Update on Shafter Community Air Monitoring

Shafter CSC Meeting
January 8, 2024

Updates

Response to dust concerns in the community

Response to odor concerns near Highway 99 and Lerdo Hwy

Update on air monitoring network in La Colonia area

Dust & Low-Dust Nut Harvesters in the Community

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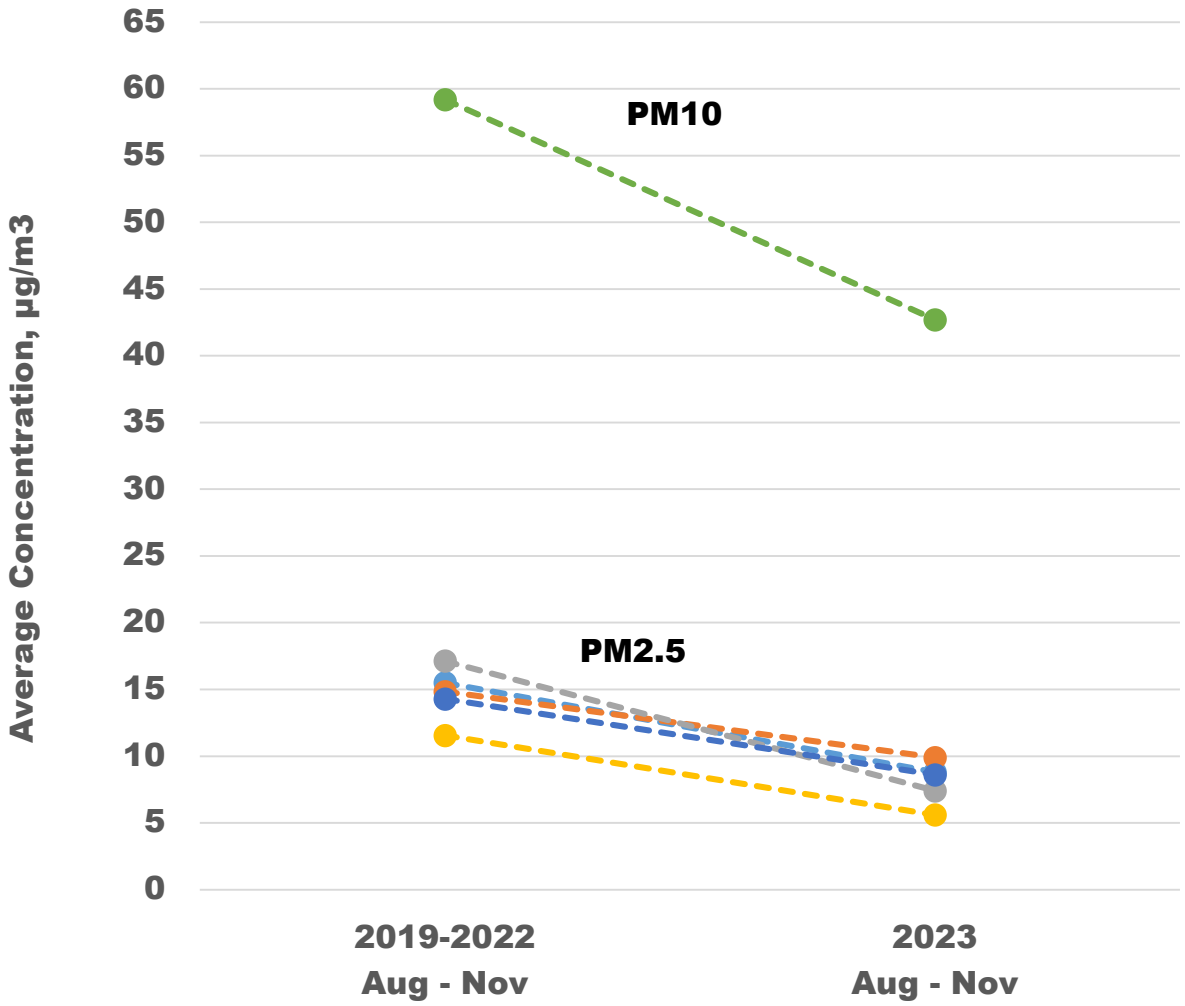
- In recent meetings, CSC members had questions about low-dust nut harvesters operating the community and their impact on dust
- To respond to community concerns:
  - District analyzing community air quality data
  - District conducting outreach in high-priority areas
  - Consider funding reallocation to support replacement of additional conventional equipment if supported by CSC

Low-Dust Nut Harvesters CERP Measure

- 25 conventional almond harvesters replaced with low-dust harvester equipment in Shafter AB 617 community
  - Estimated reductions: **137.6 tons of PM2.5** and **34.3 tons of NOx**
- All of funding has been spent in CERP measure, District continuing outreach and can explore options for funding reallocation
  - District reaching out to growers surrounding La Colonia
  - Can consider reallocation of funds to support additional low-dust nut harvesters in the community *with CSC support*
  - District is aware of ~10 individuals who would take advantage *if more funding becomes available*

Average PM10 & PM2.5 Comparisons



PM2.5 and PM10 concentrations in Shafter Community overall lower in 2023 harvest season compared to previous years

- PM2.5 on average about 5 µg/m^3 to 10 µg/m^3 lower for August-November at all sites in 2023 compared to 2019-2022
- PM10 average about 16 µg/m^3 lower for August-November

Air Quality Analysis Considerations

- Exact cause of lower PM levels in 2023 likely result of multiple factors
- Ambient particulate matter (PM) concentrations depend on multiple factors
  - Weather conditions like wind speed and wind direction
  - Emissions – **distance** from the monitor
  - Emissions – **direction** from the monitor
- Almond harvesting emissions can transport short distances to nearby PM monitors
- Almond harvesting activity amounts, distance and direction from monitors, and time of use are not known

Improved PM levels are likely a combination of local emissions reductions, like almond harvester replacements, and regional air quality improvements.

Monitoring at Highway 99 & Lerdo Highway

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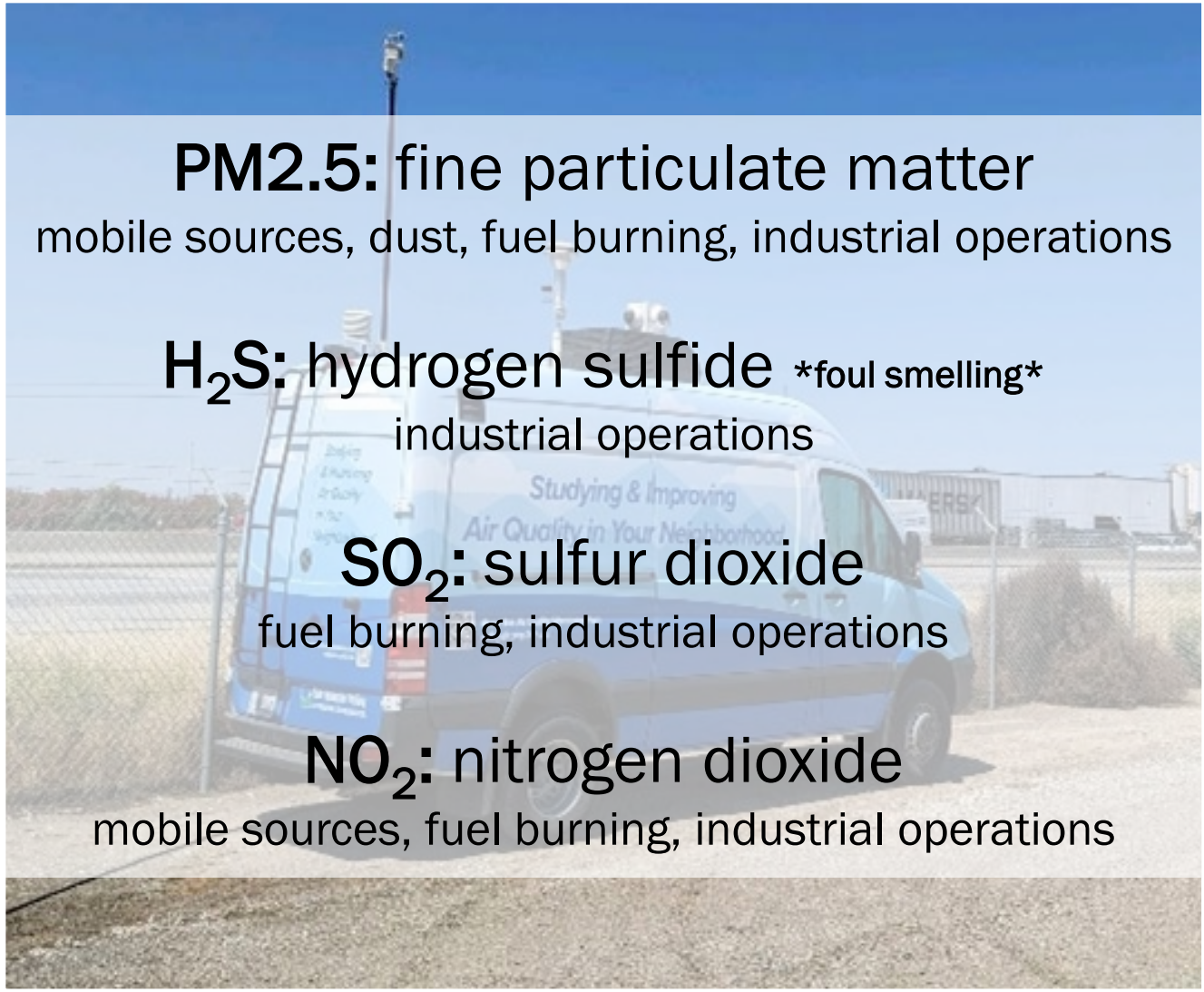
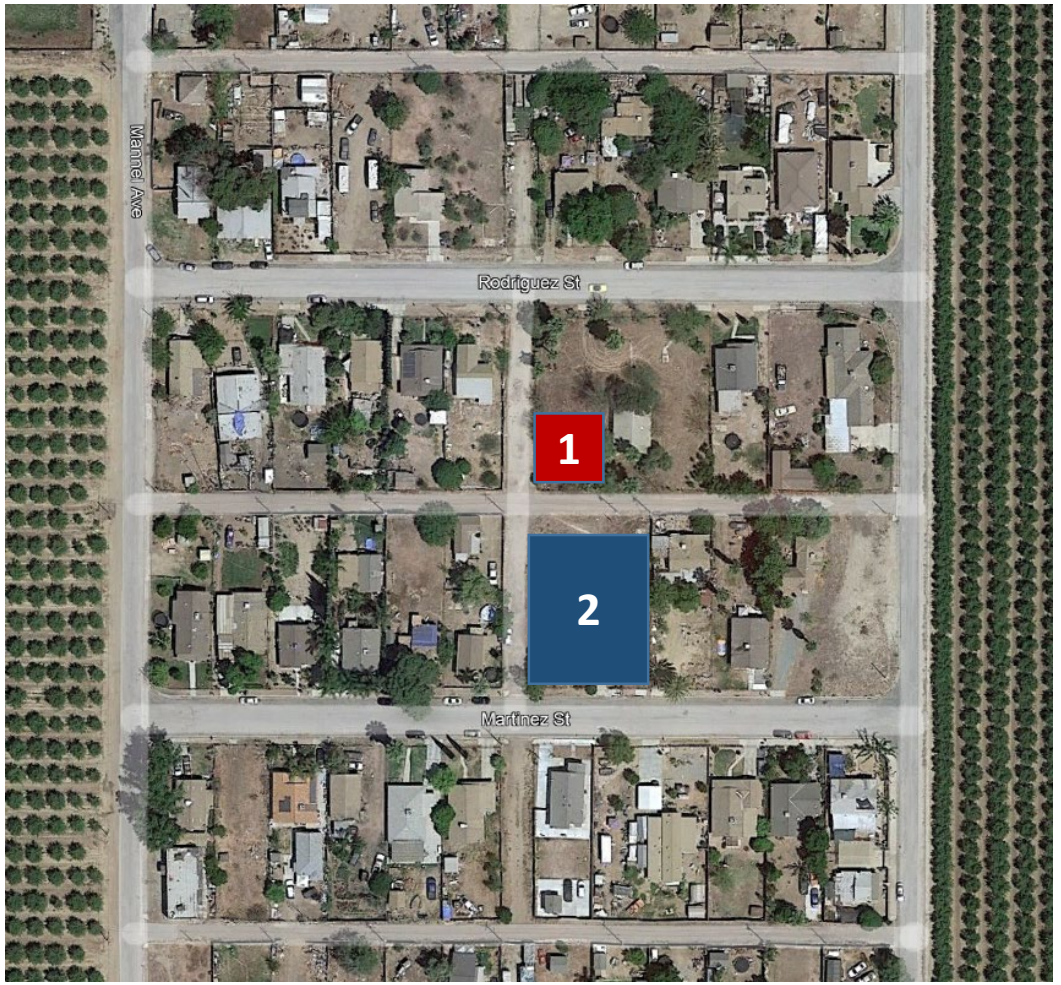
- CSC requested monitoring at this location due to odor concerns
- Monitoring began May 2023
  - No elevated levels of PM2.5, H_2S^*, SO_2 compared to health-based standards or nearby Shafter monitors
  - Slightly higher NO_2 compared to nearby Shafter monitors due to freeway, not over health-based levels
  - No observed odor when present
- **Next steps:**
  - Continue to monitor into winter when conditions more stagnant
  - Notify District when experiencing odors



PM2.5 Monitor at La Colonia

PM2.5 Monitor at La Colonia

- **Location #1:** contractor working with PG&E and City of Shafter to install electrical infrastructure
- **Location #2 (alternate):** District working with Kern County
  - Plans to be submitted 2023
  - Construction to start spring 2024



Summary

Improved PM air quality in 2023 compared to previous years

District will continue to work with CSC on outreach for incentive programs that improve dust in the community

No abnormal data in odor investigation, but additional odor investigation will continue

La Colonia monitor placement progressing