DRAFT

Dallas
Community Air Management Program

Monthly Data Summary

March to May 2023

For Questions or Comments:
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Sensor Data Information

- Disclaimer
- When using data from D-CAMP, please note the following:
- The data presented on this website are not validated or verified
- The data do not come from regulatory monitors. This data cannot be used to infer violations of the the National Ambient Air Quality Standards (NAAQS) or other regulatory violations
- This dat should be used with discretion
- Data from regulatory monitors is available here: https://www.tceq.texas.gov/airquality/monops

Data Guidance

Low Level of Air Pollution	O_3 less than 35 ppb NO_2 less 50 ppb PM_{10} less than 75 µg/m^3 $PM_{2.5}$ less than 17 µg/m^3
Moderate Level of Air Pollution	O_3 higher than 35 ppb and less than 70 ppb NO_2 higher 50 ppb and less than 100 ppb PM_{10} higher than 75 µg/m^3 and less than 150 µg/m^3 $PM_{2.5}$ higher than 17 µg/m^3 and less than 35 µg/m^3
High Level of Air Pollution	O_3 higher than 70 ppb NO_2 higher 100 ppb PM_{10} higher than 150 µg/m^3 $PM_{2.5}$ less than 35 µg/m^3

Technical Information

Sensors Used in the Network

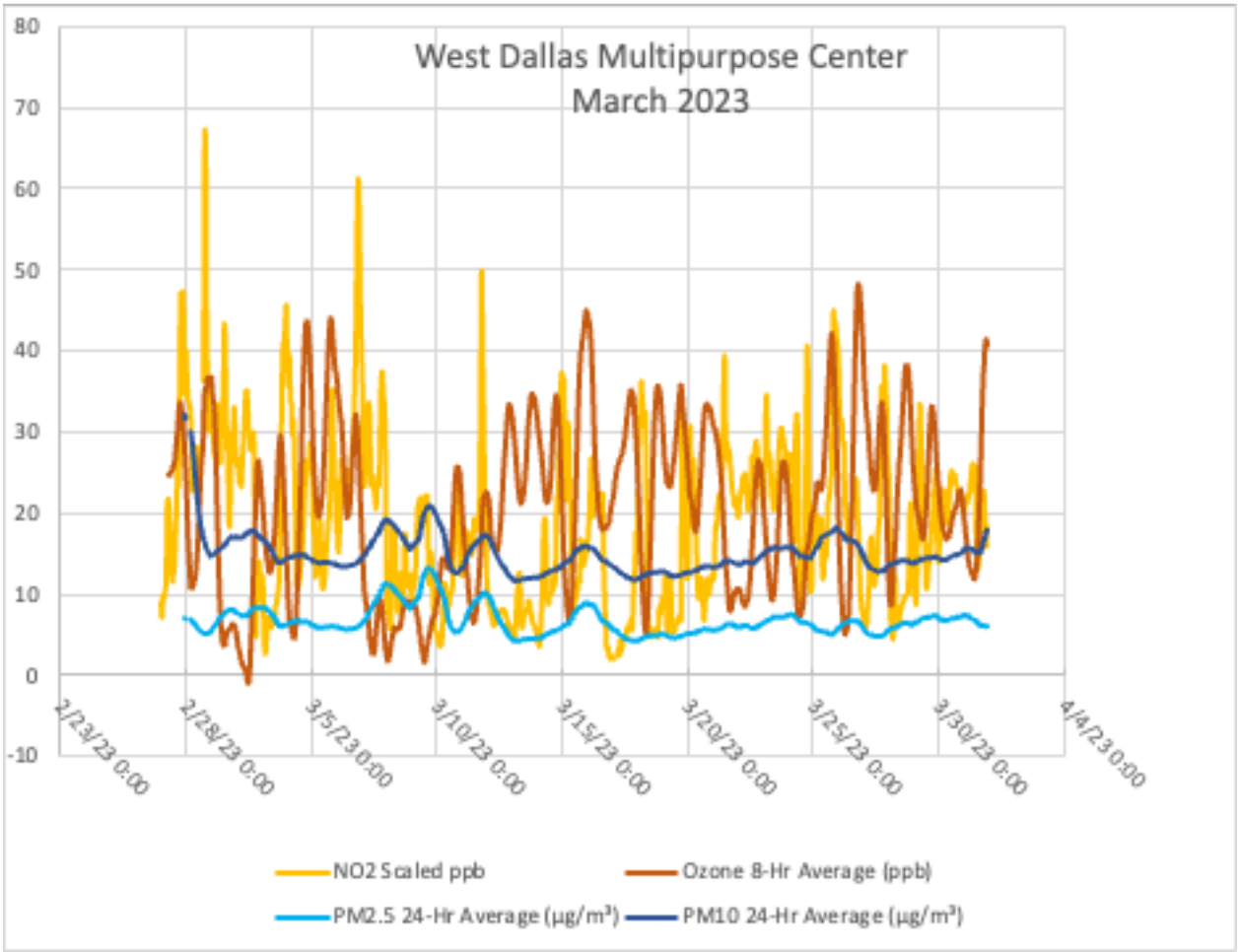
There are five AQMesh monitors currently operating in the network. These units use an optical light scattering senor to measure particulates. They use electrochemical sensors to measure other pollutants. All AQMesh units measure particulate (PM), ozone (O_3), and nitrogen dioxide NO_2.

The AQMesh units also have sensors for ambient temperature, humidity, and barometric pressure. Extreme conditions of these factors can impact the accuracy of the sensors for all the measured pollutants. When the unit detects extreme conditions, it will cease to report one, or more, affected pollutants. Once it detects that the environmental conditions have returned to normal, reporting will resume.

Sensor Accuracy

- A primary goal of D-CAMP is to provide the most accurate data possible with the available technology. In order to meet this goal, all the sensors used in the network undergo a period of co-location before they are placed in the field.
- co-location refers to the process of operating a regulatory grade reference monitor (FRM/FEM) and non-reference monitor (air sensor) at the same time and location under real-world conditions for a defined evaluation period. Collocating air sensors with regulatory monitors can help evaluate the accuracy of the sensors by comparison of the two data sets.
- At the end of the co-location period, the data is compared and correction factors are calculated for each pollutant and each sensor.
- These correction factor have been applied to the data in this report.
- This co-location process provides a more accurate view of the air quality than some networks, such as the Purple Air network, that do not use this procedure.

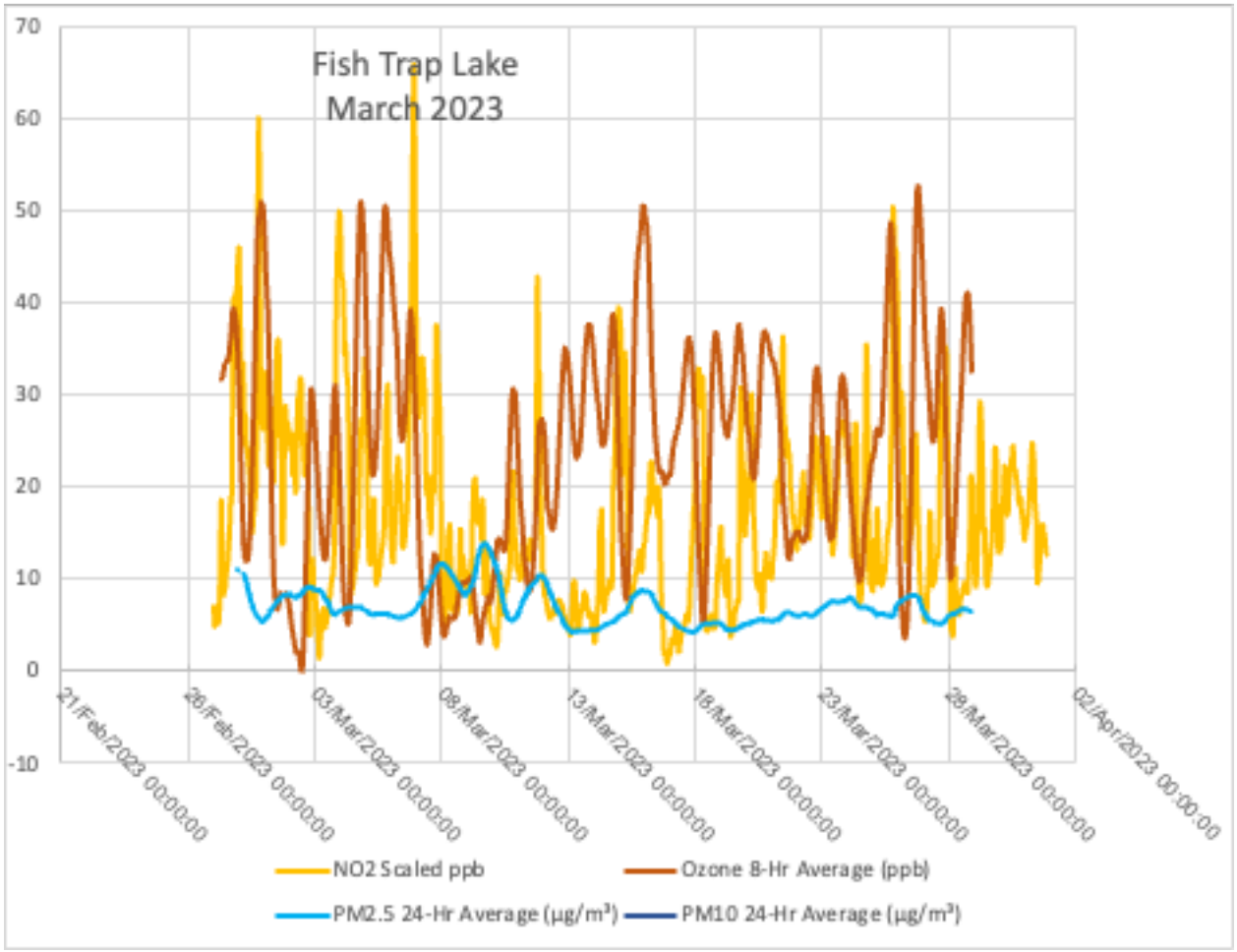
West Dallas Multipurpose Center
Data Summary March 2023



Data Summary

West Dallas Multipurpose Center	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	18.5	20.6	6.7	14.7
Maximum Observed Concentration	61.1	48.3	13.2	20.9

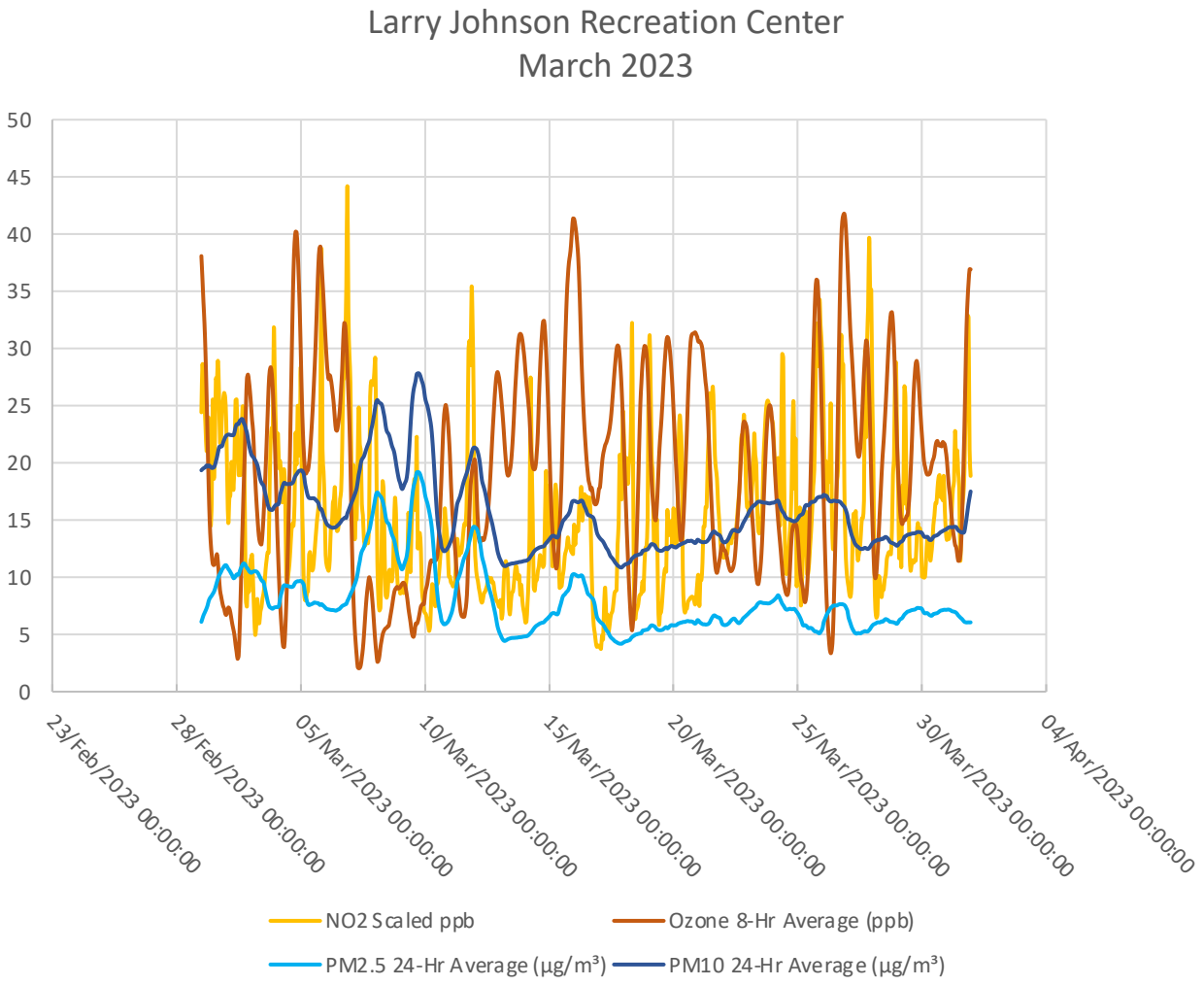
Fish Trap Lake
Data Summary March 2023



Data Summary

West Dallas Multipurpose Center	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	16.2	23.3	6.9	15.5
Maximum Observed Concentration	65.7	52.8	13.8	22.3

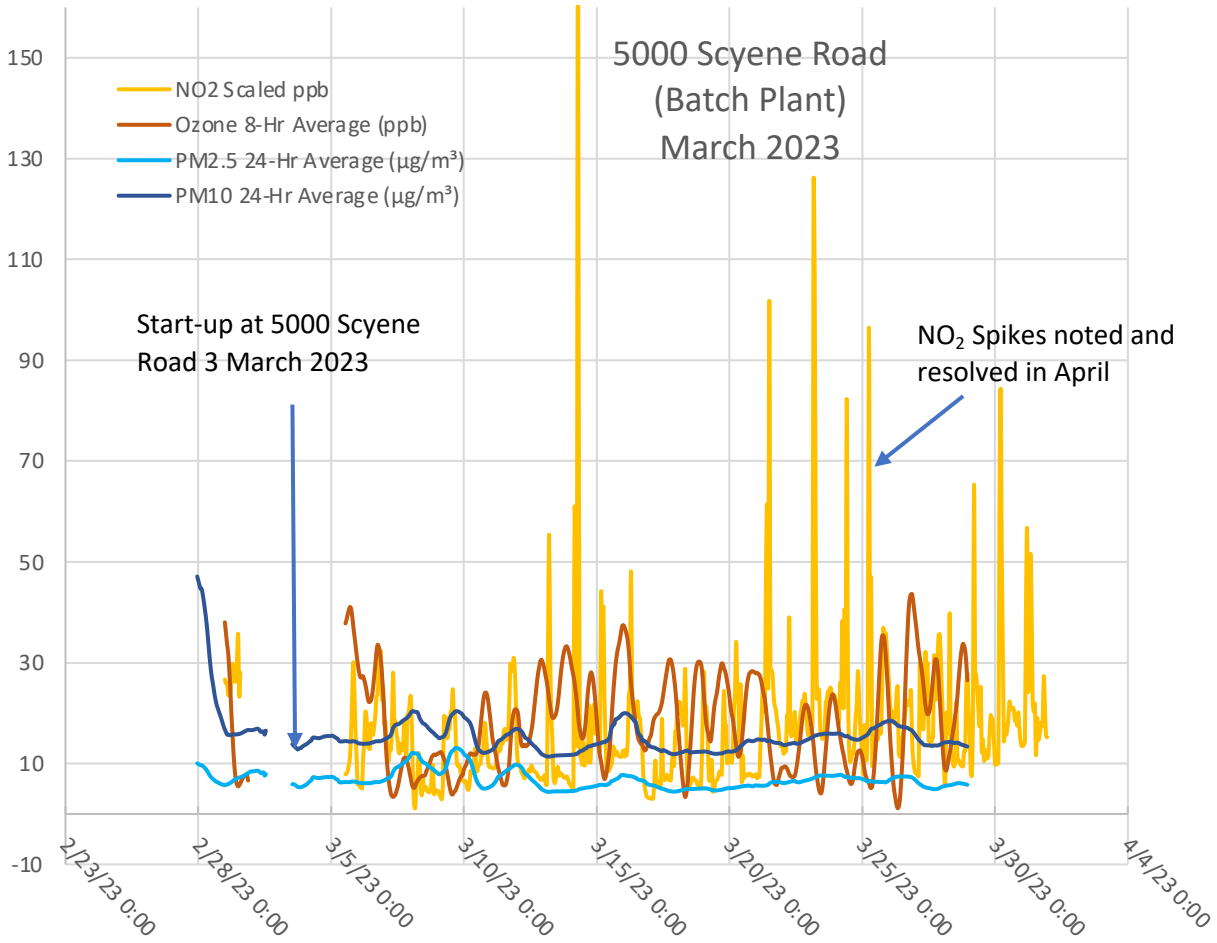
Larry Johnson Recreation Center
Data Summary March 2023



Data Summary

Larry Johnson Recreation Center	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	15.3	19.2	8.0	15.9
Maximum Observed Concentration	44.2	41.8	19.2	27.8

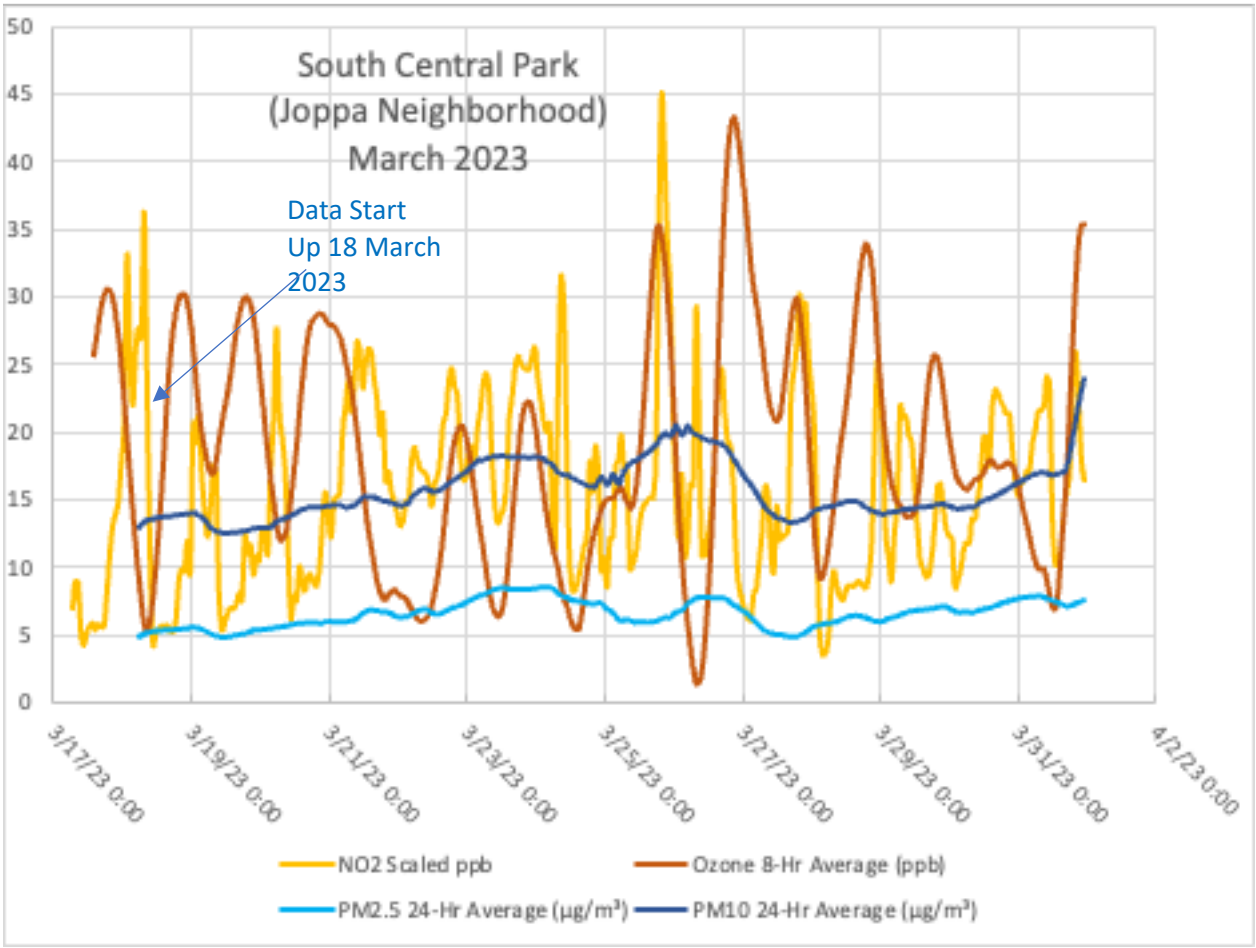
5000 Scyene Rd (Mill Creek Batch Plant) Data Summary March 2023



Data Summary

5000 Scyene Rd (Batch Plant)	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	17.1	18.3	6.7	14.9
Maximum Observed Concentration	173.9	43.6	13.1	20.4

South Central Park (Joppa Neighborhood) Data Summary March 2023



Data Summary

South Central Park (Joppa Neighborhood)	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	15.7	18.7	6.6	15.7
Maximum Observed Concentration	45.0	43.3	8.6	24.0

Data Summary
March 2023

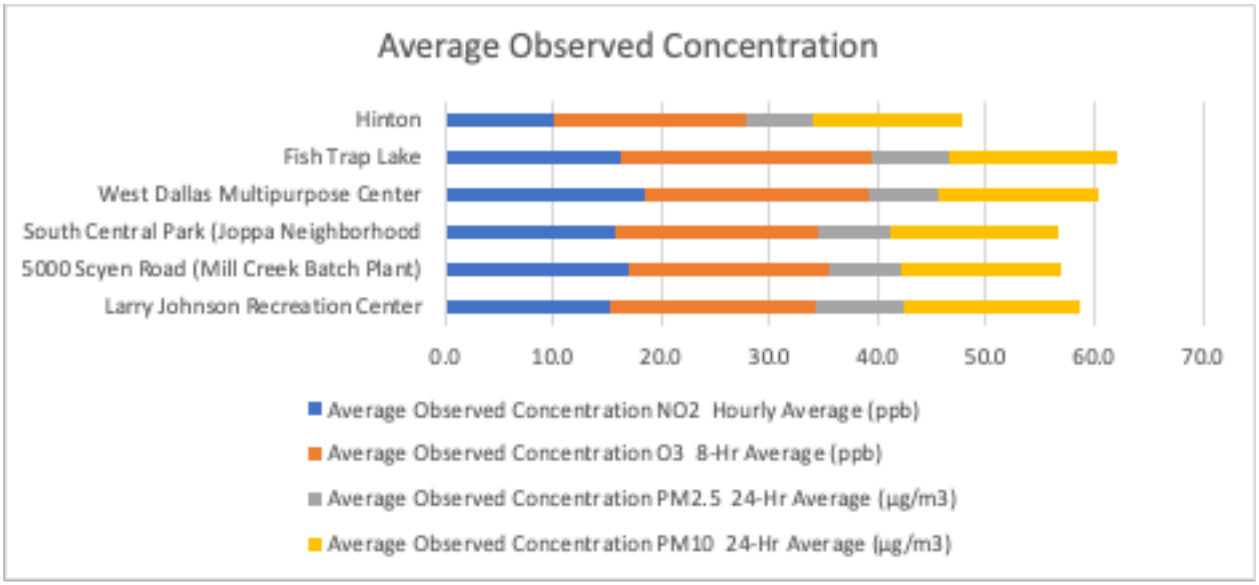
Average Observed Concentration

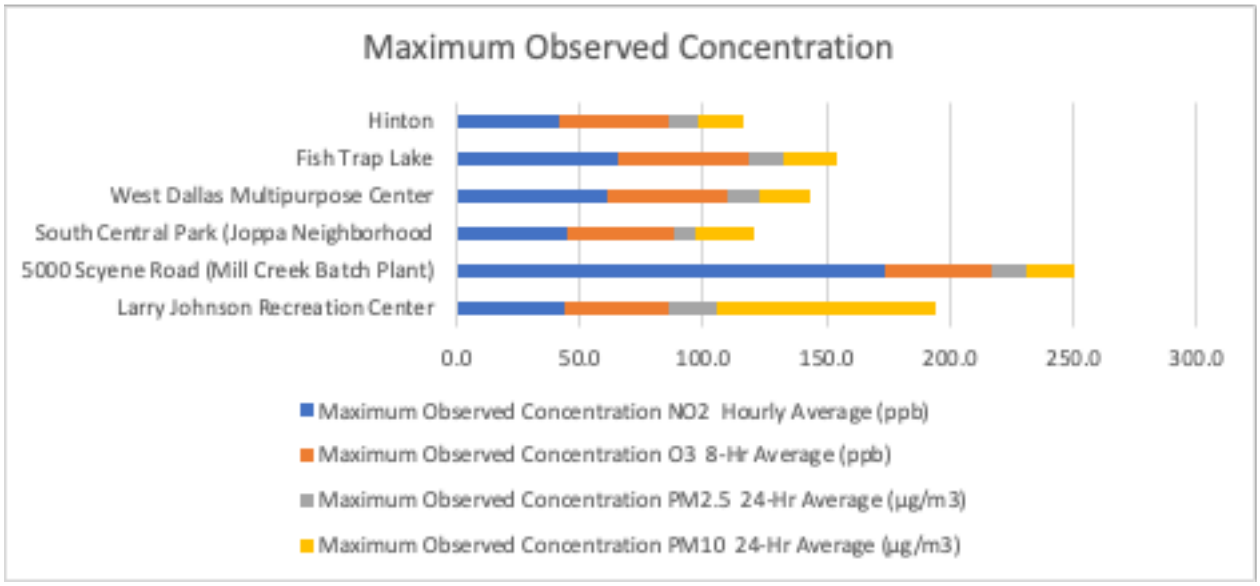
Location	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Larry Johnson Recreation Center	15.3	19.1	8.1	16.1
5000 Scyen Road (Mill Creek Batch Plant)	17.1	18.3	6.7	14.9
South Central Park (Joppa Neighborhood	15.7	18.7	6.6	15.7
West Dallas Multipurpose Center	18.5	20.6	6.7	14.7
Fish Trap Lake	16.2	23.3	6.9	15.5
Hinton	10.1	17.7	6.3	13.8

Maximum Observed Concentration

Location	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Larry Johnson Recreation Center	44.2	41.8	19.2	89.4
5000 Scyene Road (Mill Creek Batch Plant)	173.9	43.6	13.1	20.4
South Central Park (Joppa Neighborhood	45.0	43.3	8.6	24.0
West Dallas Multipurpose Center	61.1	48.3	13.2	20.9
Fish Trap Lake	65.7	52.8	13.8	22.3
Hinton	41.4	44.6	11.9	18.8

Data Summary
March 2023

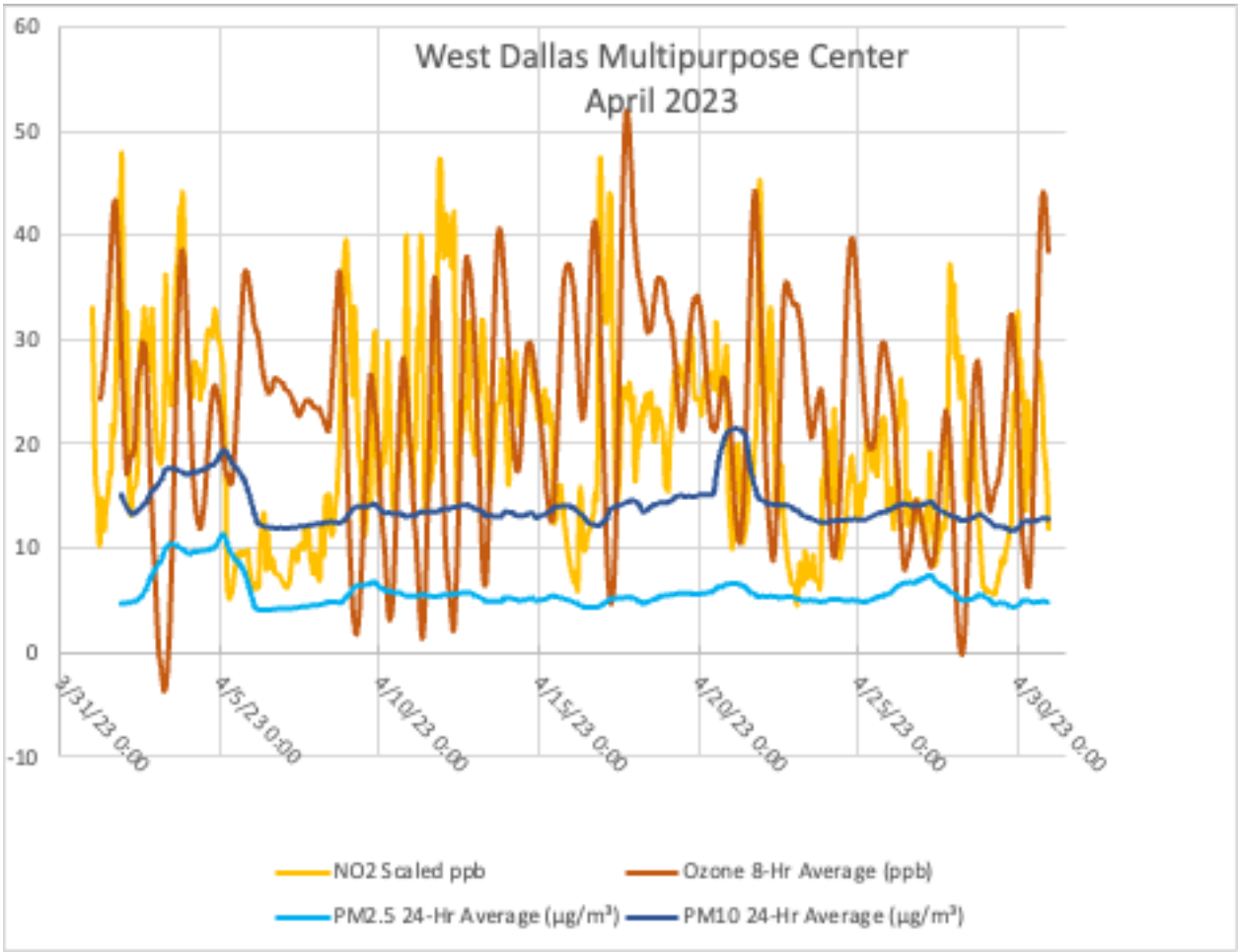




Notes
March 2023

- For the month of March 2023 all pollutants measured were in low to moderate levels with the exception of nitrogen dioxide (NO_2) at the Scyene Road Batch Plant
- The unusual spikes in NO_2 were analyzed and discussed with DWI in early April
- It is likely that the spikes were from idling equipment parked adjacent to the sensors.
- In March two sensors were relocated from the co-location site at the Hinton monitoring station to their permanent locations
    - On March 3, 2023 sensor 245093 was placed at the Mill Creek Batch Plant at 5000 Scyene Road. This location is in the Dixon Circle neighborhood
    - On March 12, 2023 sensor 245094 was placed at South Central Park in the Joppa neighborhood

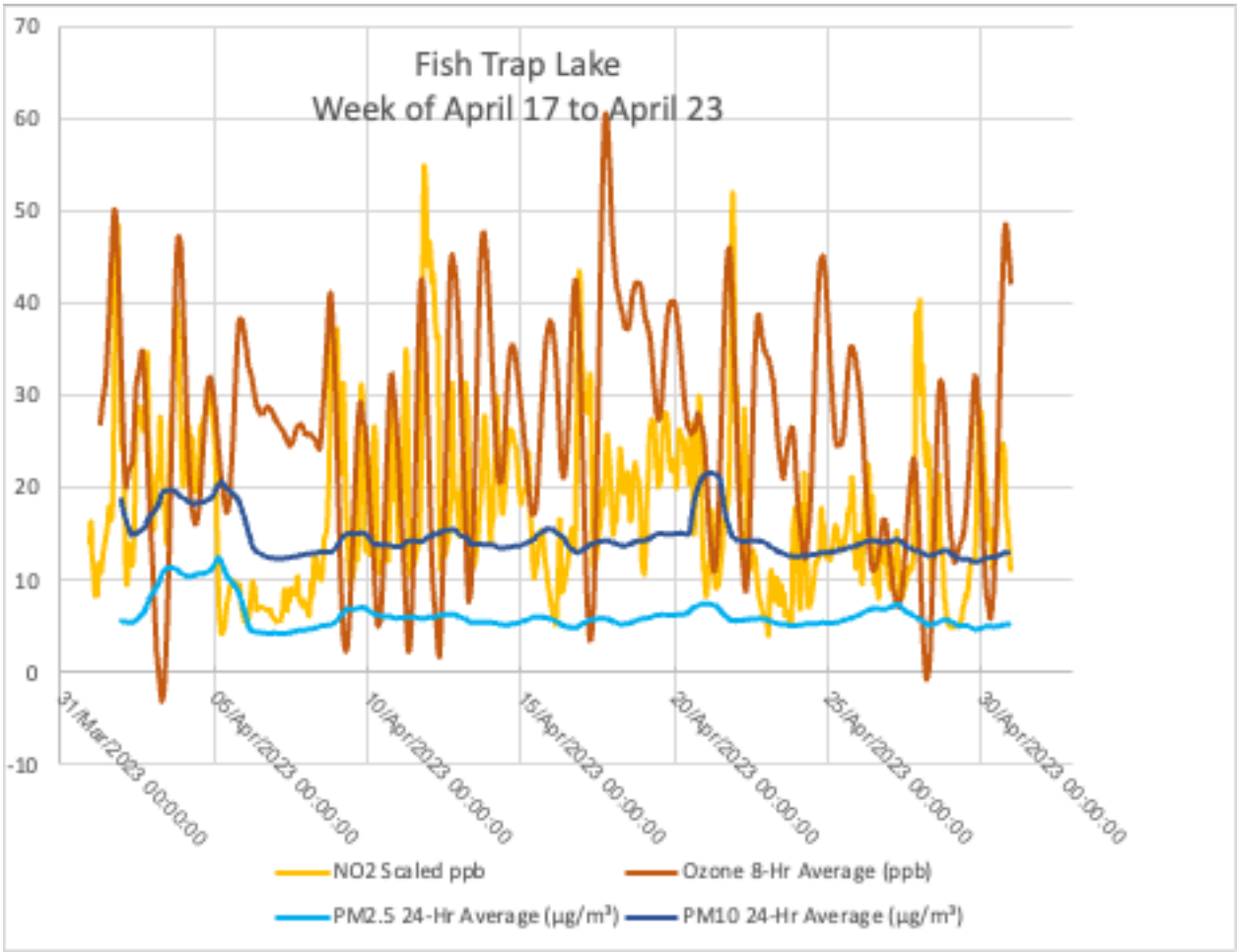
West Dallas Multipurpose Center
Data Summary April 2023



Data Summary

West Dallas Multipurpose Center	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	19.8	22.9	7.1	15.2
Maximum Observed Concentration	47.8	51.9	11.4	19.4

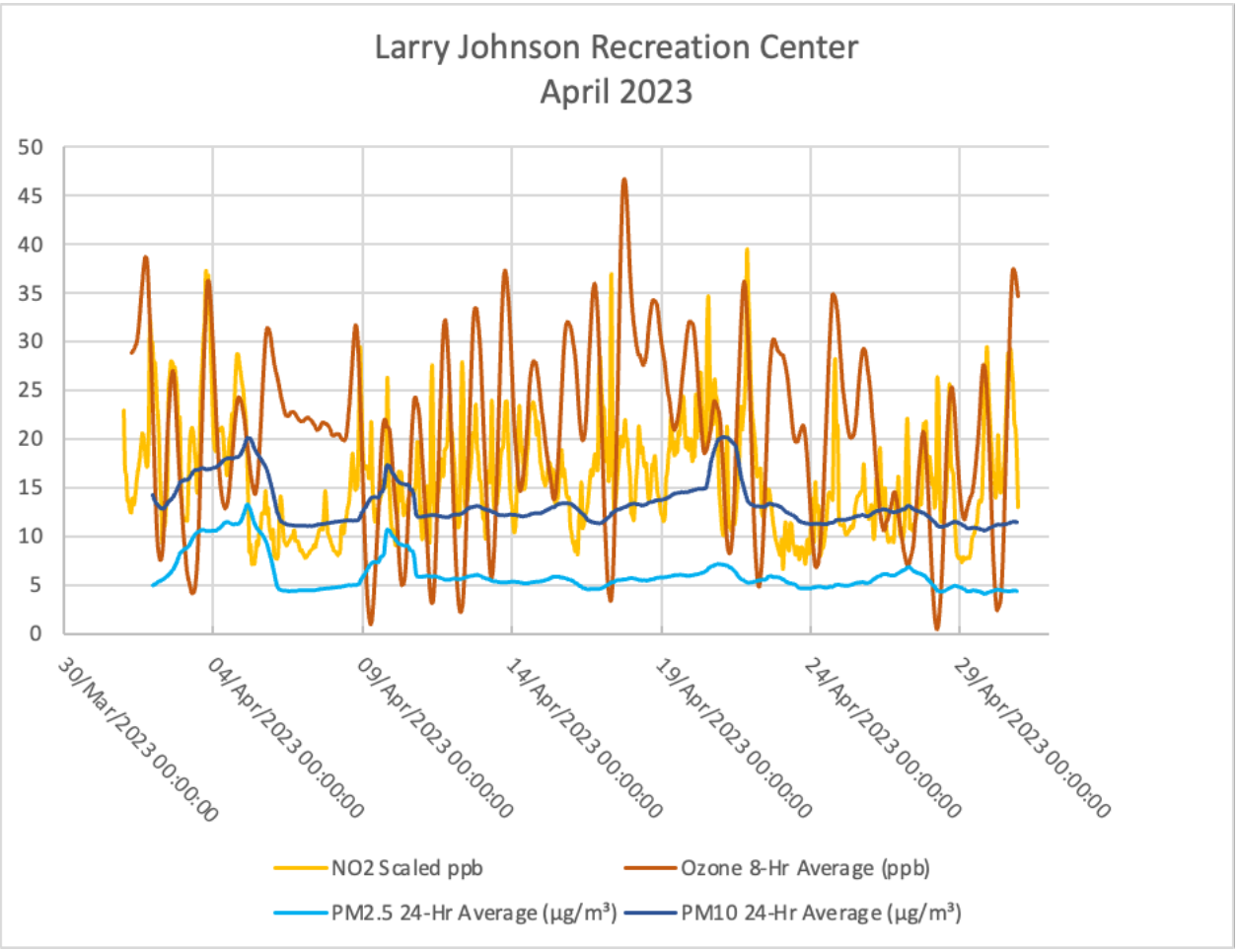
Fish Trap Lake
Data Summary April 2023



Data Summary

West Dallas Multipurpose Center	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	17.5	26.7	7.7	16.5
Maximum Observed Concentration	49.7	50.0	12.5	20.7

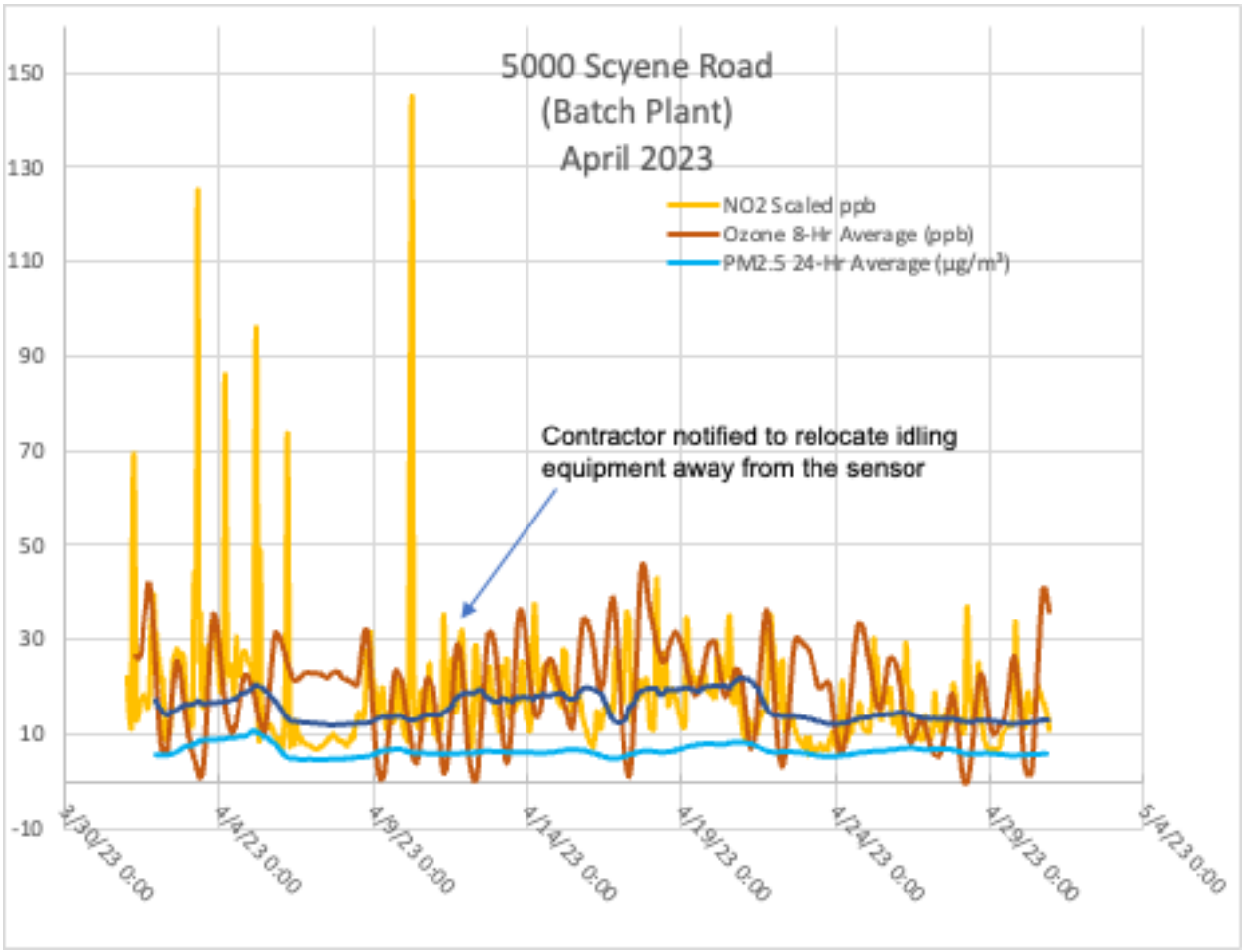
Larry Johnson Recreation Center
Data Summary April 2023



Data Summary

Larry Johnson Recreation Center	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	16.0	20.6	6.1	13.3
Maximum Observed Concentration	39.2	46.6	13.2	20.2

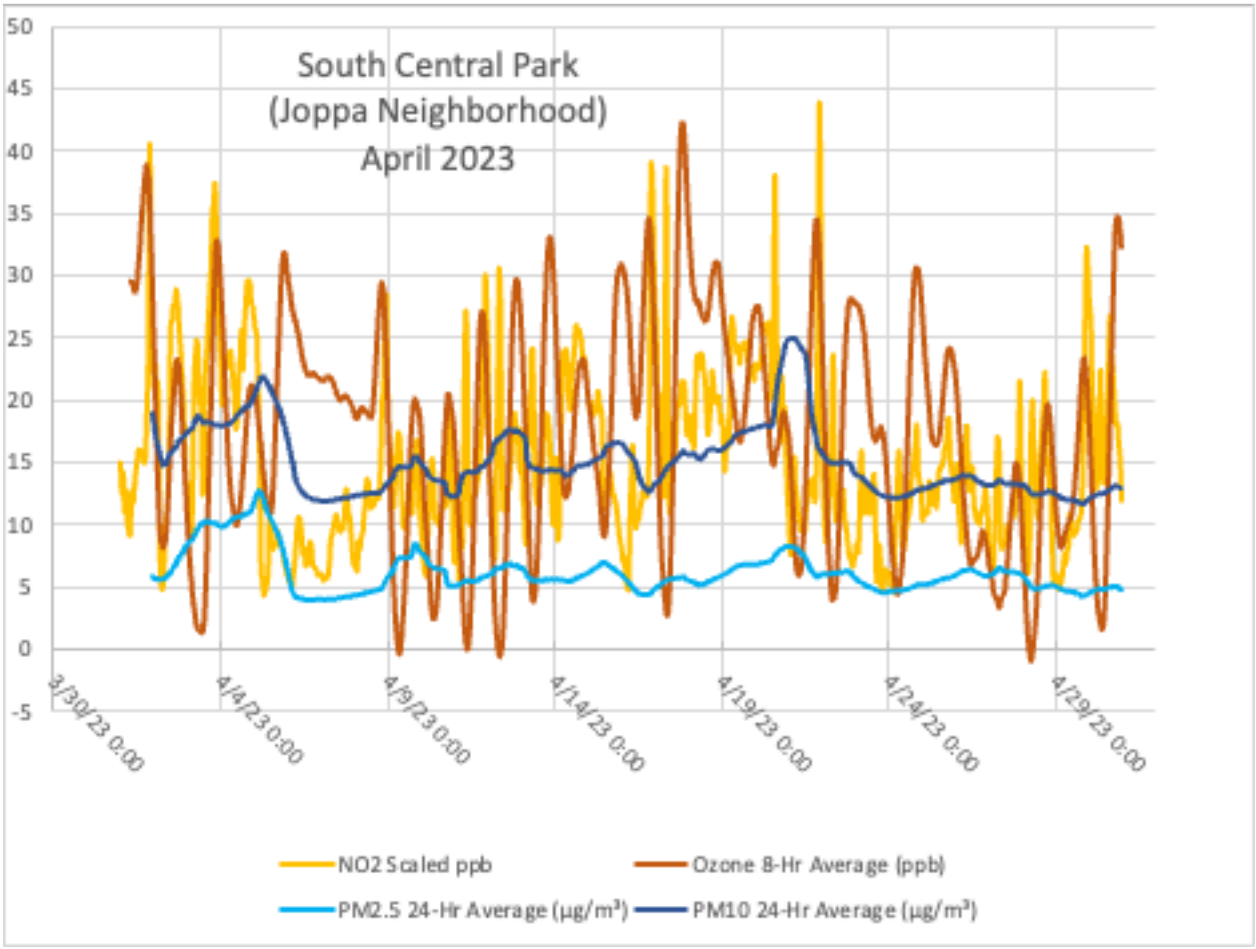
5000 Scyene Rd (Mill Creek Batch Plant)
Data Summary April 2023



Data Summary

5000 Scyene Rd (Batch Plant)	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	18.0	20.4	7.0	15.5
Maximum Observed Concentration	142.7	46.3	10.9	21.7

South Central Park (Joppa Neighborhood) Data Summary April 2023



Data Summary

South Central Park (Joppa Neighborhood)	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	15.2	19.8	7.6	15.1
Maximum Observed Concentration	43.8	42.3	12.7	24.9

Data Summary
April 2023

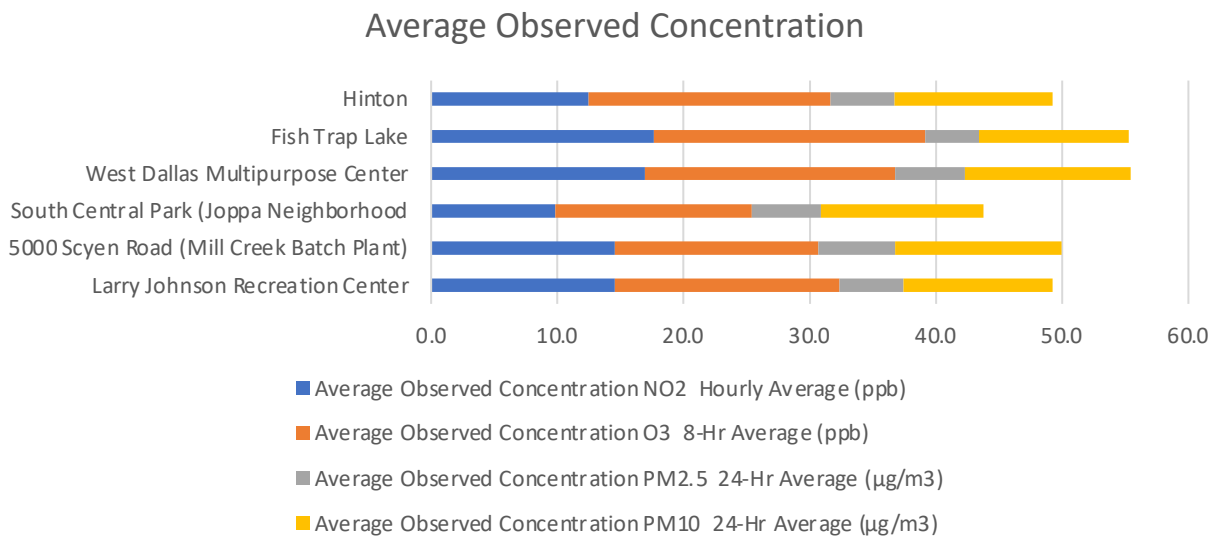
Average Observed Concentration

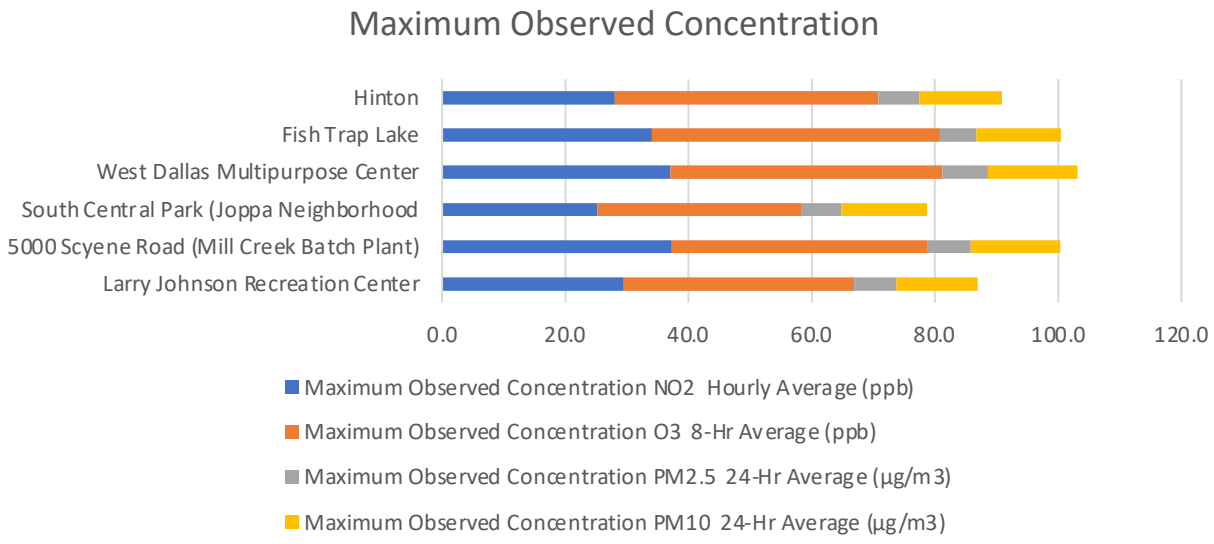
Location	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Larry Johnson Recreation Center	14.6	17.8	5.1	11.8
5000 Scyen Road (Mill Creek Batch Plant)	14.6	16.1	6.1	13.2
South Central Park (Joppa Neighborhood	9.8	15.6	5.5	12.9
West Dallas Multipurpose Center	16.9	19.8	5.5	13.1
Fish Trap Lake	17.6	21.5	4.3	11.9
Hinton	12.5	19.2	5.1	12.5

Maximum Observed Concentration

Location	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Larry Johnson Recreation Center	29.5	37.5	6.9	13.2
5000 Scyene Road (Mill Creek Batch Plant)	37.3	41.4	7.1	14.6
South Central Park (Joppa Neighborhood	25.2	33.0	6.6	14.0
West Dallas Multipurpose Center	37.1	44.2	7.4	14.4
Fish Trap Lake	34.1	46.8	5.9	13.7
Hinton	28.1	42.8	6.6	13.5

Data Summary
April 2023

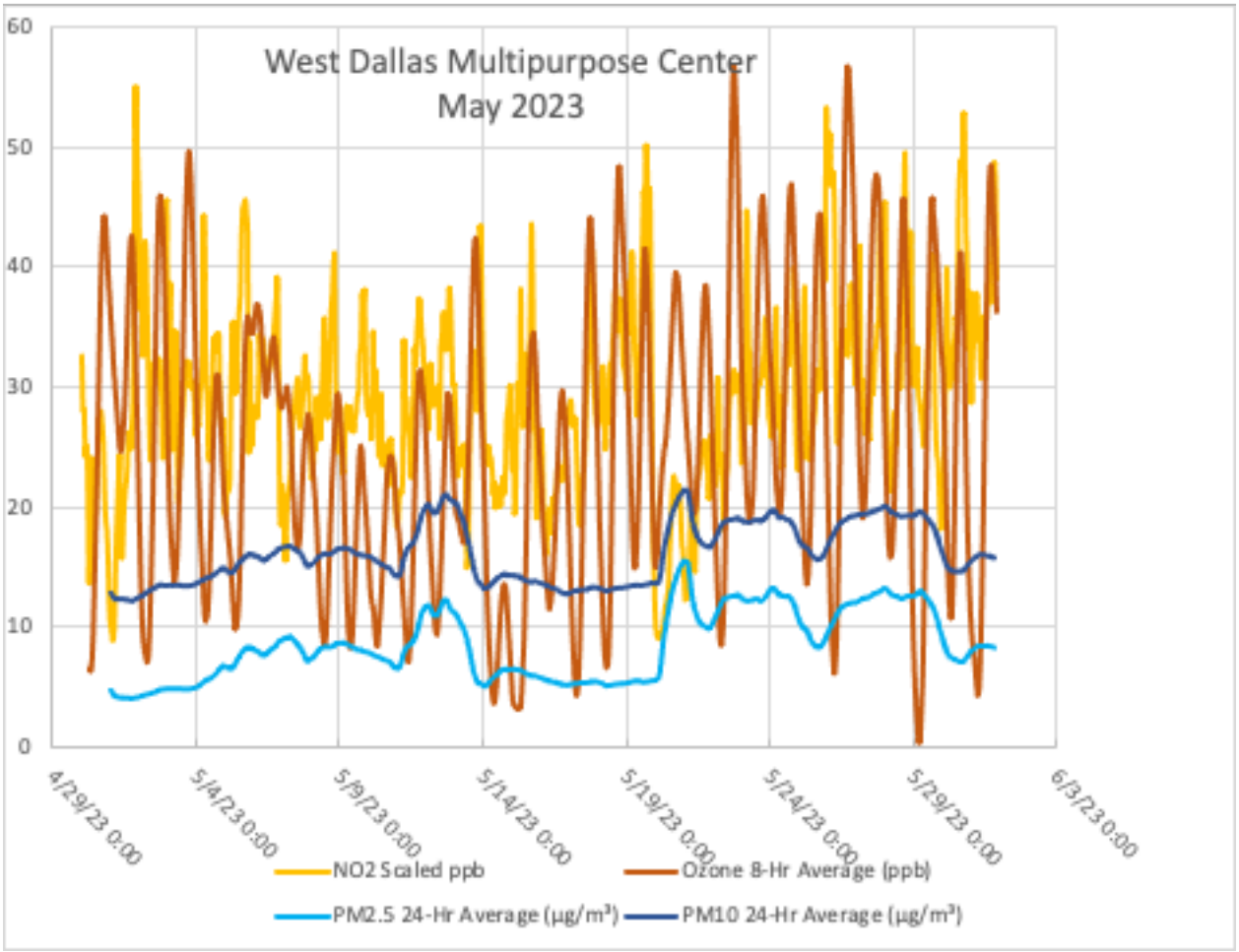




Notes
April 2023

- For the month of April 2023 all pollutants measured were in low to moderate levels with the exception of nitrogen dioxide (NO_2) at the Scyene Road Batch Plant
- The NO_2 showed intermittent spikes early in the month
- After meeting with the project management team at DWU, it was suggested that the idling of diesel powered heavy equipment near the sensor may have caused the spikes
- DWU management worked with the contractor at the site to move equipment away from the sensor and no further spikes have been observed

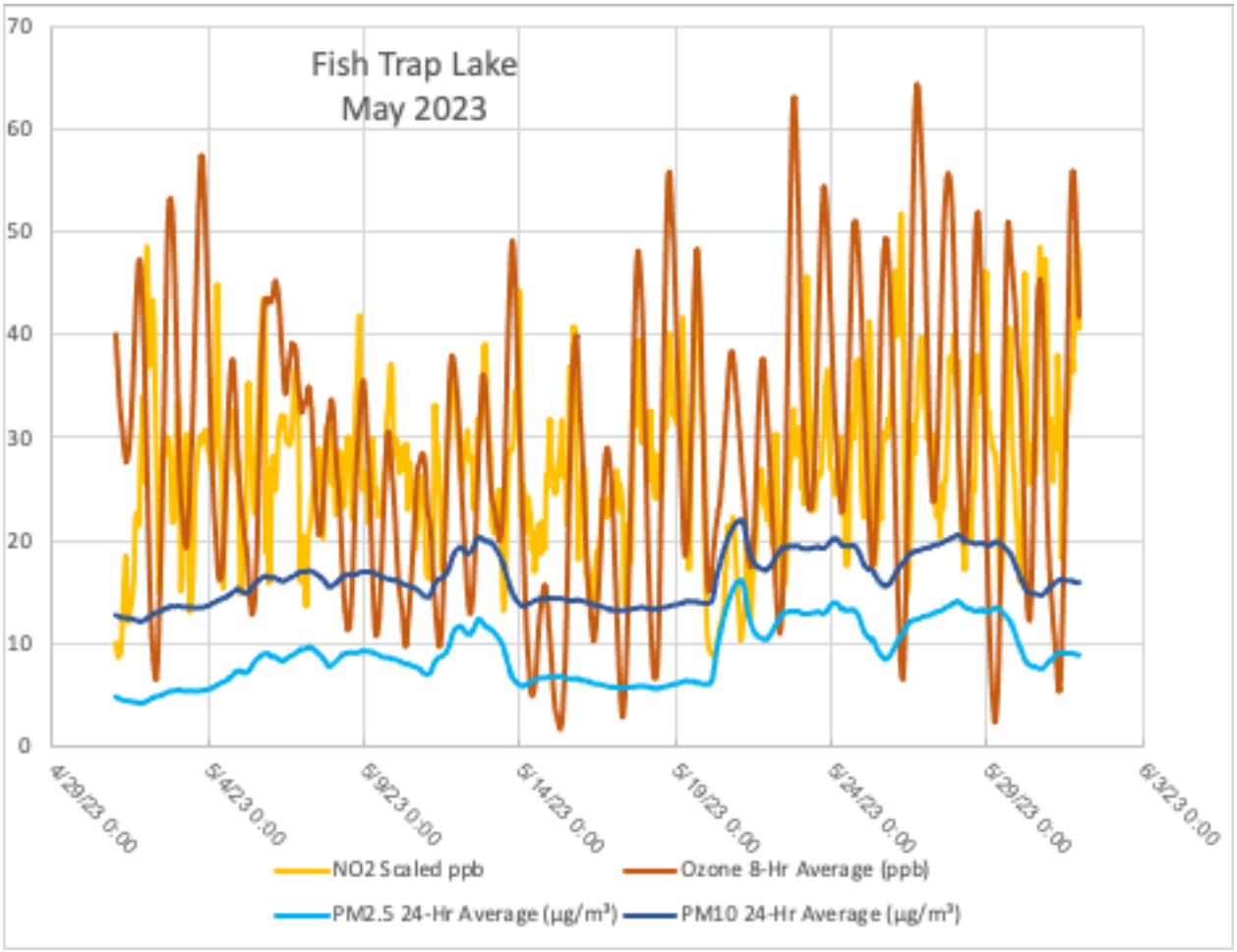
West Dallas Multipurpose Center
Data Summary May 2023



Data Summary

West Dallas Multipurpose Center	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	29.5	24.7	8.6	16.2
Maximum Observed Concentration	53.0	56.6	15.6	21.5

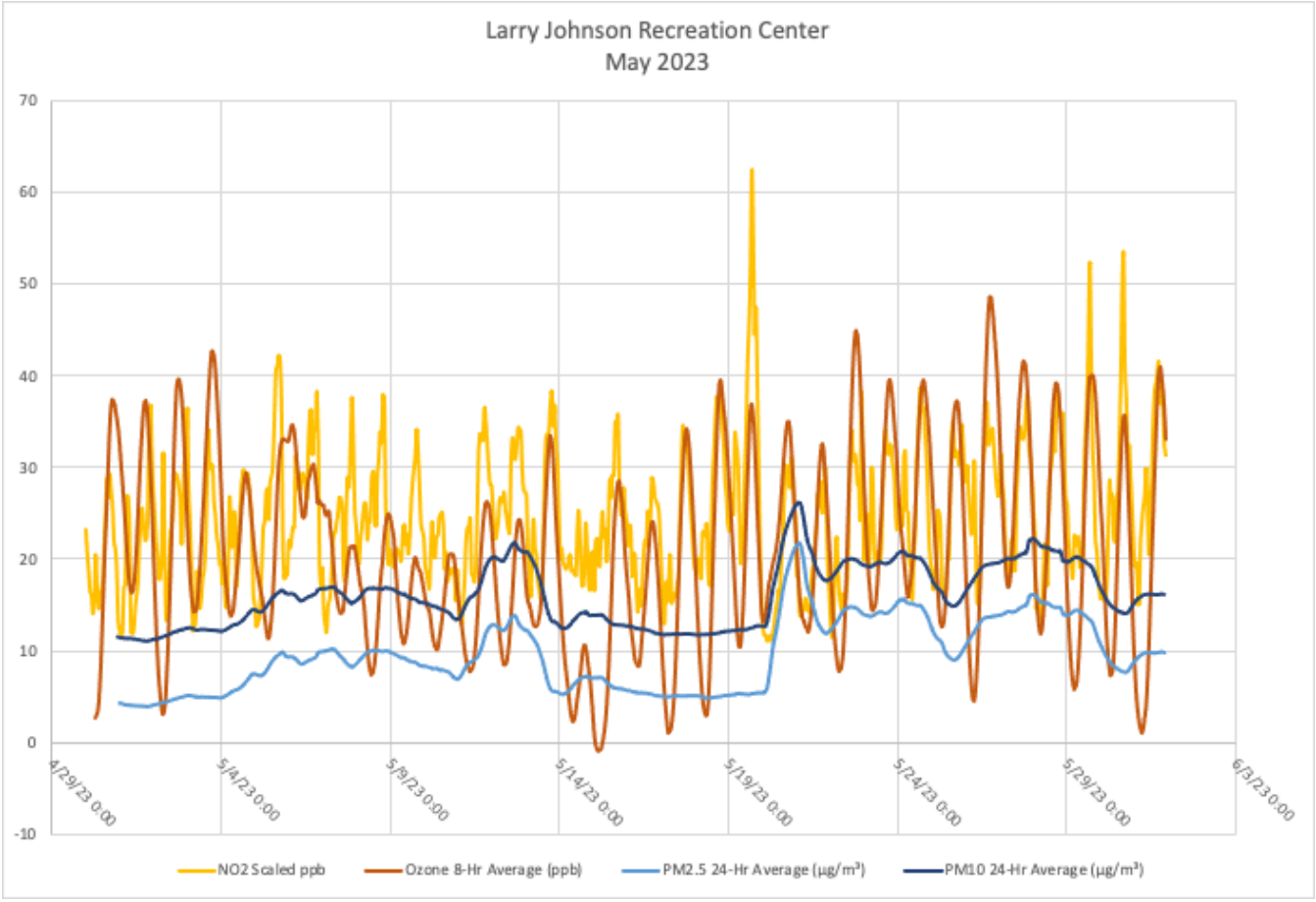
Fish Trap Lake
Data Summary May 2023



Data Summary

West Dallas Multipurpose Center	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	27.0	28.9	9.0	16.3
Maximum Observed Concentration	51.7	64.4	16.1	21.9

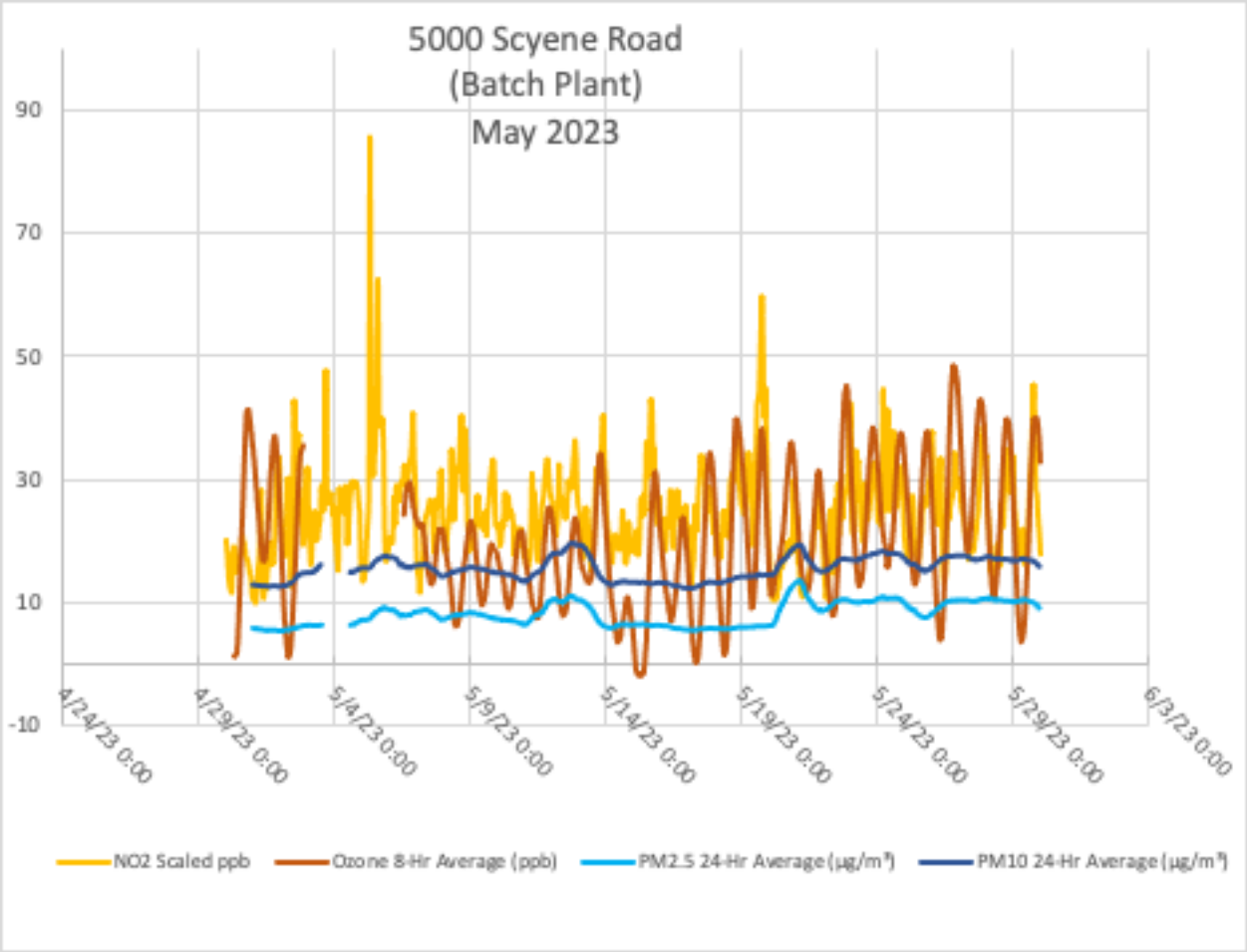
Larry Johnson Recreation Center
Data Summary May 2023



Data Summary

Larry Johnson Recreation Center	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	24.7	21.1	9.5	16.0
Maximum Observed Concentration	62.5	48.7	21.8	26.2

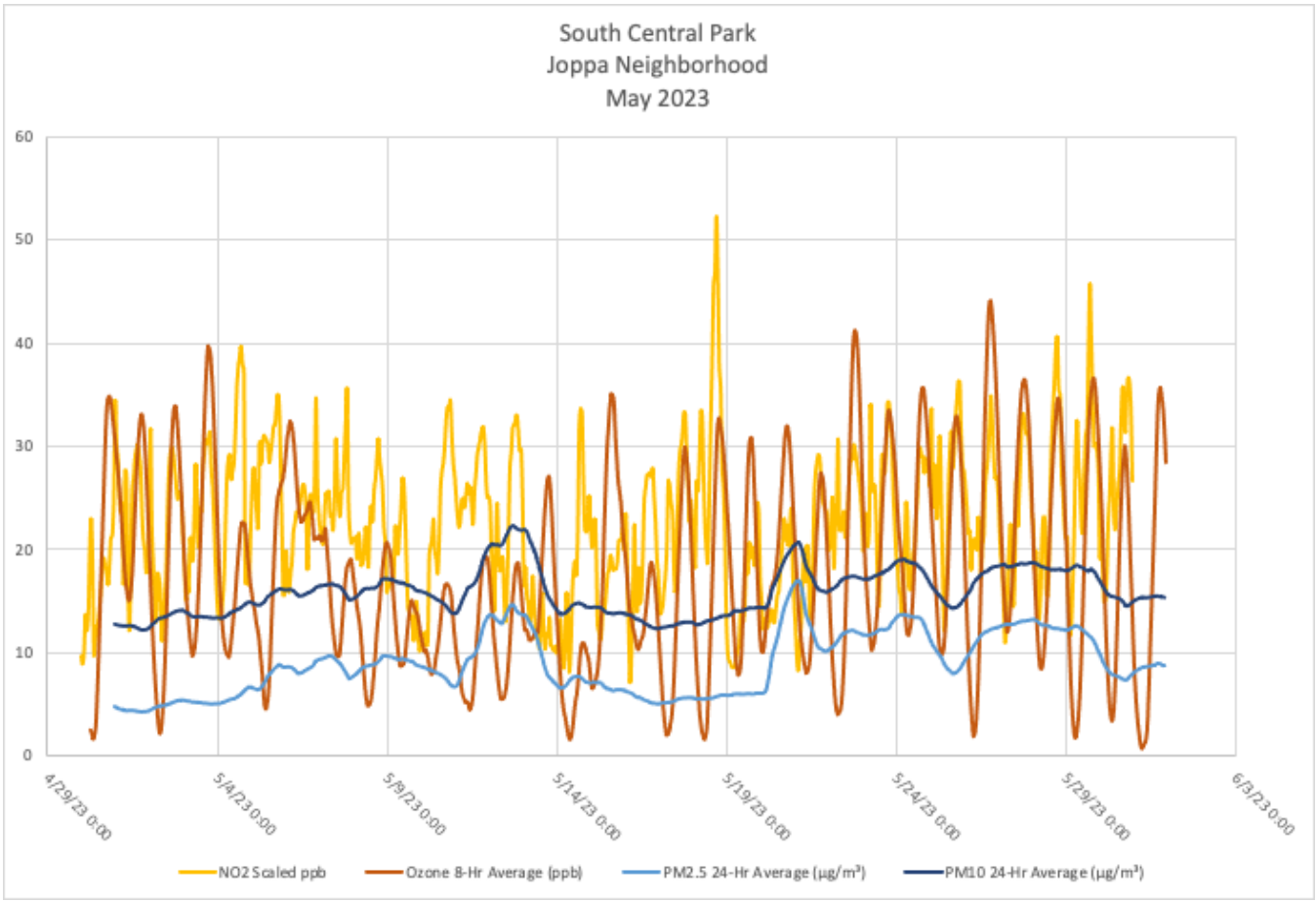
5000 Scyene Rd (Mill Creek Batch Plant)
Data Summary May 2023



Data Summary

5000 Scyene Rd (Batch Plant)	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	25.1	20.3	8.1	15.6
Maximum Observed Concentration	85.8	48.6	13.7	19.6

South Central Park (Joppa Neighborhood) Data Summary May 2023



Data Summary

South Central Park (Joppa Neighborhood)	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Average Concentration	22.3	16.2	8.1	15.8
Maximum Observed Concentration	39.7	39.7	14.6	22.4

Data Summary
May 2023

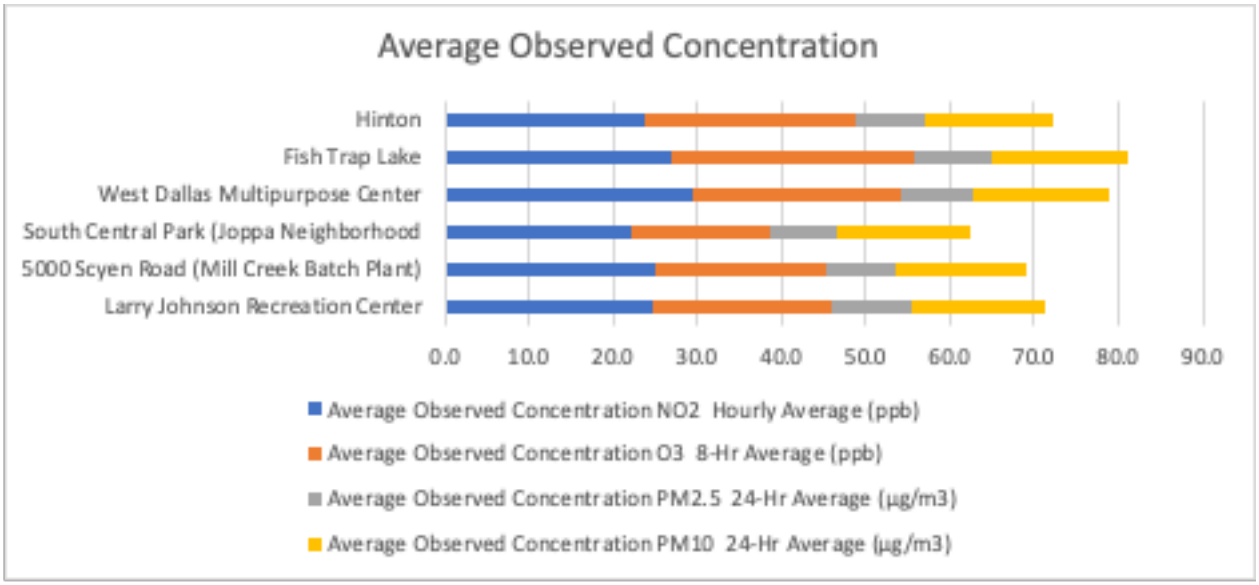
Average Observed Concentration

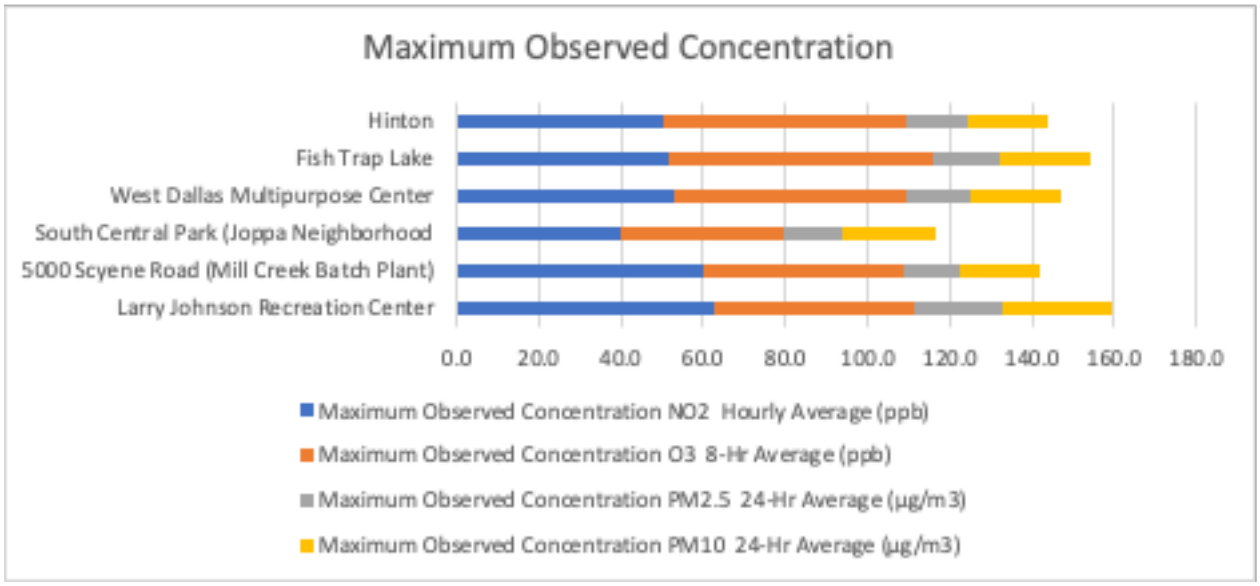
Location	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Larry Johnson Recreation Center	24.7	21.1	9.5	16.0
5000 Scyen Road (Mill Creek Batch Plant)	25.0	20.1	8.4	15.7
South Central Park (Joppa Neighborhood	22.3	16.2	8.1	15.8
West Dallas Multipurpose Center	29.5	24.7	8.6	16.2
Fish Trap Lake	27.0	28.9	9.0	16.3
Hinton	23.6	25.3	8.2	15.1

Maximum Observed Concentration

Location	NO_2 Hourly Average (ppb)	O_3 8-Hr Average (ppb)	$PM_{2.5}$ 24-Hr Average ($\mu g/m^3$)	PM_{10} 24-Hr Average ($\mu g/m^3$)
Larry Johnson Recreation Center	62.5	48.7	21.8	26.2
5000 Scyene Road (Mill Creek Batch Plant)	59.8	48.6	13.7	19.6
South Central Park (Joppa Neighborhood	39.7	39.7	14.6	22.4
West Dallas Multipurpose Center	53.0	56.6	15.6	21.5
Fish Trap Lake	51.7	64.4	16.1	21.9
Hinton	50.2	59.1	14.8	19.5

Data Summary
May 2023





Notes
May 2023

- For the month of May 2023 all pollutants measured were in low to moderate levels
- The NO_2 showed intermittent spikes early in early April at 5000 Scyene Rd (Mill Creek Batch Plant), however, there were no similar spikes in NO_2 in May at the monitor.
- The measures taken by the project management team at DWU resolved the problem
- Ozone levels and NO_2 levels trended higher in May as expected.
- The higher levels of ozone and NO_2 are the resulted of increasing ambient temperatures, longer days, and light winds.
- Ozone levels rose region wide in May with several exceedances of the NAAQS observed at Federal monitor stations in counties north of Dallas; however ozone levels did not exceed moderate levels (less than 70 ppb) in Dallas at the federal monitors or at the D-CAMP sensors.