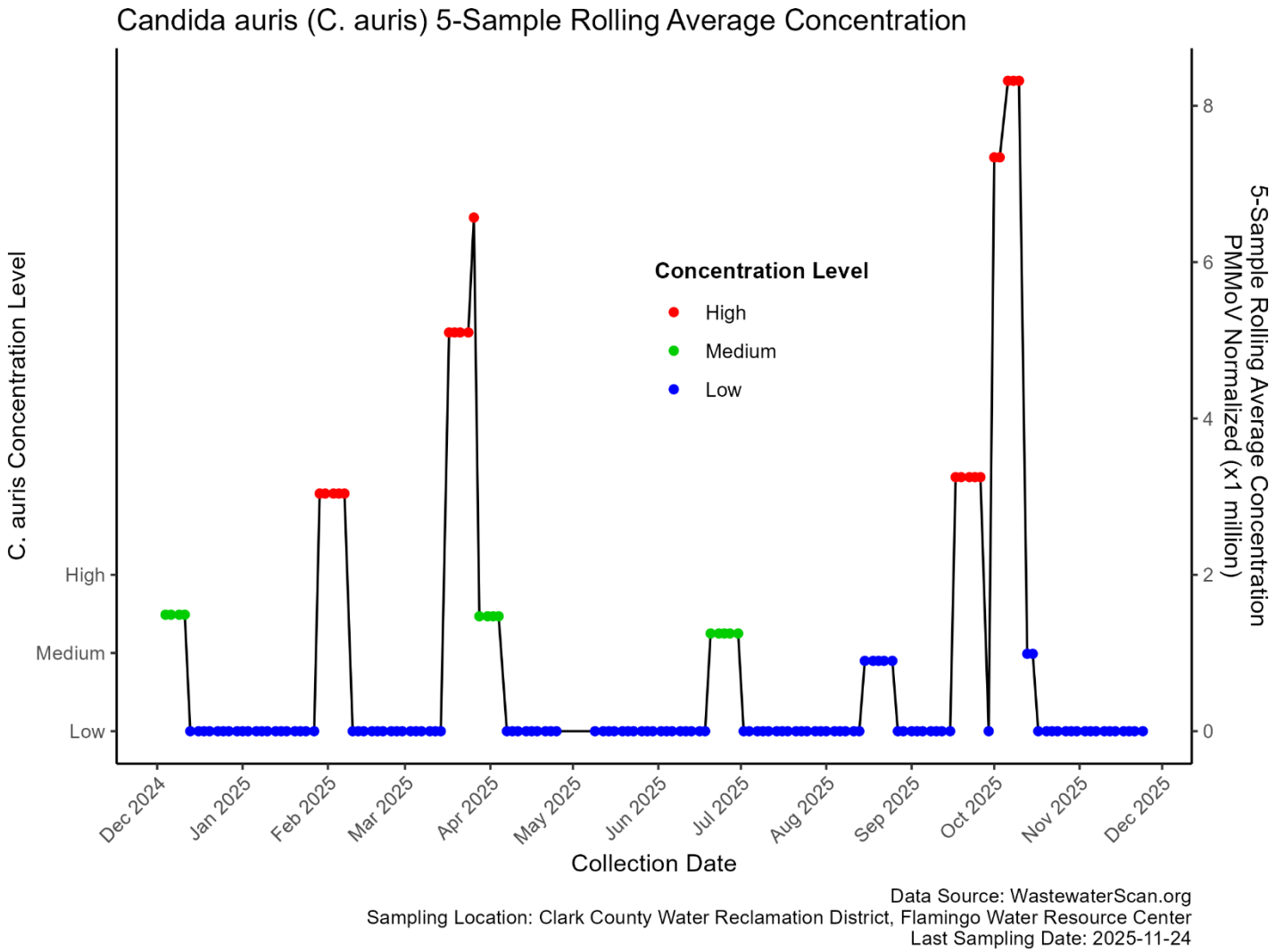
As of November 25, 2025, Hepatitis A concentrations in wastewater across Nevada, California, and Utah remain mostly low or undetectable, though a few sites show measurable activity. Flamingo (Las Vegas, NV) reports 6.60 with an upward trend, and A.K. Warren (Los Angeles County, CA) shows 11.71↑. Hyperion (Los Angeles, CA) and Riverside, CA display higher levels 22.32↓ and 277.59↓, respectively though both are trending downward. Most Utah sites, including Central Valley and Provo, report 0.00 with stable trends. RP-1 (Ontario, CA) and Valley Sanitary District (Indio, CA) also remain at 0.00. Mesquite and Boulder City in Nevada were not tested.

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	6.60	↑	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	11.71	↑	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	22.32	↓	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0.00	→	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	→	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	0.00	↓	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	277.59	↓	November 25 2025
Valley Sanitary District	Indio, CA	Current	0.00	→	November 25 2025

Candida Auris Fungal Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The chart shows Candida auris (C. auris) concentrations in wastewater at the Flamingo Water Reclamation District from December 2024 to November 24, 2025, using 5-sample rolling averages. Levels were mostly low throughout the year, with intermittent spikes to medium and high. Significant surges occurred in February, April, and October, with April and October showing the highest peaks, exceeding 8 normalized units. Smaller increases to medium levels were observed in January, July, and September, followed by brief returns to low. November showed a minor rise but remained low overall. The data indicates sporadic, short-lived outbreaks without sustained activity. Last sample: November 24, 2025.



Interpretation of *Candida Auris* Concentrations

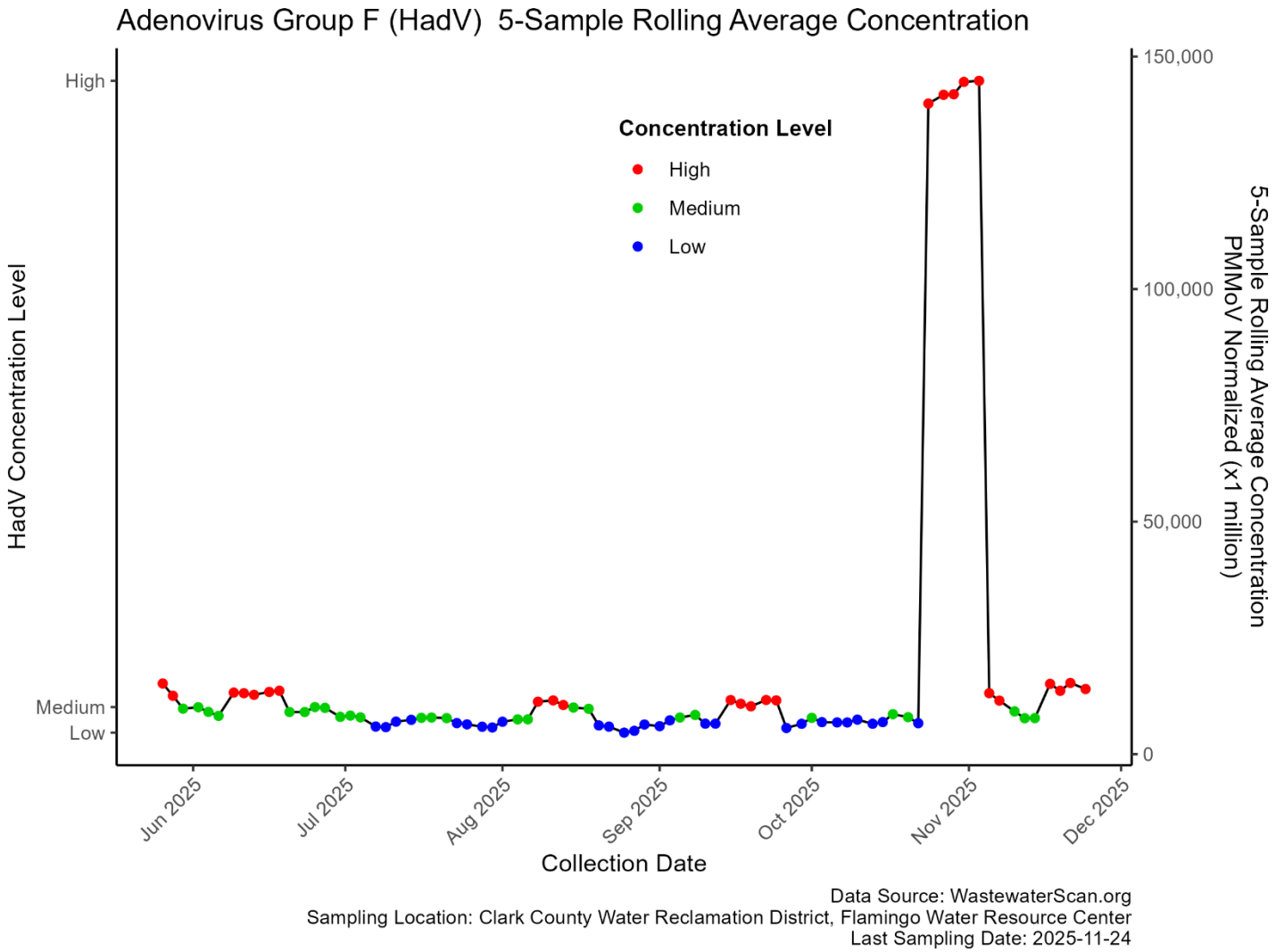
As of November 25, 2025, Candida auris wastewater concentrations across Nevada, California, and Utah remain very low or undetectable at nearly all monitored facilities. Most sites report a 5-sample rolling mean of 0.00 with stable trends, and only A.K. Warren shows a minimal level of 0.22. Mesquite and Boulder City were not tested. Recent samples were collected on November 24 and 25, 2025.

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0.00	→	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	0.22	→	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	0.00	→	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0.00	→	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	→	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	0.00	→	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0.00	→	November 25 2025
Valley Sanitary District	Indio, CA	Current	0.00	→	November 25 2025

Adenovirus Group F Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The chart shows Adenovirus Group F (HadV) concentrations in wastewater at the Flamingo Water Reclamation District from June to November 24, 2025, using 5-sample rolling averages. Levels were mostly low to medium from June through October, with minor fluctuations and occasional small spikes. In early November, concentrations surged sharply to high levels, exceeding 140,000 normalized units, marking the most significant peak of the period. After this spike, levels declined but remained above medium. Overall, the data indicates a prolonged period of low-to-medium activity followed by a sudden, substantial increase in November. The latest sample was collected on November 24, 2025.



Interpretation of Adenovirus Group F Concentrations

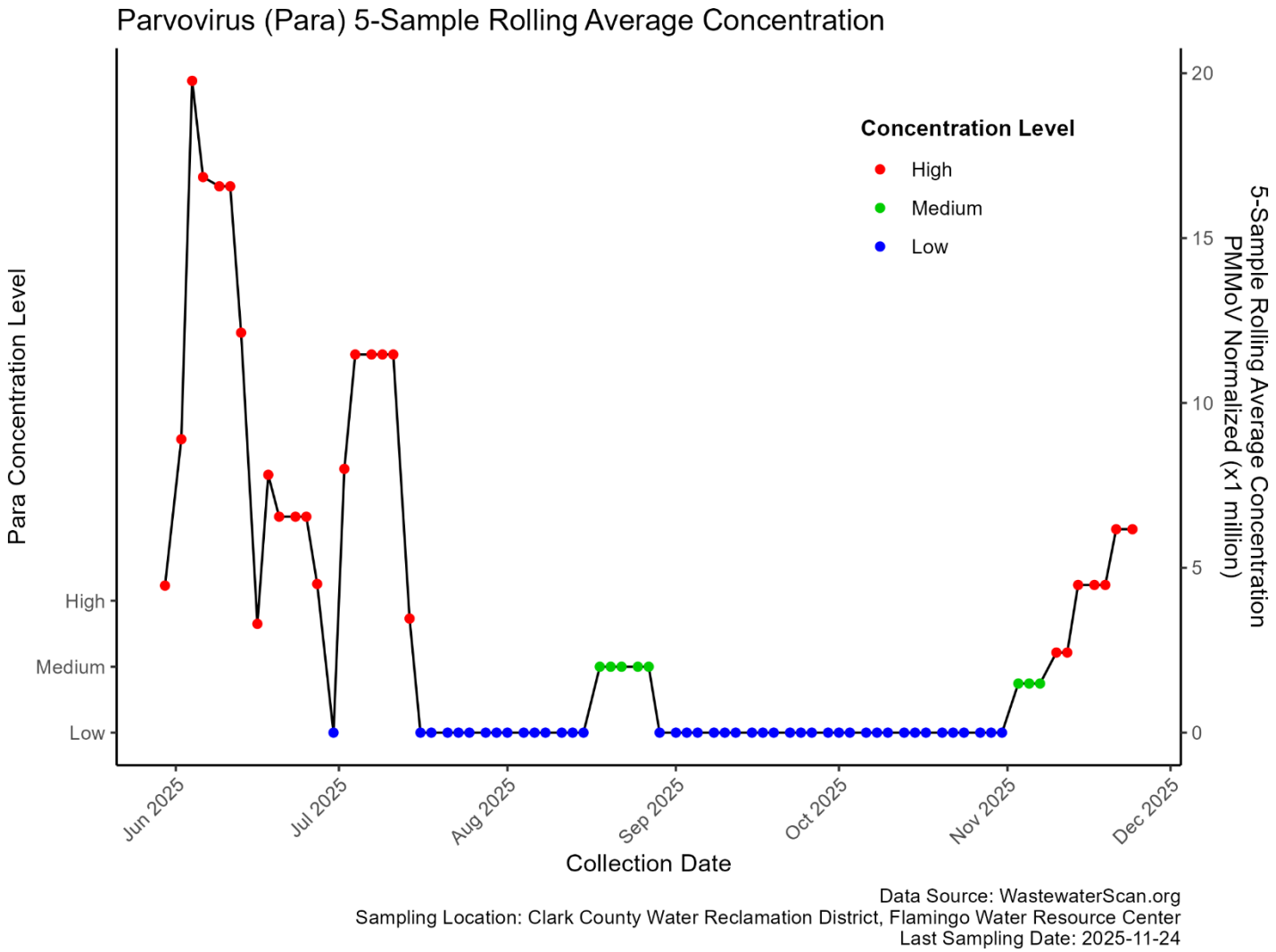
As of November 25, 2025, wastewater monitoring for Adenovirus Group F across facilities in Nevada, California, and Utah shows elevated concentrations (GC/L) with mixed 14-day trends. Extremely high levels are observed at the Flamingo Water Resource Center (Las Vegas, NV – 14,005↑) and several California and Utah plants, including Hyperion (18,606↓), Provo (16,564↓), and RP-1 Ontario (21,708↑). Two Nevada sites, Mesquite and Boulder City were not tested. Overall, viral loads remain high, though trends vary between rising and declining.

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	14005.33	↑	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	10,183.59	↓	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	18,605.57	↓	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	11,158.50	↓	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	16,564.36	↓	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	21,708.39	↑	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	9,620.28	↑	November 25 2025
Valley Sanitary District	Indio, CA	Current	7,522.50	↓	November 25 2025

Parvovirus Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The chart shows Parvovirus (Para) concentrations in wastewater at the Flamingo Water Reclamation District from June to November 24, 2025, using 5-sample rolling averages. Levels were high in early June, peaking near 18 normalized units, followed by fluctuating high concentrations through July. After late July, concentrations dropped to low and remained stable through August, except for a brief medium spike in early September. From October onward, levels stayed low until November, when concentrations rose again to medium and then high. Overall, the data indicates an early summer surge, a prolonged low phase, and a late-year resurgence. Last sample: November 24, 2025.



Parvovirus Concentrations Interpretation

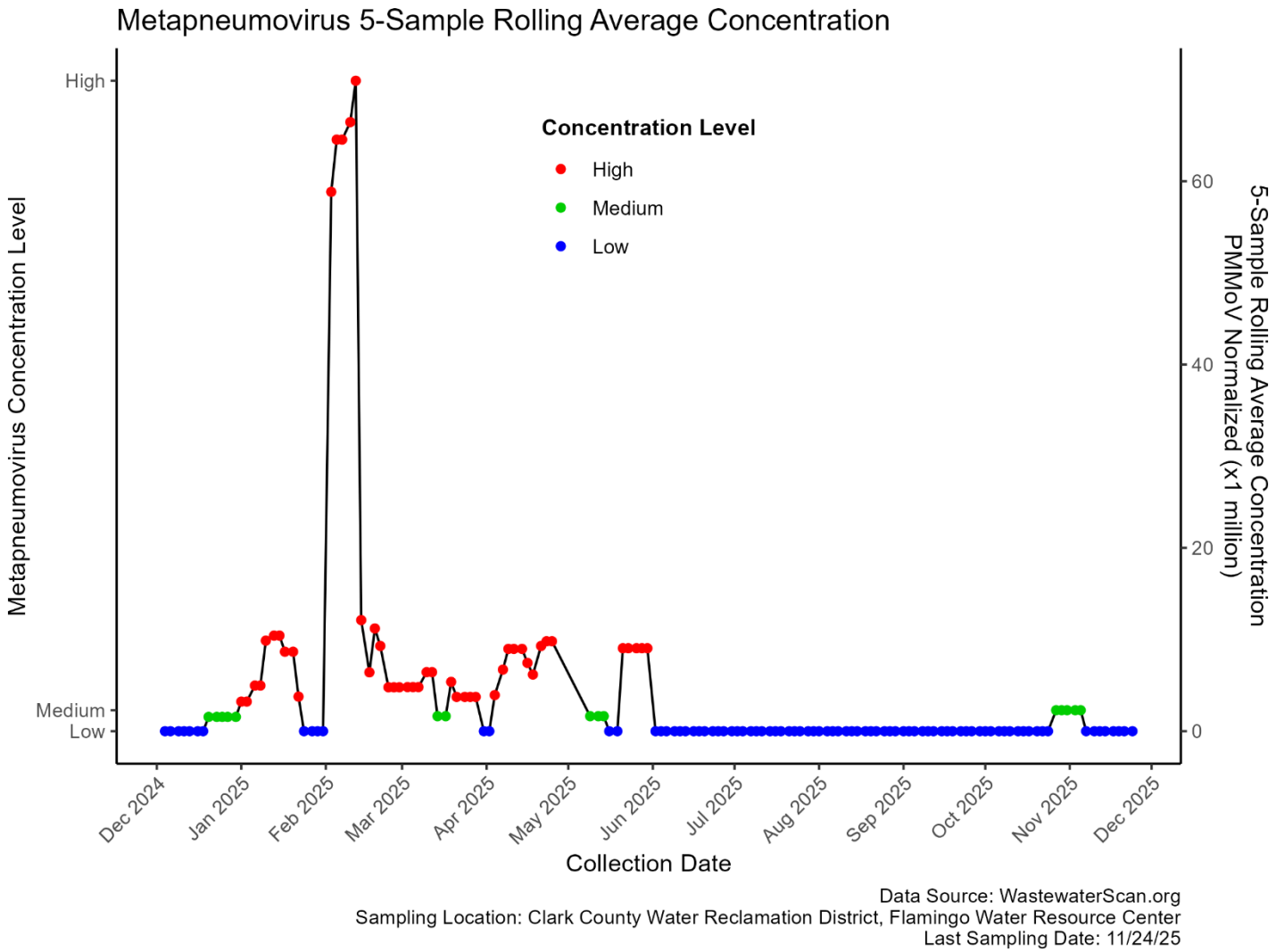
As of November 25, 2025, Parvovirus (Para) wastewater monitoring across Nevada, California, and Utah indicates generally low concentrations. Most facilities report 5-sample rolling means of 0.00 with stable 14-day trends (→). Notable exceptions include the Flamingo Water Resource Center (Las Vegas, NV), showing an elevated level of 6.17 with an upward trend (↑), and Hyperion (Los Angeles, CA) at 1.03. Two Nevada facilities, Mesquite and Boulder City were not tested during this period. All other sites show no detectable or minimal Para activity.

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	6.17	↑	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	0.00	→	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	1.03	→	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0.00	→	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.00	→	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	0.00	→	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0.00	→	November 25 2025
Valley Sanitary District	Indio, CA	Current	0.00	→	November 25 2025

Human Metapneumovirus Concentration Trends in Clark County

Flamingo Water Reclamation District Plant

The chart shows Metapneumovirus concentrations in wastewater at the Flamingo Water Reclamation District from December 2024 to November 24, 2025, using 5-sample rolling averages. Levels were low in December, rising to medium and high in January and early February. A sharp peak occurred in late February, exceeding 60 normalized units. Concentrations declined in March but fluctuated between medium and high through April and May, followed by a brief medium spike in June. From July onward, levels remained consistently low, except for a minor increase in November. Overall, the data indicates a strong late-winter surge and sustained low activity afterward.



Human Metapneumovirus Concentrations Interpretation

As of November 25, 2025, Human Metapneumovirus (HMPV) wastewater surveillance across ten facilities in California, Nevada, and Utah shows no detectable viral signal. Most plants report 5-sample rolling means of 0.00 with stable 14-day trends (→). Two facilities, Mesquite Wastewater Treatment Plant (City of Mesquite, NV) and Boulder Wastewater Treatment Plant (Boulder City, NV) were not tested. Provo (0.62) and A.K. Warren (0.50) show low but stable levels.

Plant Name	City	Time frame	5 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0.00	→	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested		November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested		November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	0.50	→	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	0.00	→	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0.00	→	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0.62	→	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	0.00	→	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0.00	→	November 25 2025
Valley Sanitary District	Indio, CA	Current	0.00	→	November 25 2025

Influenza H5 Viral Detection Comparing to Neighboring States

As of November 25, 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 Sample Rolling Mean	14 Day Trend	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	0	→	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	0	→	November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	0	→	November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	0	→	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	0	→	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	0	→	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	0	→	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	0	→	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	0	→	November 25 2025
Valley Sanitary District	Indio, CA	Current	0	→	November 25 2025

West Nile Virus Viral Detection Comparing to Neighboring States

As of November 25, 2025, wastewater surveillance across ten facilities in California, Nevada, and Utah detected no West Nile virus. All sites with sampling in the past 30 days reported non-detectable levels, indicating no recent viral activity. Mesquite and Boulder City were not tested during this period.

Plant Name	City	Time frame	Detect/ Non-detect	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	Non-detect	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Not Tested	November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Not Tested	November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	Non-detect	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	Non-detect	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	Non-detect	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	Non-detect	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	Non-detect	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	Non-detect	November 25 2025
Valley Sanitary District	Indio, CA	Current	Non-detect	November 25 2025

MPOX Clade 1b Viral Detection Comparing to Neighboring States

As of November 25, 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	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Non-detect	November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Non-detect	November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	Non-detect	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	Non-detect	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	Non-detect	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	Non-detect	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	Non-detect	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	Non-detect	November 25 2025
Valley Sanitary District	Indio, CA	Current	Non-detect	November 25 2025

MPOX Clade II Viral Detection Comparing to Neighboring States

As of November 25, 2025, wastewater surveillance from ten facilities across California, Nevada, and Utah detected no Mpox Clade II. All sites reported no detect results.

Plant Name	City	Time frame	Detect/ Non-detect	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	Non-detect	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Non-detect	November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Non-detect	November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	Non-detect	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	Non-detect	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	Non-detect	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	Non-detect	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	Non-detect	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	Non-detect	November 25 2025
Valley Sanitary District	Indio, CA	Current	Non-detect	November 25 2025

Measles Viral Detection Comparing to Neighboring States

As of November 25, 2025, wastewater data from ten facilities in California, Nevada, and Utah show non-detect measles levels at nine sites, including major plants in Las Vegas, Los Angeles, Riverside, and Central Salt Lake Valley. Only the Provo City Water Reclamation Facility reported a detection on November 24, making it the sole outlier among otherwise negative regional results.

Plant Name	City	Time frame	Detect/ Non-detect	Last Sampling Dates
Flamingo Water Resource Center	Las Vegas, NV	Current	Non-detect	November 24 2025
Mesquite Wastewater Treatment Plant	City of Mesquite, NV	Current	Non-detect	November 25 2025
Boulder Wastewater Treatment Plant	Boulder City, NV	Current	Non-detect	November 24 2025
A.K. Warren Water Resource Facility	Los Angeles County, CA	Current	Non-detect	November 25 2025
Hyperion Water Reclamation Plant (HWRP)	Los Angeles, CA	Current	Non-detect	November 25 2025
Central Valley Water Reclamation Facility	Central Salt Lake Valley, UT	Current	Non-detect	November 24 2025
Provo City Water Reclamation Facility	Provo, UT	Current	**Detected**	November 24 2025
Regional Water Recycling Plant No.1 (RP-1)	Ontario, CA	Current	Non-detect	November 25 2025
Riverside Water Quality Control Plant	Riverside, CA	Current	Non-detect	November 25 2025
Valley Sanitary District	Indio, CA	Current	Non-detect	November 25 2025

References

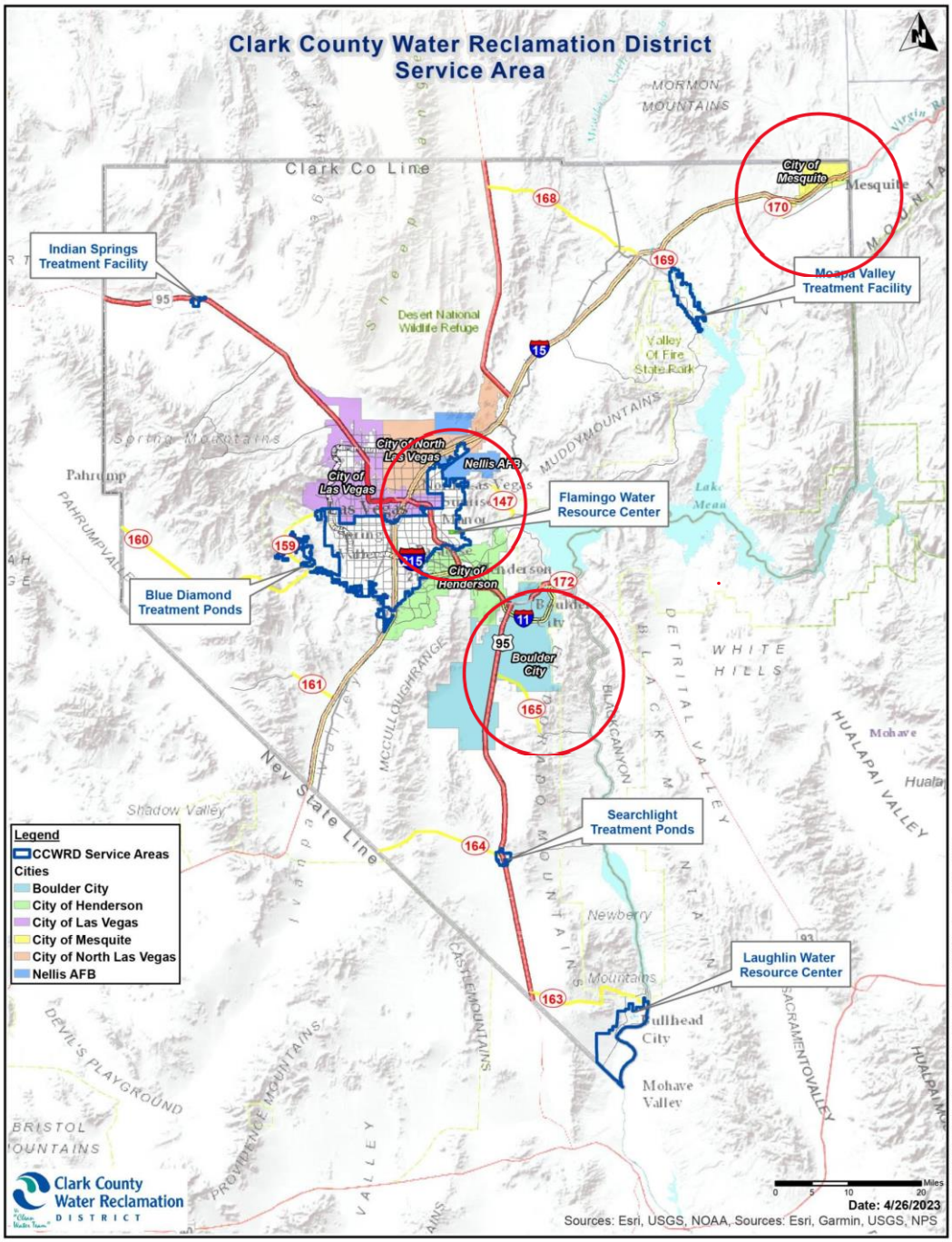
1) Verily Laboratories. *Public health: wastewater-based epidemiology (WBE)*. https://verily.com/solutions/sightline/wastewater. Published 2025. Accessed January 1, 2024.

2) WastewaterSCAN. WastewaterSCAN: wastewater surveillance for community-level disease monitoring. https://www.wastewaterscan.org. Accessed July 3, 2025.

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