Port of Los Angeles

Air Quality Monitoring Program Update #3

Presented by: Joel Torcolini, Air Quality Program Manager

October 24, 2023

Air Quality Monitoring Program – 2023 Upgrade Complete!

Criteria Pollutants

▪ Continuous $PM_{2.5}$	Met One BAM 1020	Installed - 4 Stations
▪ Continuous PM_{10}	Met One BAM 1020	Installed - 4 Stations
▪ Ozone (O_3)	Thermo Model 49iQ	Installed - 4 Stations
▪ Nitrogen Dioxide (NO_2)	T-API Model N500	Installed - 4 Stations
▪ Carbon Monoxide (CO)	Thermo Model 48iQ	Installed - 4 Stations
▪ Sulfur Dioxide (SO_2)	Thermo Model 43iQ-TL	Installed - 4 Stations

Supplemental PM

▪ UFP Counters	TSI, Inc. Model 3783	Installed - 4 Stations
▪ BC Aethalometers	Magee Scientific Model AE-33	Installed - 4 Stations

Current Status of Stations

Status of Air Monitoring Stations (as of 10/24/2023)				
Instruments/Equipment	Monitoring Station			
	Wilmington Community Station	Coastal Boundary Station	San Pedro Community Station	Source-Dominated Station
$PM_{2.5}$ Sequential Filter Sampler	X	X	X	X
$PM_{2.5}$ Federal Reference Method Filter Monitor	X	Not Applicable		
PM_{10} Federal Reference Method Filter Monitor	X			
$PM_{2.5}$ Continuous Monitor	X	X	X	X
PM_{10} Continuous Monitor	X	X	X	X
Ultrafine Particle Counter	X	X	X	X
Aethalometer – Black Carbon	X	X	X	X
O_3 Analyzer	X	X	X	X
CO Analyzer	X	X	X	X
NO_2 Analyzer	X	X	X	X
SO_2 Analyzer	X	X	X	X

← PM FRM monitors are a QA measurement for Sequential Filter Samplers

COMPLETE!

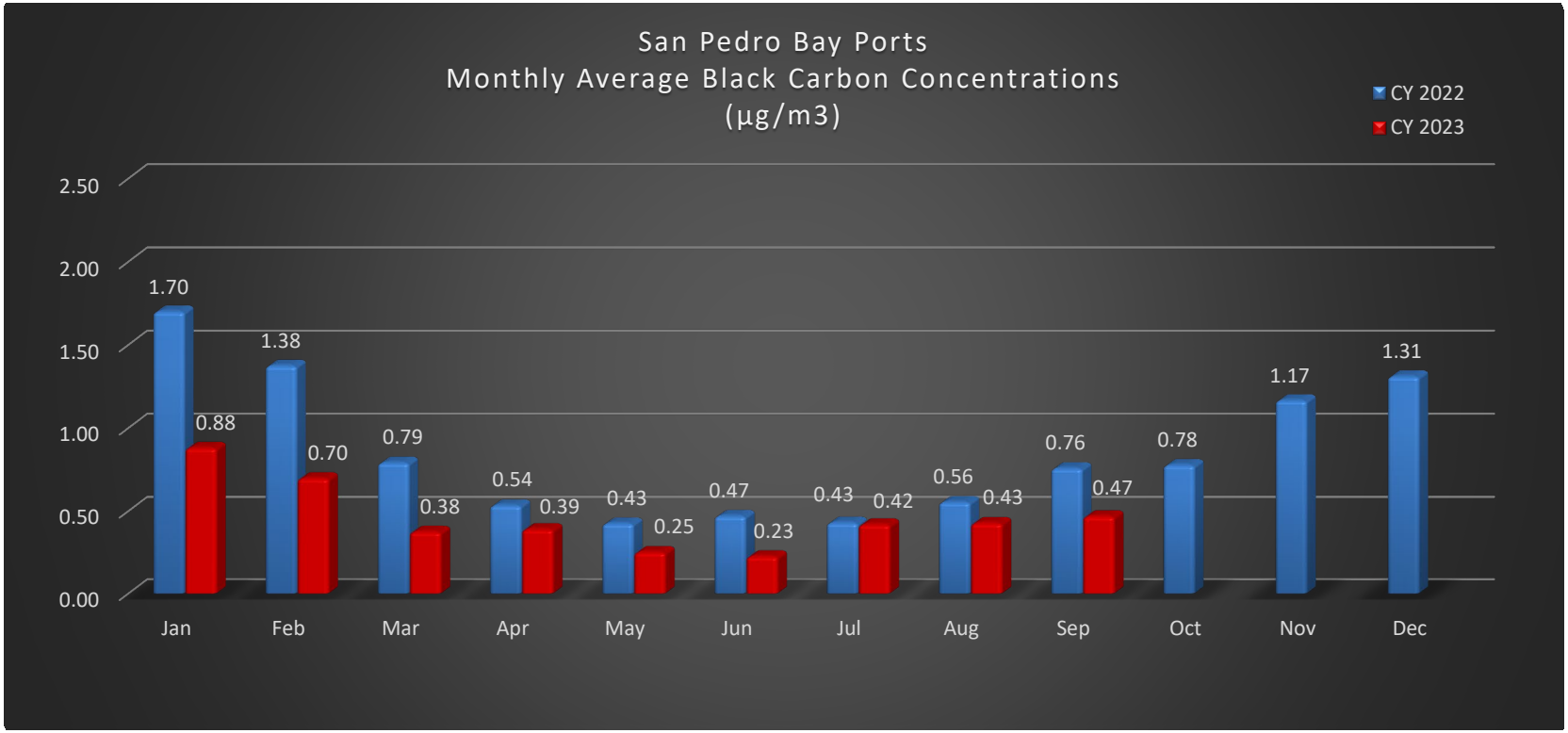
Backup Instruments by Parameter

Status of Air Monitoring Stations (as of 10/24/2023)		
Air Quality Parameter	**Backup Instrument?**	**Backup Instrument Manufacturer / Model**
$PM_{2.5}$ Sequential Filter Sampler	Yes	DRI SFS instrument
$PM_{2.5}$ Continuous Monitor	Yes	Met One BAM - 1020 ($PM_{2.5}$)
PM_{10} Continuous Monitor	Yes	Met One BAM - 1020 (PM_{10})
Ultrafine Particle Counter	Yes	TSI, Inc. Model 3783
Aethalometer - Black Carbon	On Order	Magee Scientific AE-33
O_3 Analyzer	Yes	Teledyne API - Model 400
CO Analyzer	Yes	Thermo 48i CO instrument
NO_2 Analyzer	Yes	Thermo 42i NO_2 instrument
SO_2 Analyzer	Yes	Thermo 43i SO_2 instrument

← Additional spare on order

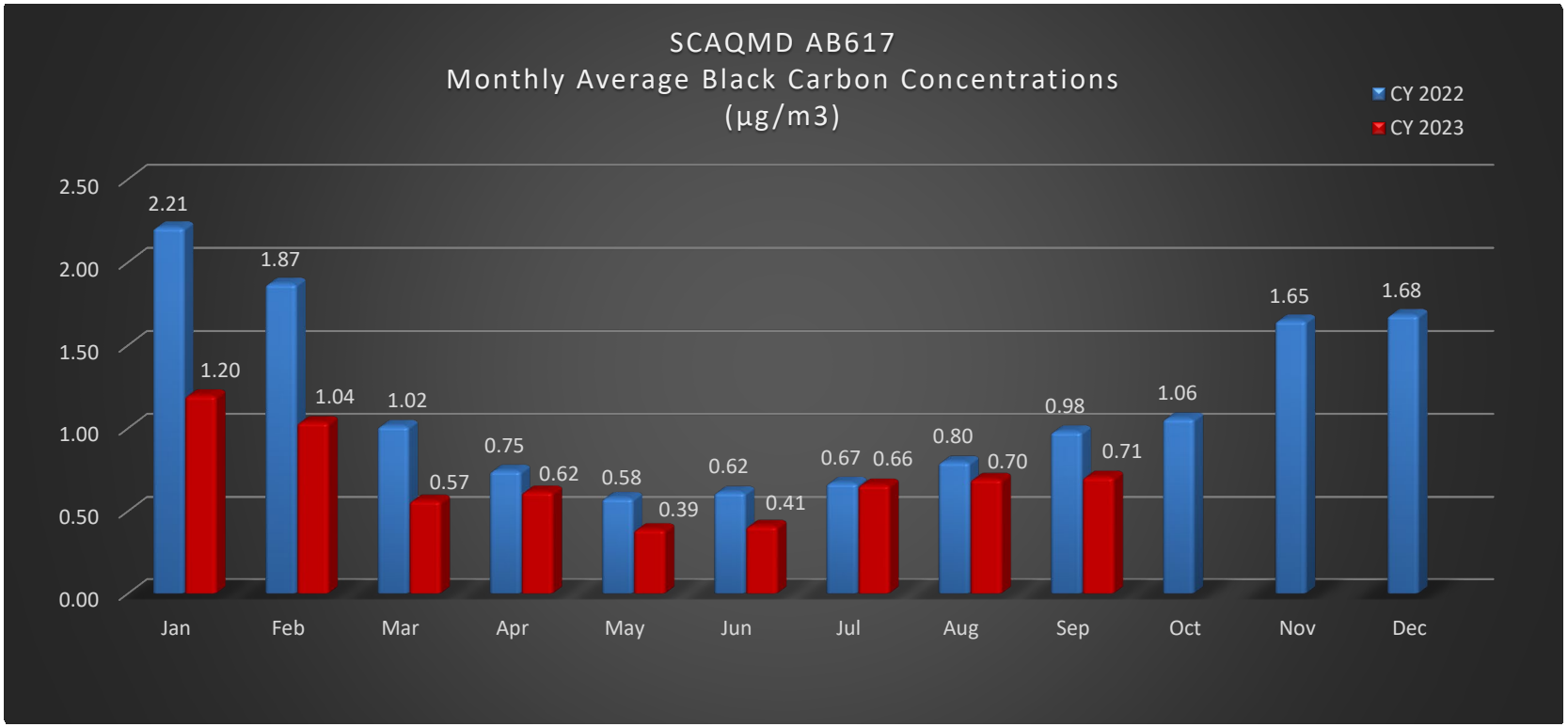
2023 Q1-Q3
Overview of Results

Monthly Average BC Concentrations (2022 vs 2023)



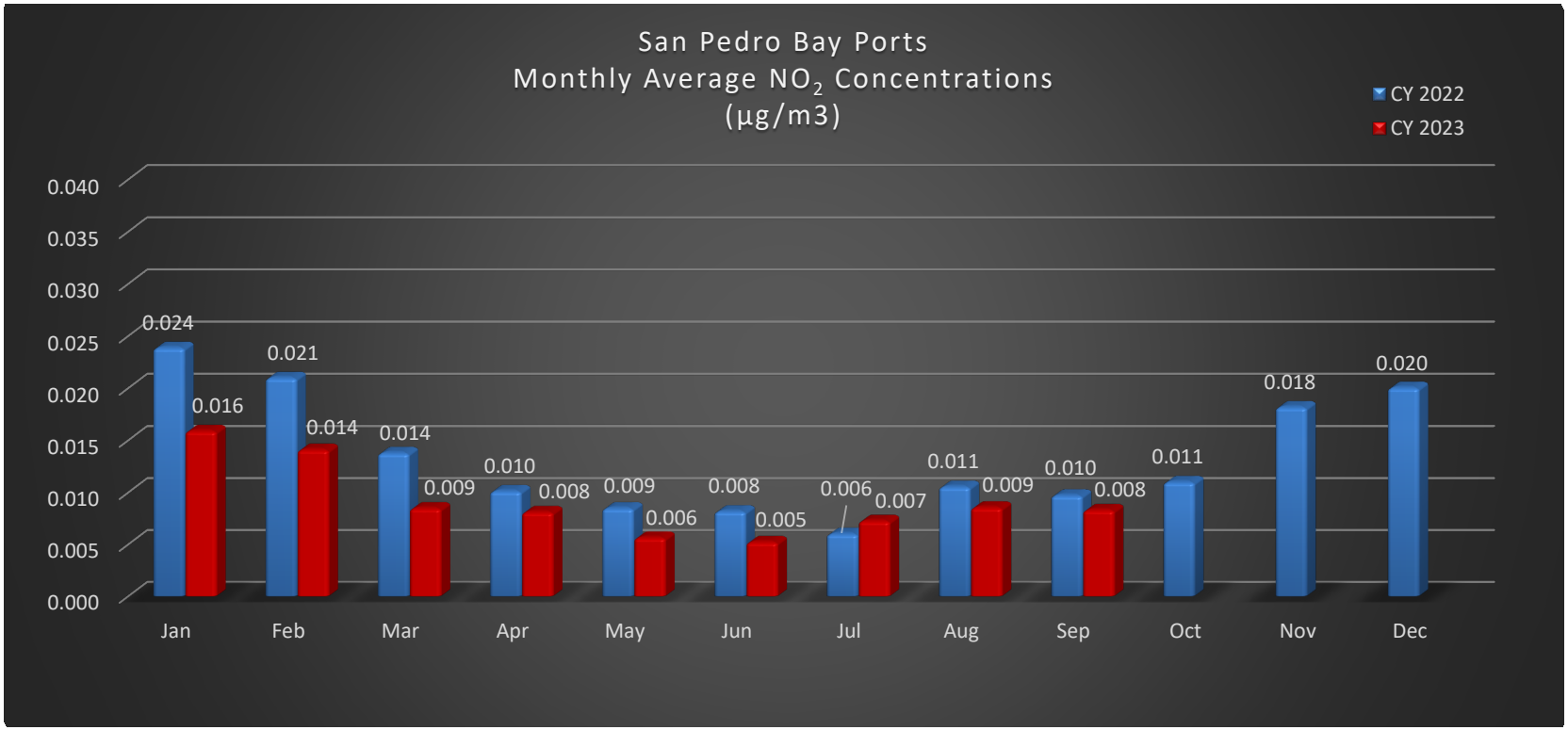
- 2022 Average (Jan - Sep) = 0.78 µg/m^3
- 2023 Average (Jan - Sep) = 0.46 µg/m^3 (- 41%)

SCAQMD Monthly Average BC Concentrations (2022 vs 2023)



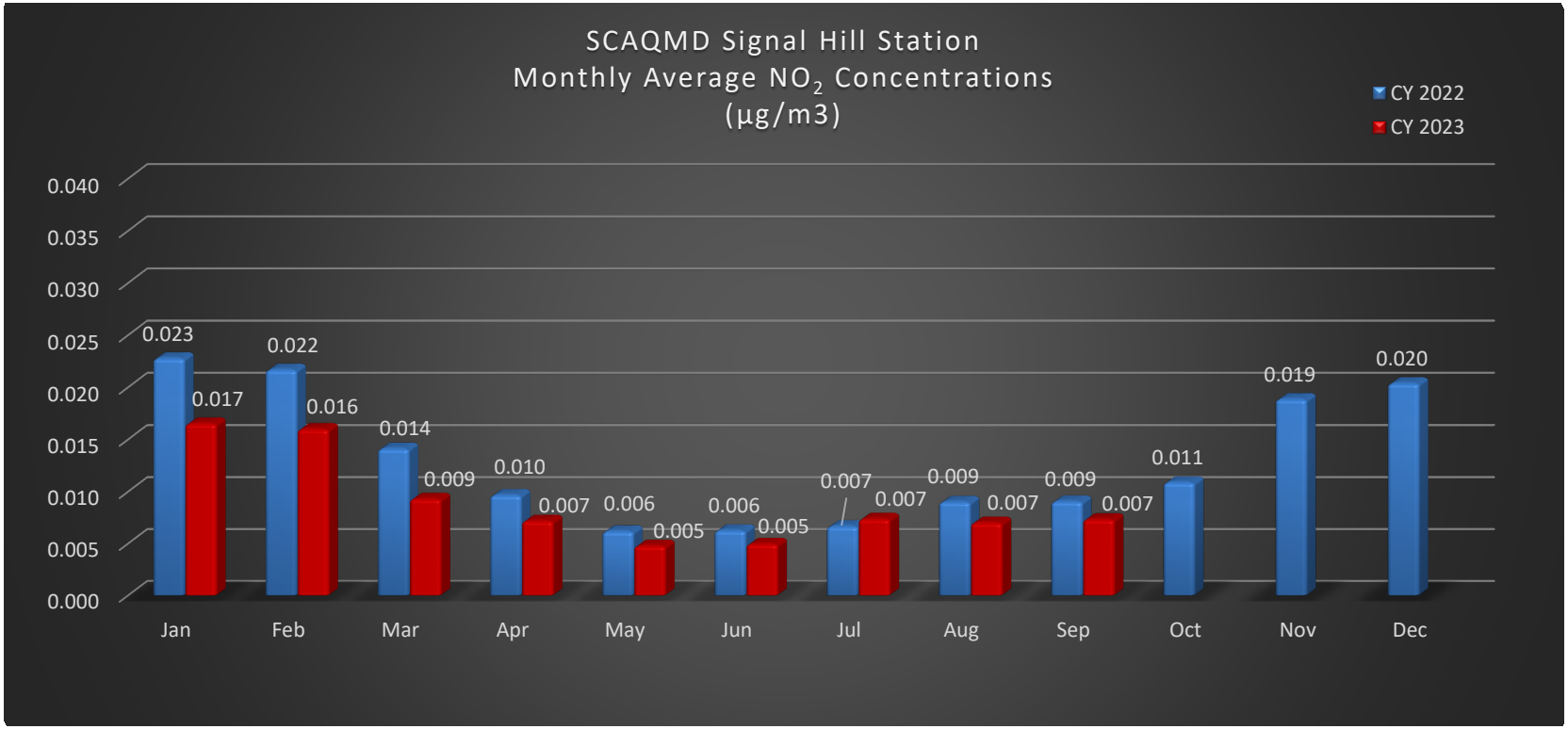
- 2022 Average (Jan - Sep) = 1.06 µg/m^3
- 2023 Average (Jan - Sep) = 0.70 µg/m^3 (- 34%)

Monthly Average NO_2 Concentrations (2022 vs 2023)



- 2022 Average (Jan - Sep) = 0.0124 ppm
- 2023 Average (Jan - Sep) = 0.0091 ppm (- 27%)

SCAQMD Monthly Average NO_2 Concentrations (2022 vs 2023)



- 2022 Average (Jan - Sep) = 0.0117 ppm
- 2023 Average (Jan - Sep) = 0.0090 ppm (- 24%)

Year 18 Annual Report Overview

Year 18 Annual Monitoring Report

- Located at: https://monitoring.cleanairactionplan.org/reports/

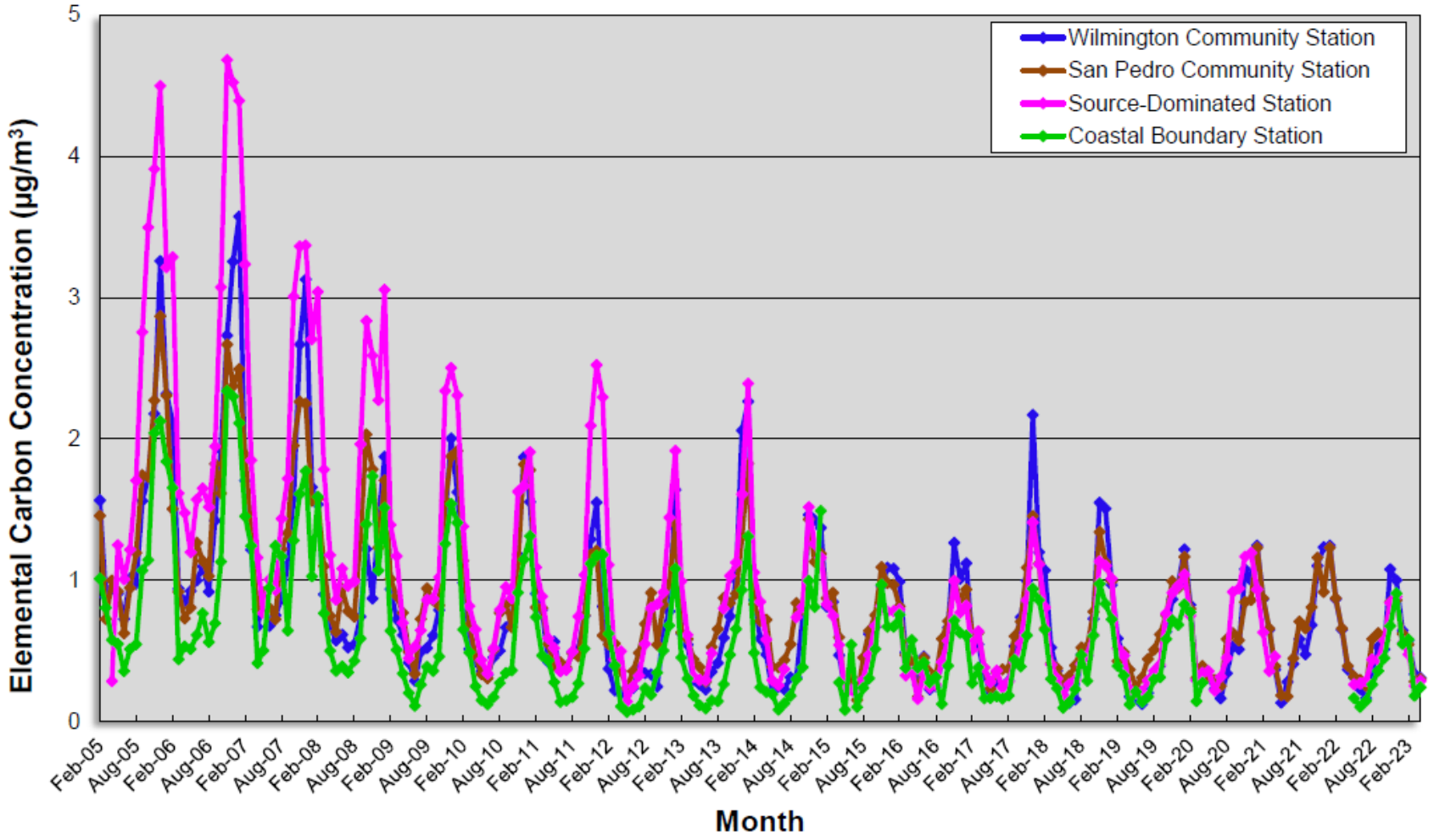
- Annual report presents a summary of monitoring data for a twelve (12) month period from May 2022 to April 2023.

- Draw comparisons to applicable National and California Ambient Air Quality Standards.
  - Year 18 reporting period: No exceedances of NAAQS

    Few exceedances of CAAQS for PM_{10}
    Max 24-hour average recorded on July 4th

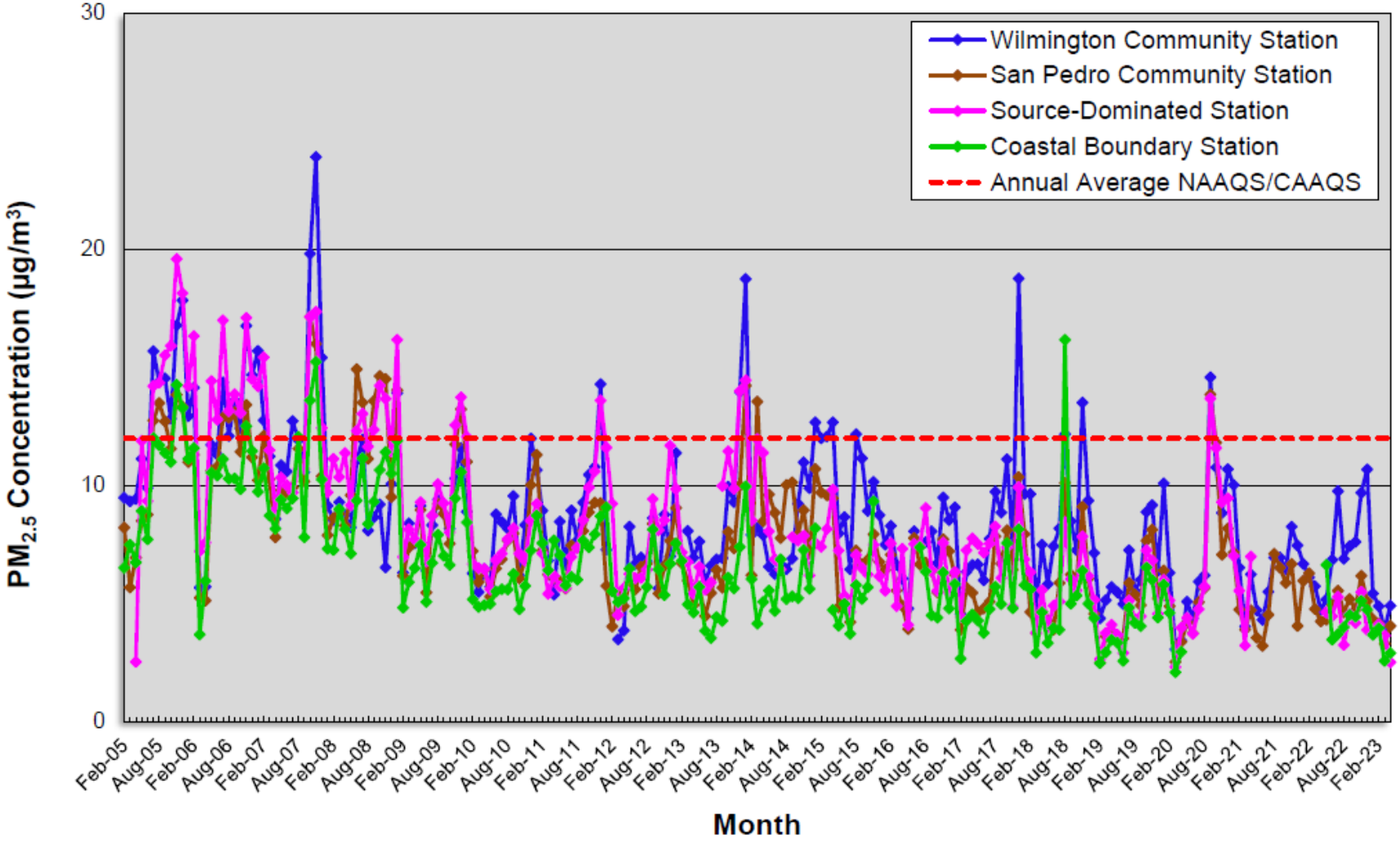
- Presents trend analysis for:
  - Filter-based PM / EC measurements: 18-year period of monitoring record
  - Real-time gaseous & PM measurements: 15-year period of monitoring record
  - Real-time black carbon measurements: 10-year period of monitoring record

Monthly Average EC Concentrations at Port Stations



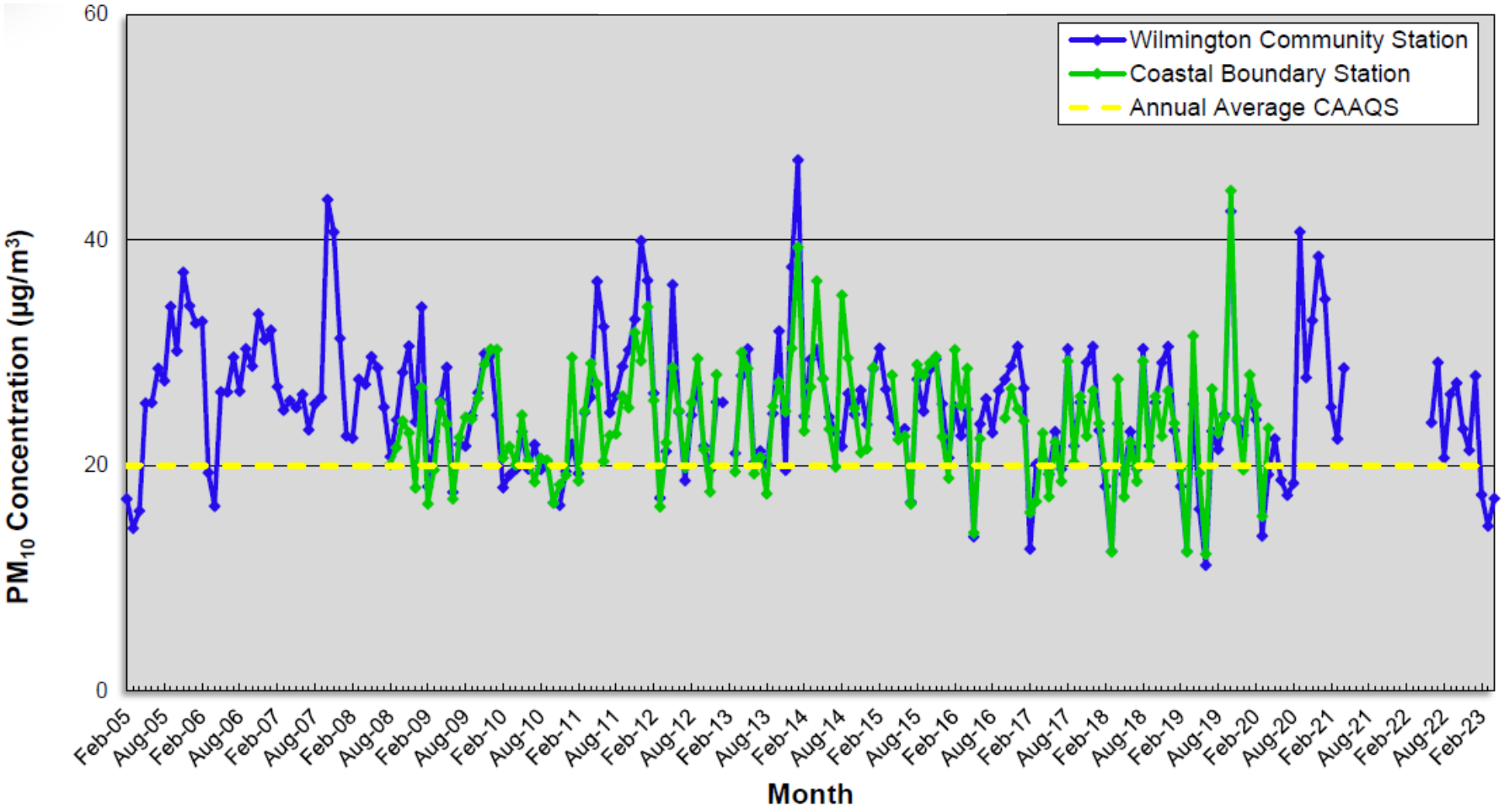
Note: Filter-based $PM_{2.5}$ sampling at Coastal Boundary station suspended May 2020 - April 2022.
Filter-based $PM_{2.5}$ sampling at Source-Dominated station suspended May 2021 - April 2022.

Monthly Average $PM_{2.5}$ Concentrations at Port Stations



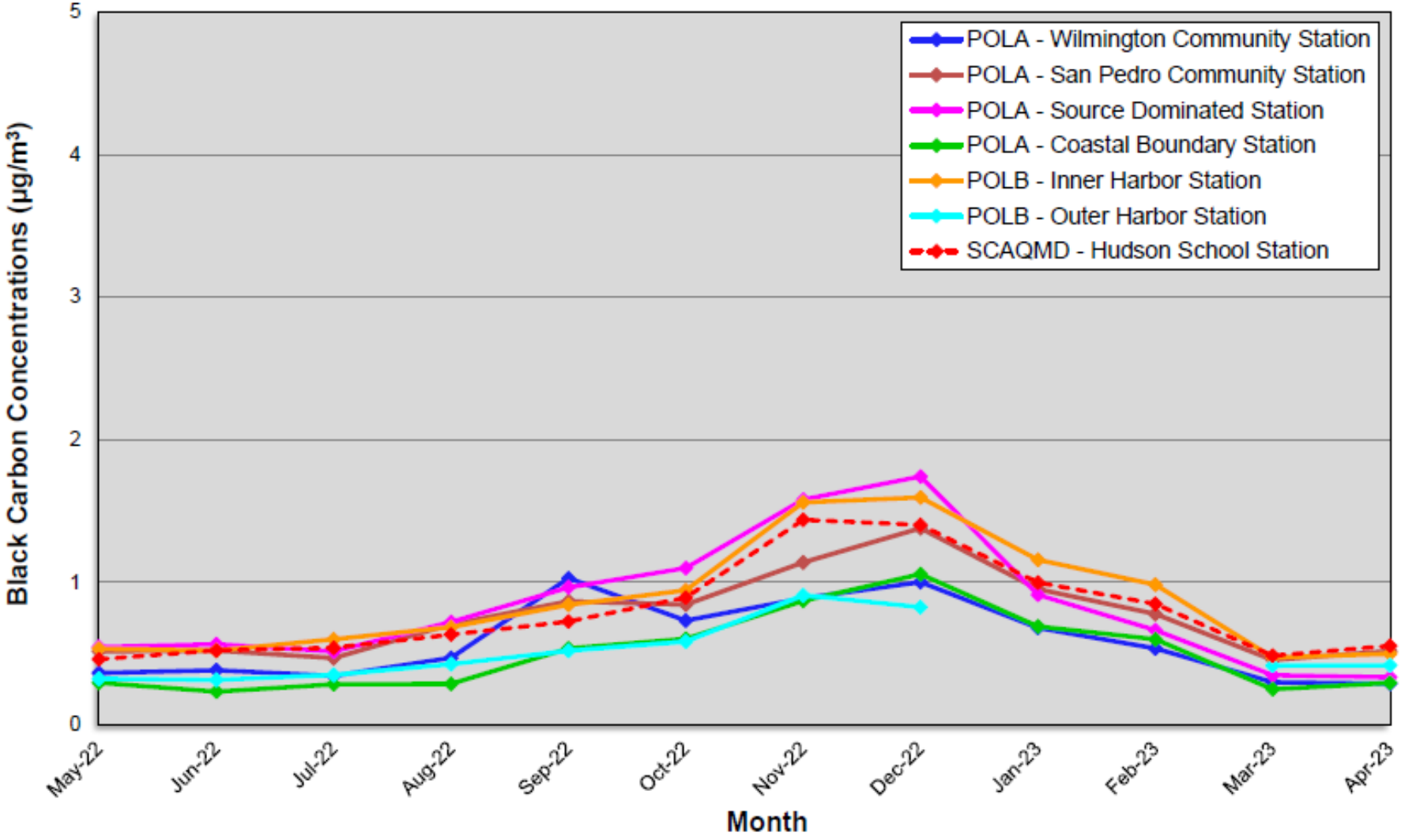
Note: Filter-based $PM_{2.5}$ sampling at Coastal Boundary station suspended May 2020 - April 2022.
Filter-based $PM_{2.5}$ sampling at Source-Dominated station suspended May 2021 - April 2022.

Monthly Average PM_{10} Concentrations at Port Stations

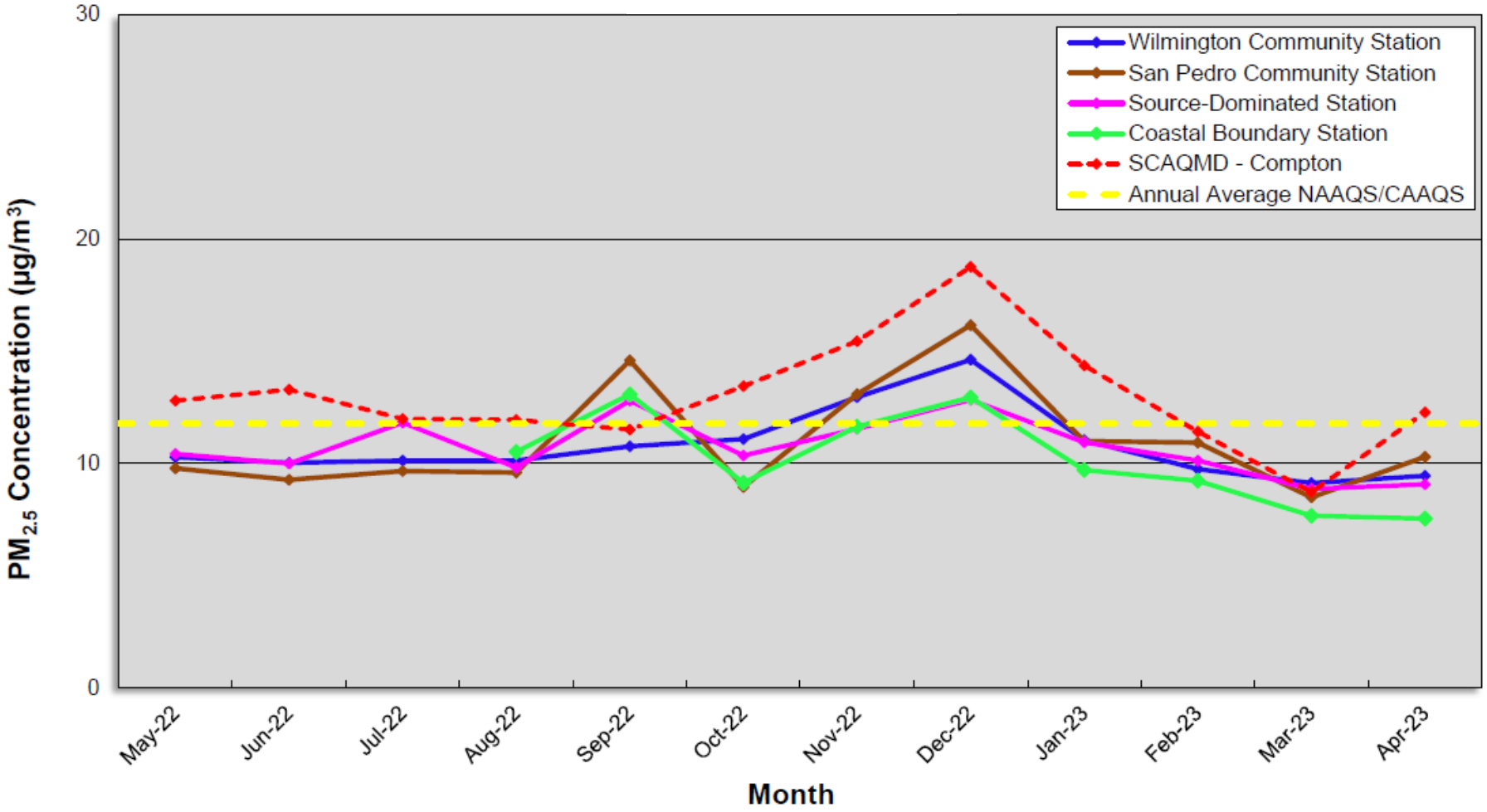


Notes: Filter-based PM_{10} monitoring at Coastal Boundary station commenced August 2008, suspended May 2020 - April 2023.
Filter-based PM_{10} monitoring at Wilmington Community station suspended May 2021 - June 2022.

Year 18 - Monthly Average BC Concentrations at Port Stations

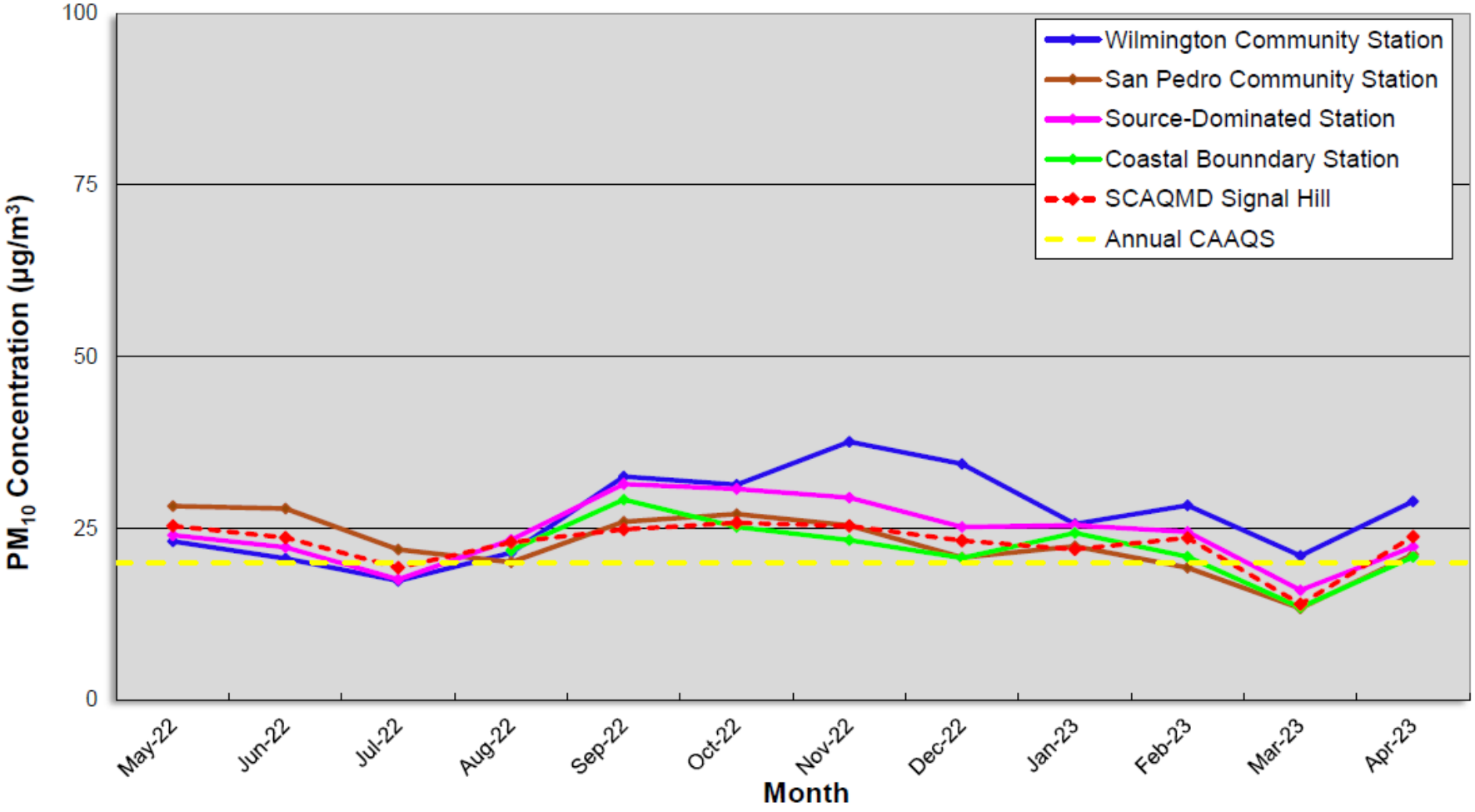


Year 18 - Monthly Average $PM_{2.5}$ Concentrations at Port Stations



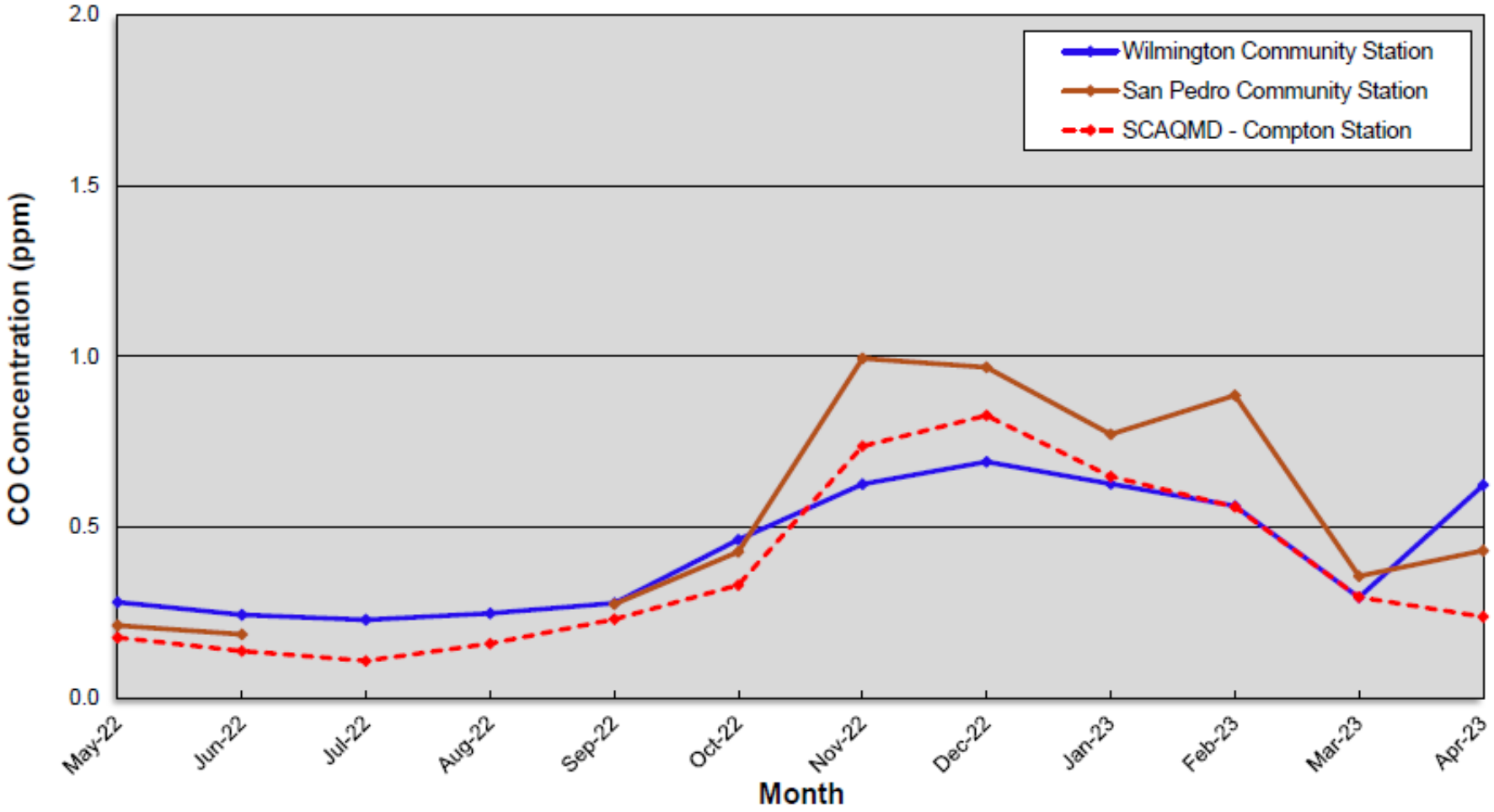
Note: Coastal Boundary station $PM_{2.5}$ BAM offline from May 1, 2021 to August 12, 2023.

Year 18 - Monthly Average PM_{10} Concentrations at Port Stations



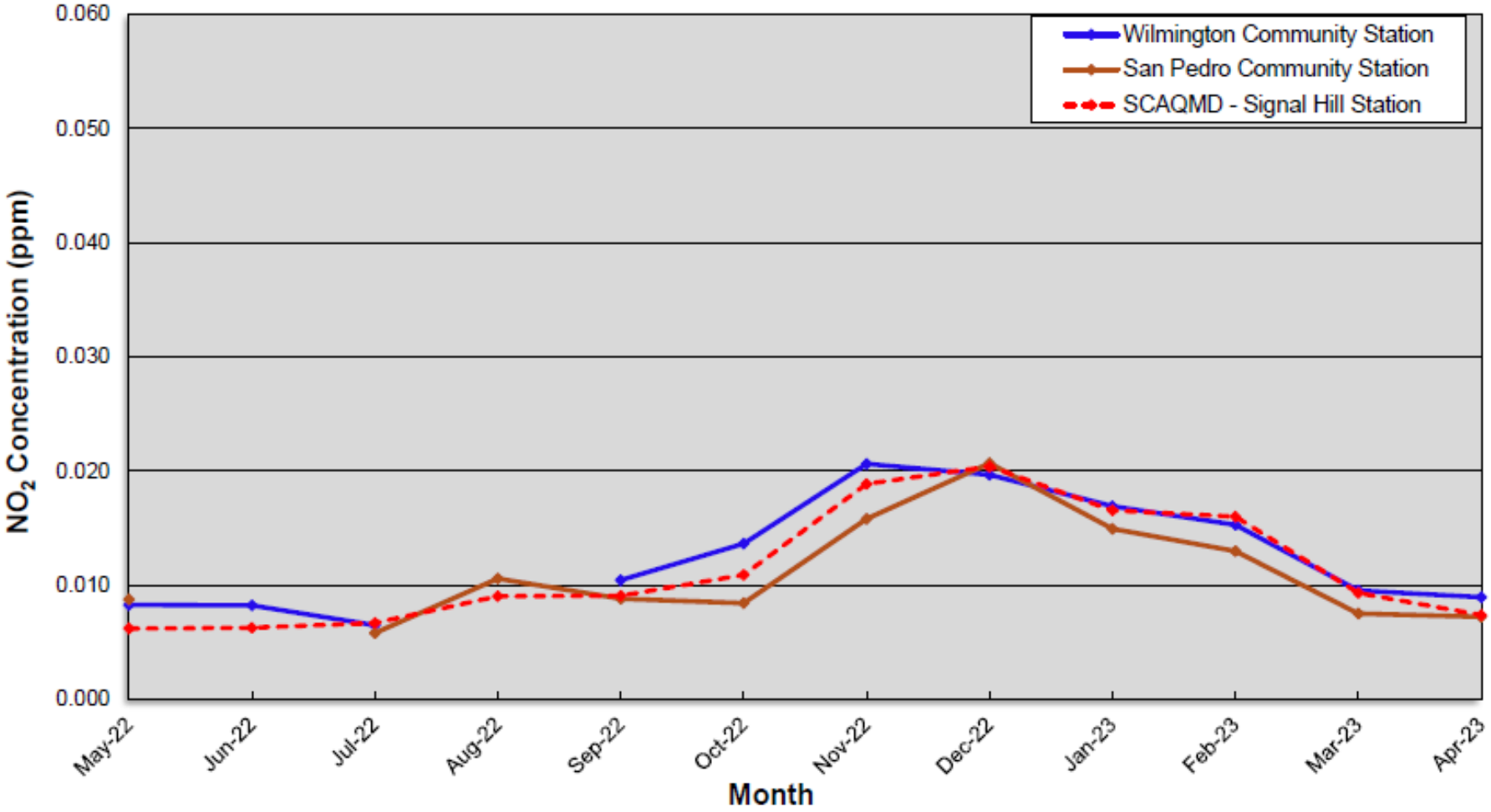
Note: Coastal Boundary station PM_{10} BAM offline from May 1, 2021 to August 12, 2023.

Year 18 - Monthly Average CO Concentrations at Port Stations



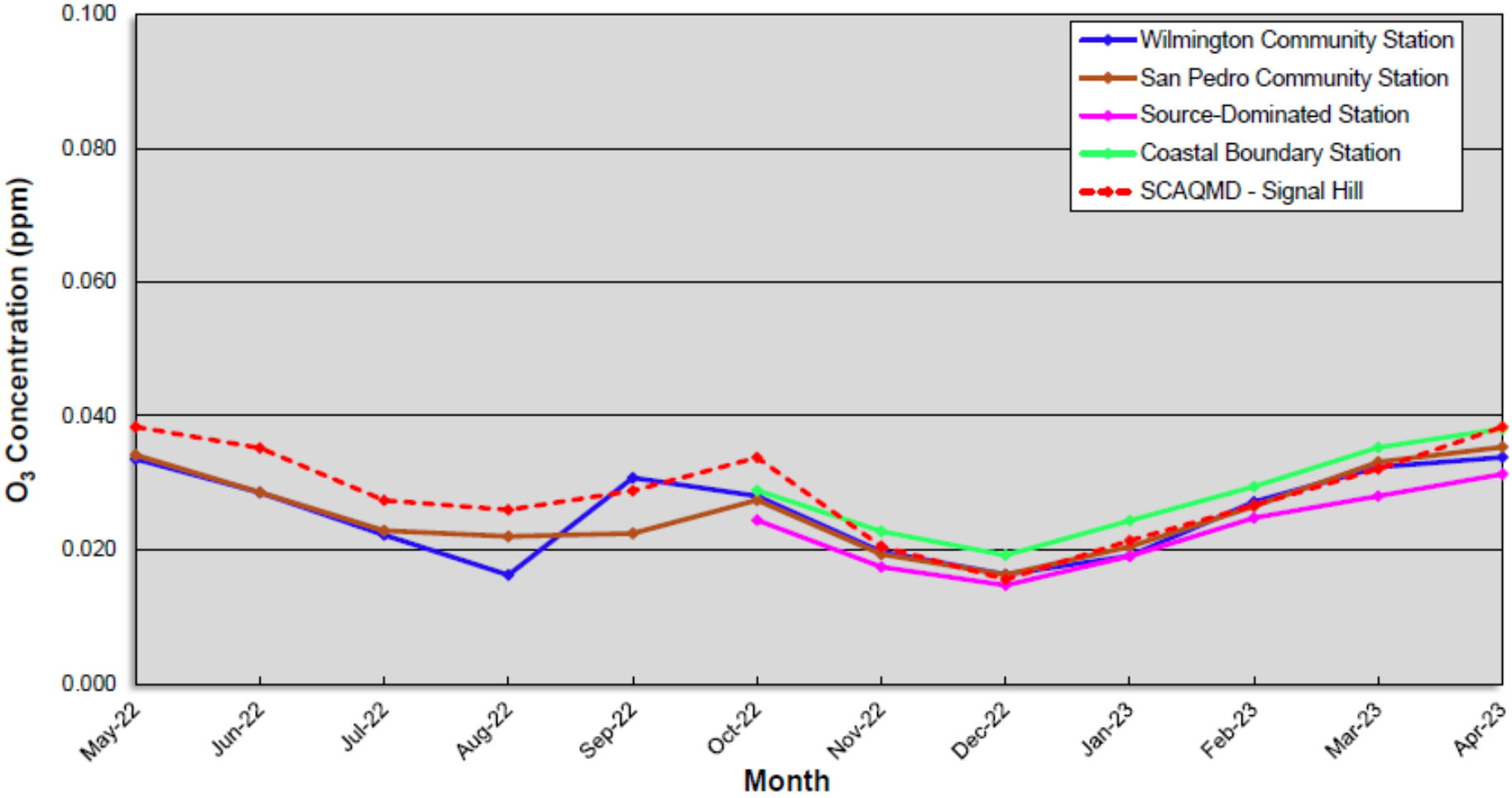
Note: Coastal Boundary CO measurements suspended May 2020 - April 2023.
Source-Dominated CO measurements suspended May 2021 - April 2023.

Year 18 - Monthly Average NO_2 Concentrations at Port Stations



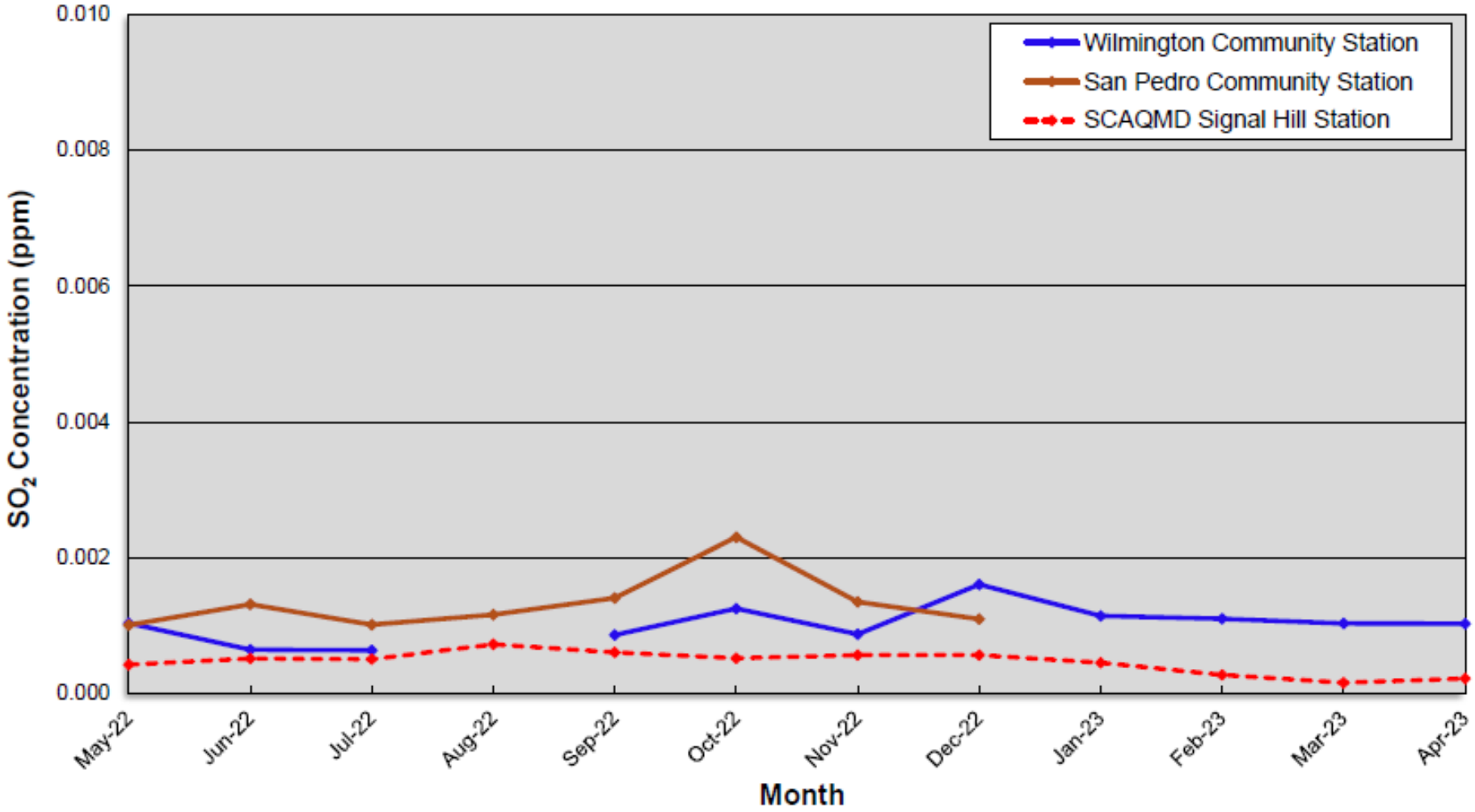
Note: Coastal Boundary NO_2 measurements suspended May 2020 - April 2023.
Source-Dominated NO_2 measurements suspended May 2021 - April 2023.

Year 18 - Monthly Average O_3 Concentrations at Port Stations



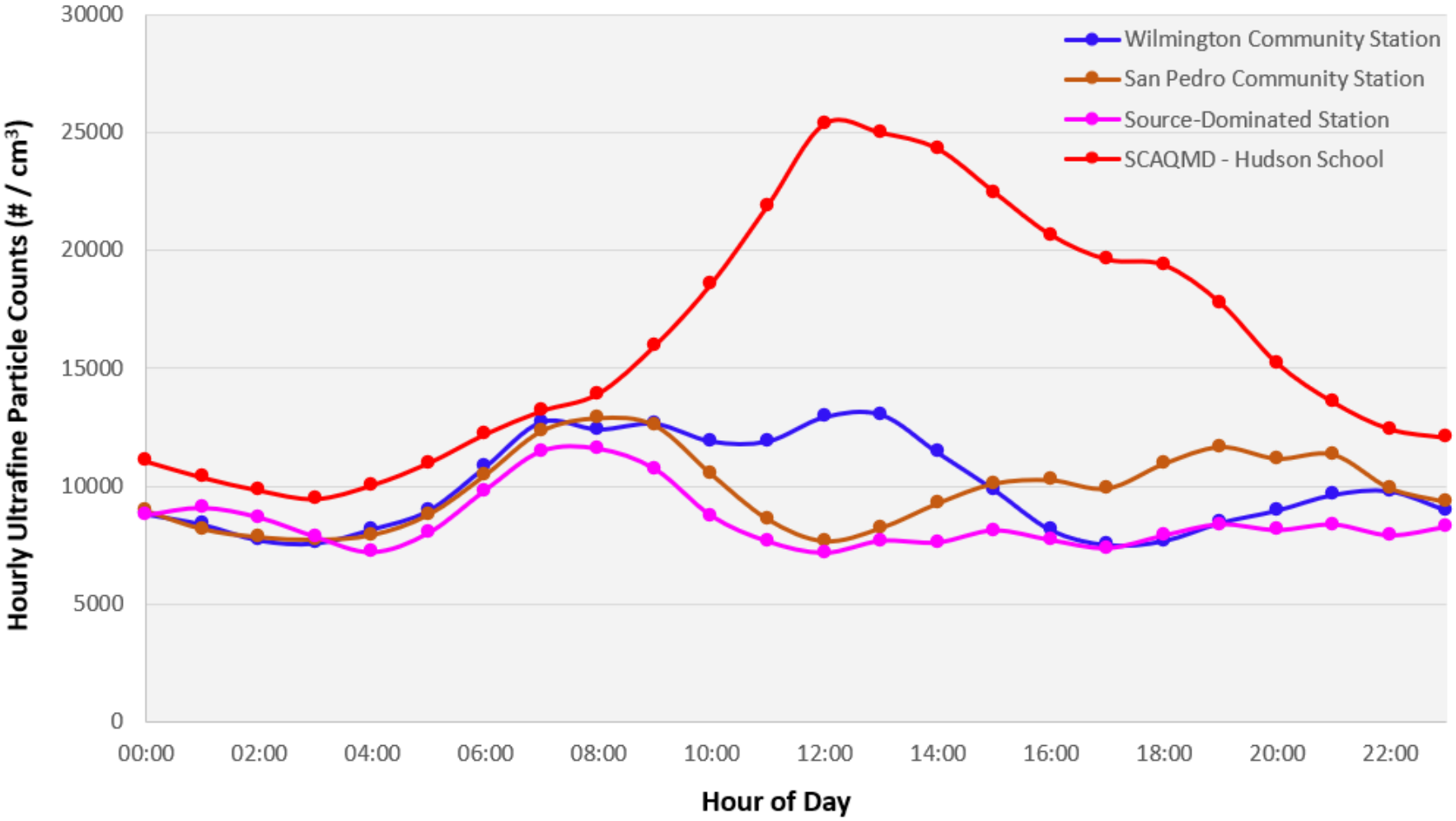
Note: Coastal Boundary O_3 measurements suspended May 2020 - October 2022.
Source-Dominated O_3 measurements suspended May 2021 - October 2022.

Year 18 - Monthly Average SO_2 Concentrations at Port Stations



Note: Coastal Boundary station was suspended May 2020 - April 2023.
Source-Dominated station was suspended May 2021 - April 2023.

Year 18 - Average Ultrafine Particle Counts by Hour of Day



Field Trip to Coastal Boundary Station

- Located at: Berth 46, 2400 Miner St, San Pedro, CA 90731
- Q1 2024

Leidos - Point of Contact

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