Attachment 3

MONTEREY BAY NATIONAL MARINE SANCTUARY

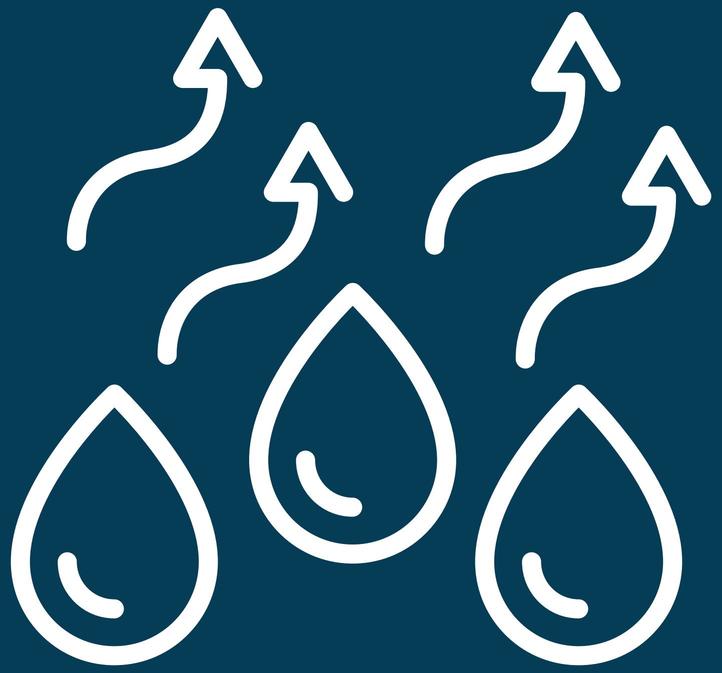
CALIFORNIA MARINE SANCTUARY FOUNDATION

DRY RUN & FIRST FLUSH MONITORING 2024-2025

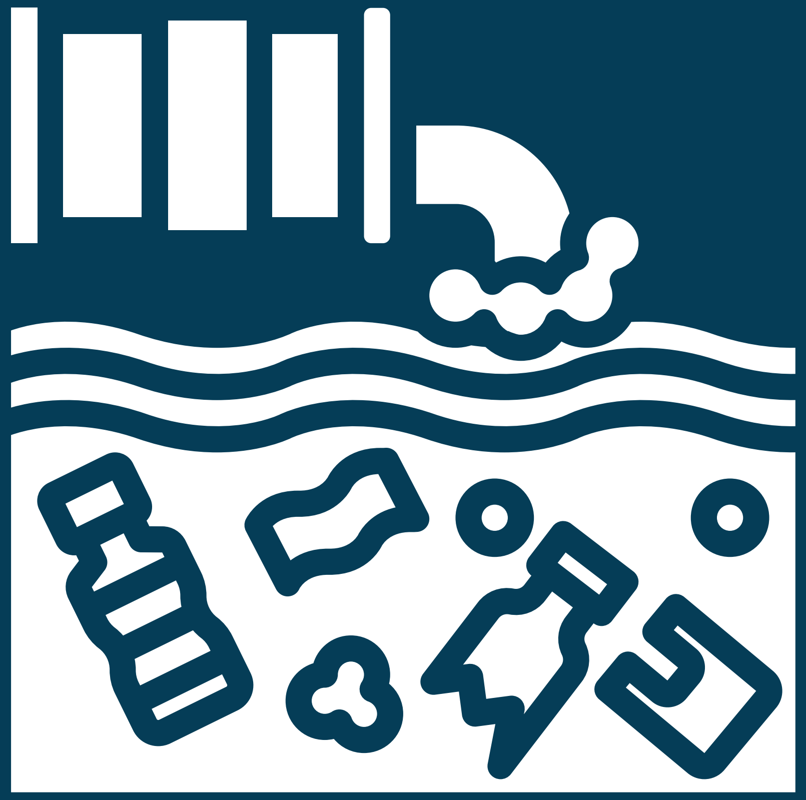
MONTEREY BAY NATIONAL MARINE SANCTUARY

CMSF CALIFORNIA MARINE SANCTUARY FOUNDATION

Why First Flush?

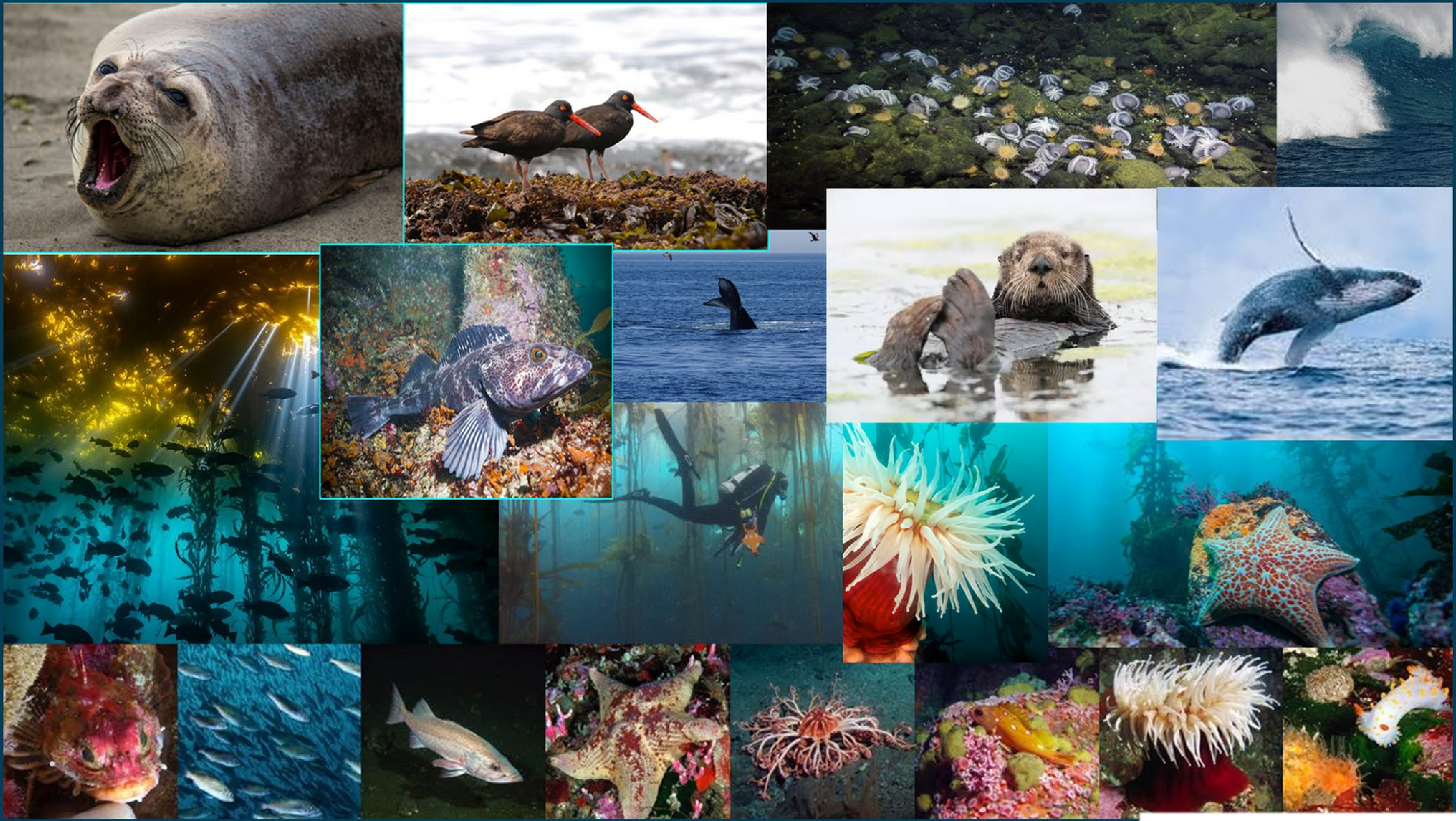


Months of dry weather pollutant accumulation



First major rain event brings pollutants

Understand subwatersheds of concern



Field Measurements

- WATER TEMPERATURE
- PH
- CONDUCTIVITY
- TRANSPARENCY
- ESTIMATED FLOW

Lab Analyses

- NUTRIENTS
- FECAL INDICATOR BACTERIA
- METALS
- CLARITY
- OTHER LIQUID WASTE IDENTIFIERS

STANDARD COMPARISON

- **SWRCB NPDES MS4 General Permit**

  Ammonia, Color, Hardness, and Potassium

- **EPA Water Quality Objectives (WQO)**

  E. coli, Enterococcus

- **Basin Plan WQO**

  Water Quality Control Plan for the Central Coast Basin, set by RWQCB: Copper, Lead, Detergents, pH, Zinc

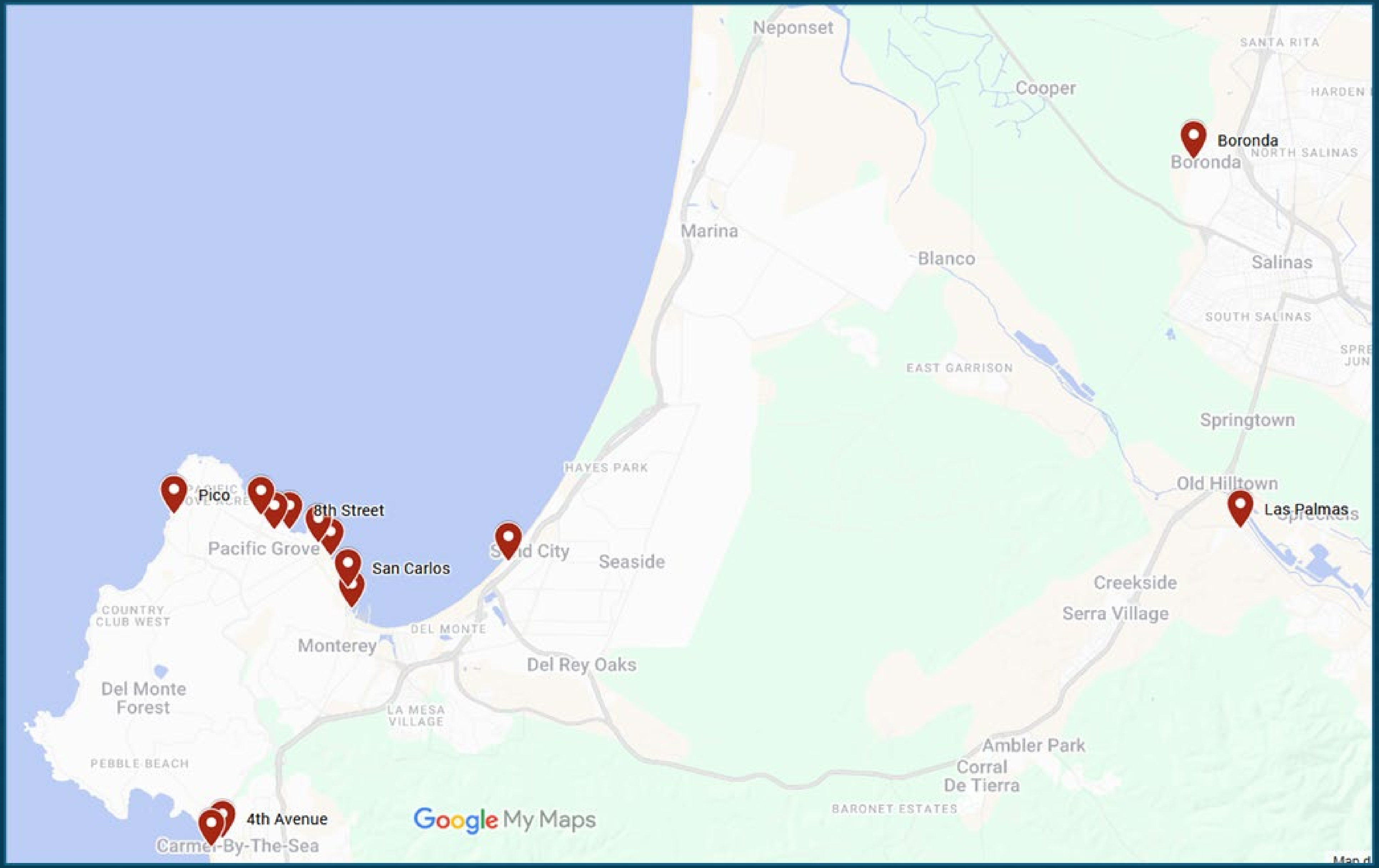
- **Action Levels**

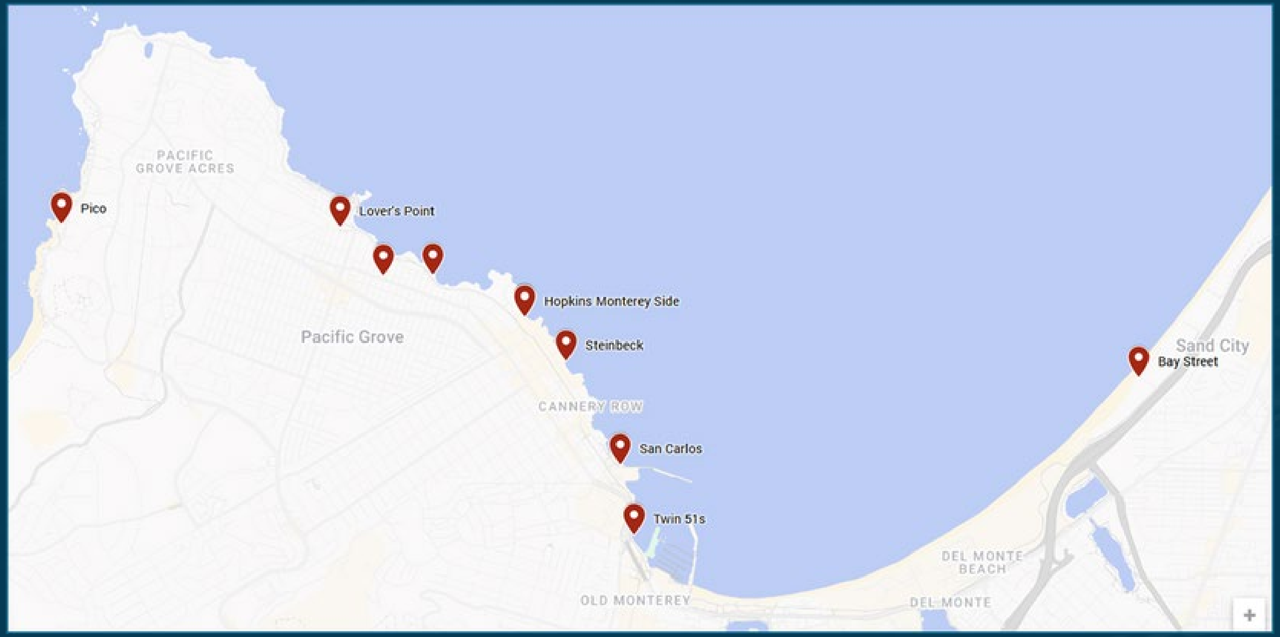
  Central Coast Ambient Monitoring Program (CCAMP): Nitrate, Orthophosphate, TSS, Transparency, and Turbidity

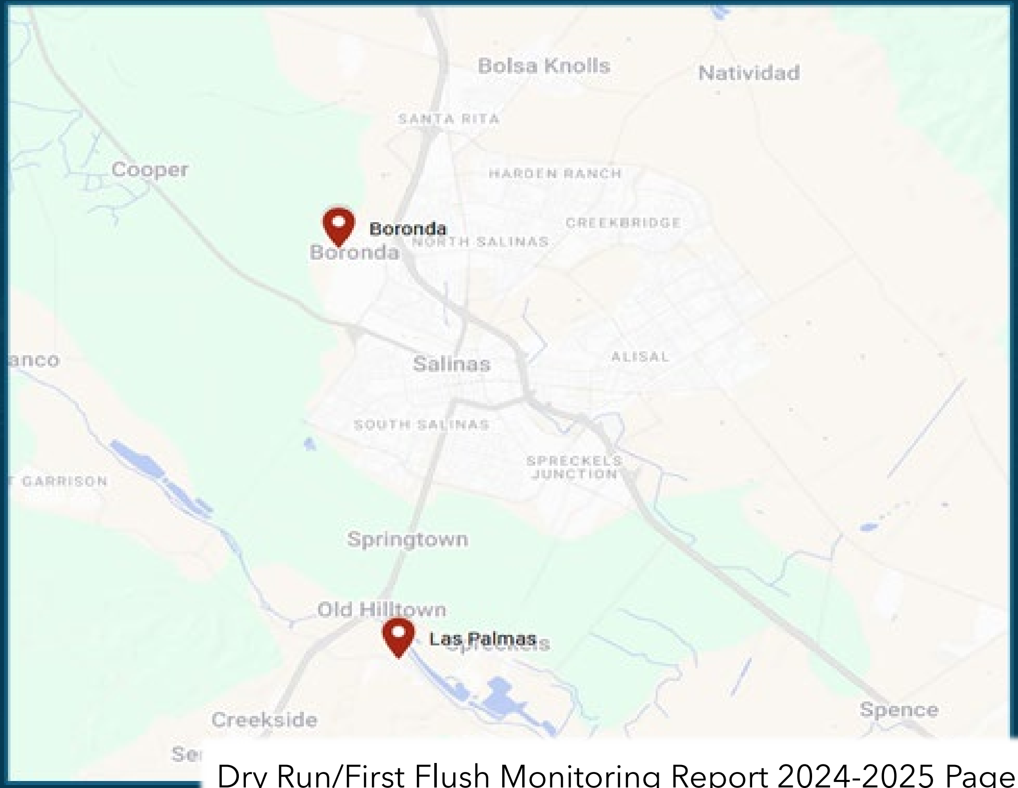
Dry Run/First Flush 2024

12 Sites, 5 Jurisdictions

BORONDA
LAS PALMAS
BAY STREET
TWINS
SAN CARLOS
STEINBECK
8TH STREET
GREENWOOD
LOVER'S POINT
PICO
4TH AVENUE
OCEAN AVENUE







2024

Dry Run:
9/28/24 and 10/2/24
12 volunteers
6/14 sites flowing

First Flush:
11/11/24 and 2/4/25
22 volunteers
12/12 sites flowing

2025

Dry Run:
9/27/25
11 volunteers
6/12 sites flowing

First Flush:
10/13/25
27 volunteers
12/12 sites flowing

2024

RESULTS BY ANALYTE

Nutrients

- Nitrate
- Orthophosphate
- Ammonia
- Urea

Nitrate

CCAMP Action Level: < 2.25 mg - N/L

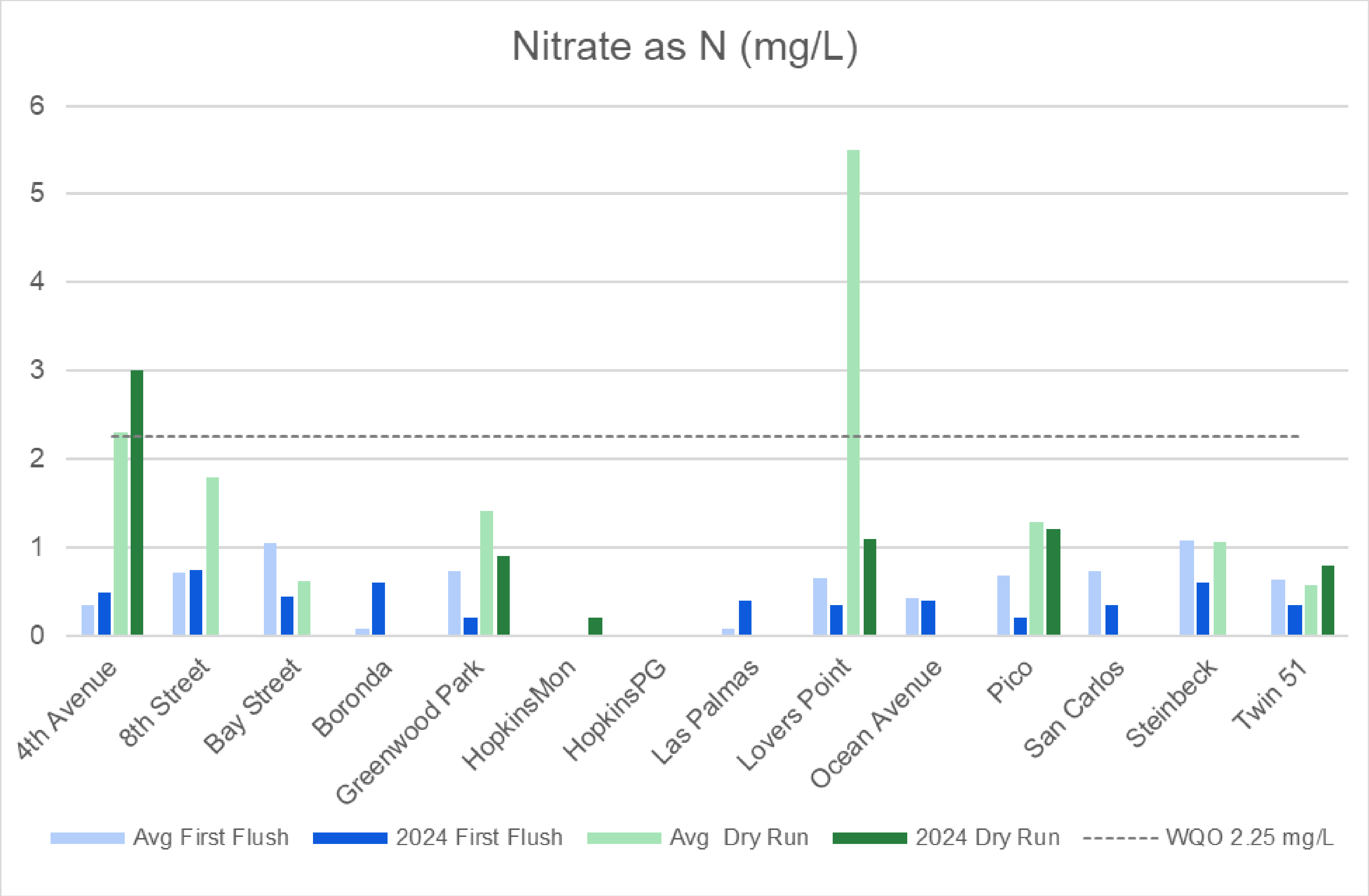
Exceeded:

Dry Run: 4th Ave in Carmel (3 mg/L)

First Flush: No exceedances

2025:

No First Flush exceedances



Orthophosphate

CCAMP Action Level: < 0.12 mg - P/L

Exceeded:

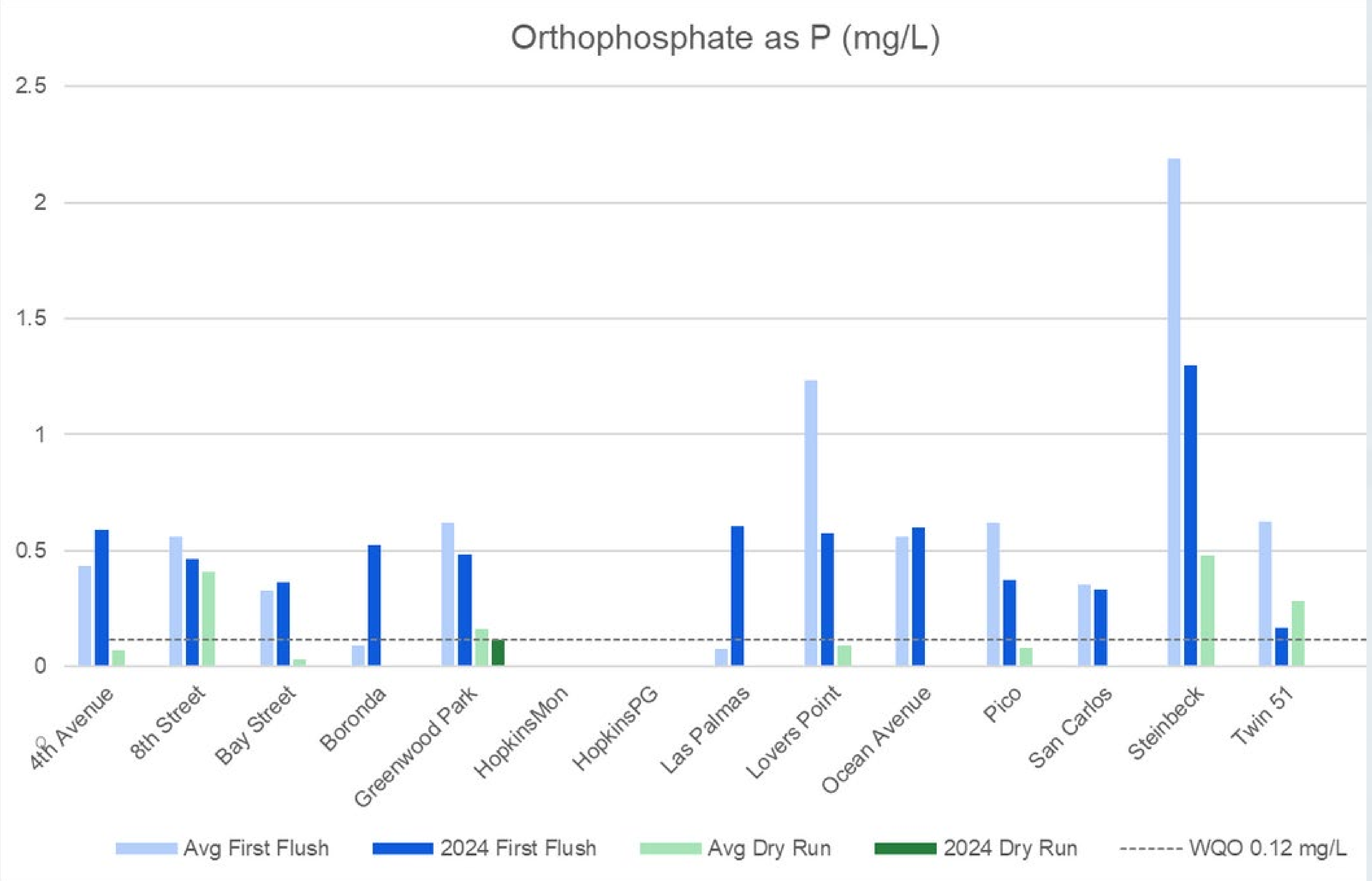
Dry Run: None

First Flush: All sites exceeded

Highest average result of 1.3 mg/L was at Steinbeck in Monterey

2025:

All FF sites exceeded, Steinbeck highest

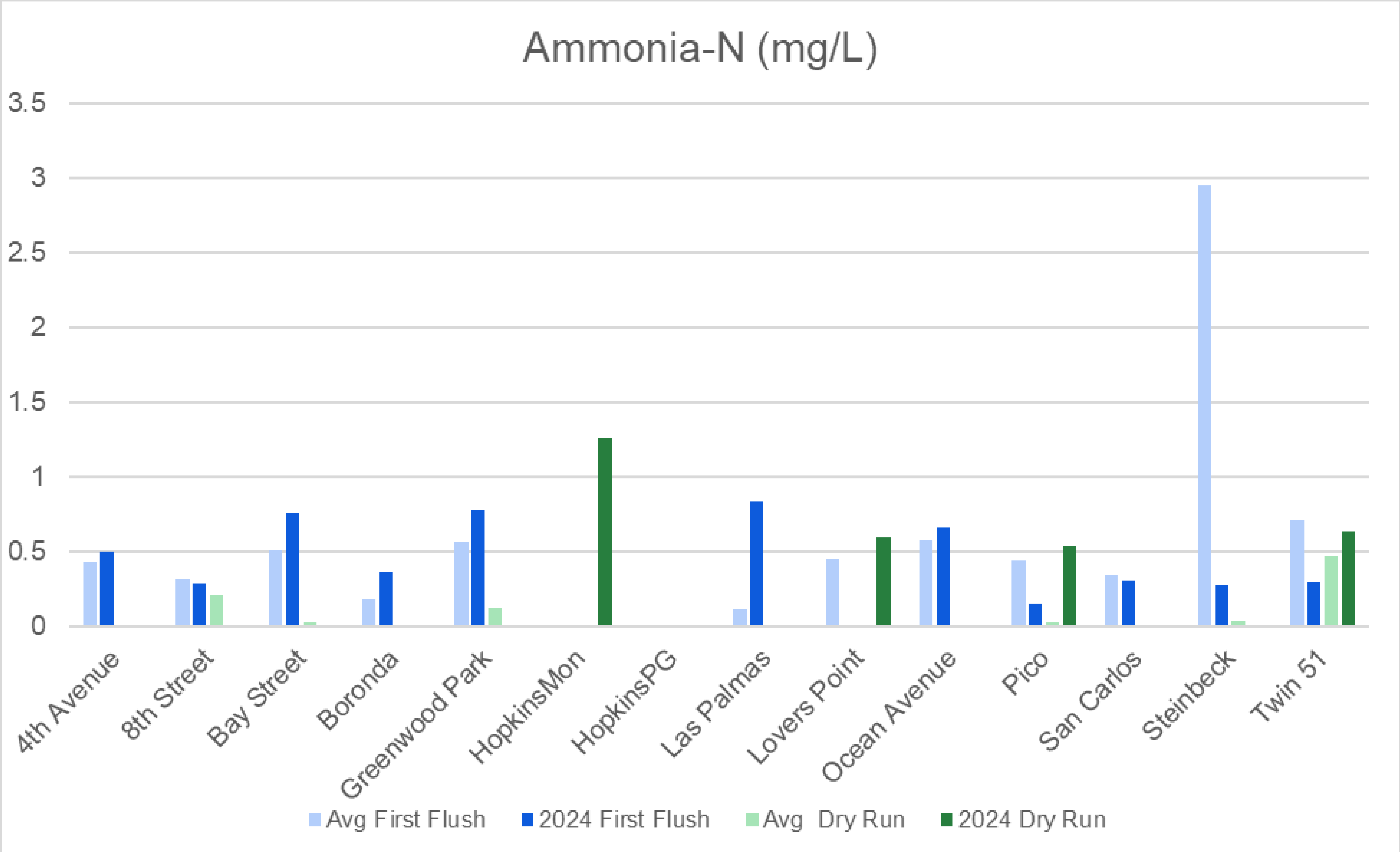


Ammonia

NPDES MS4 Action Level: < 50 mg - N/L

Exceeded:

Dry Run and First Flush: None in 2024 or 2025



Urea

No established Action Level or WQO

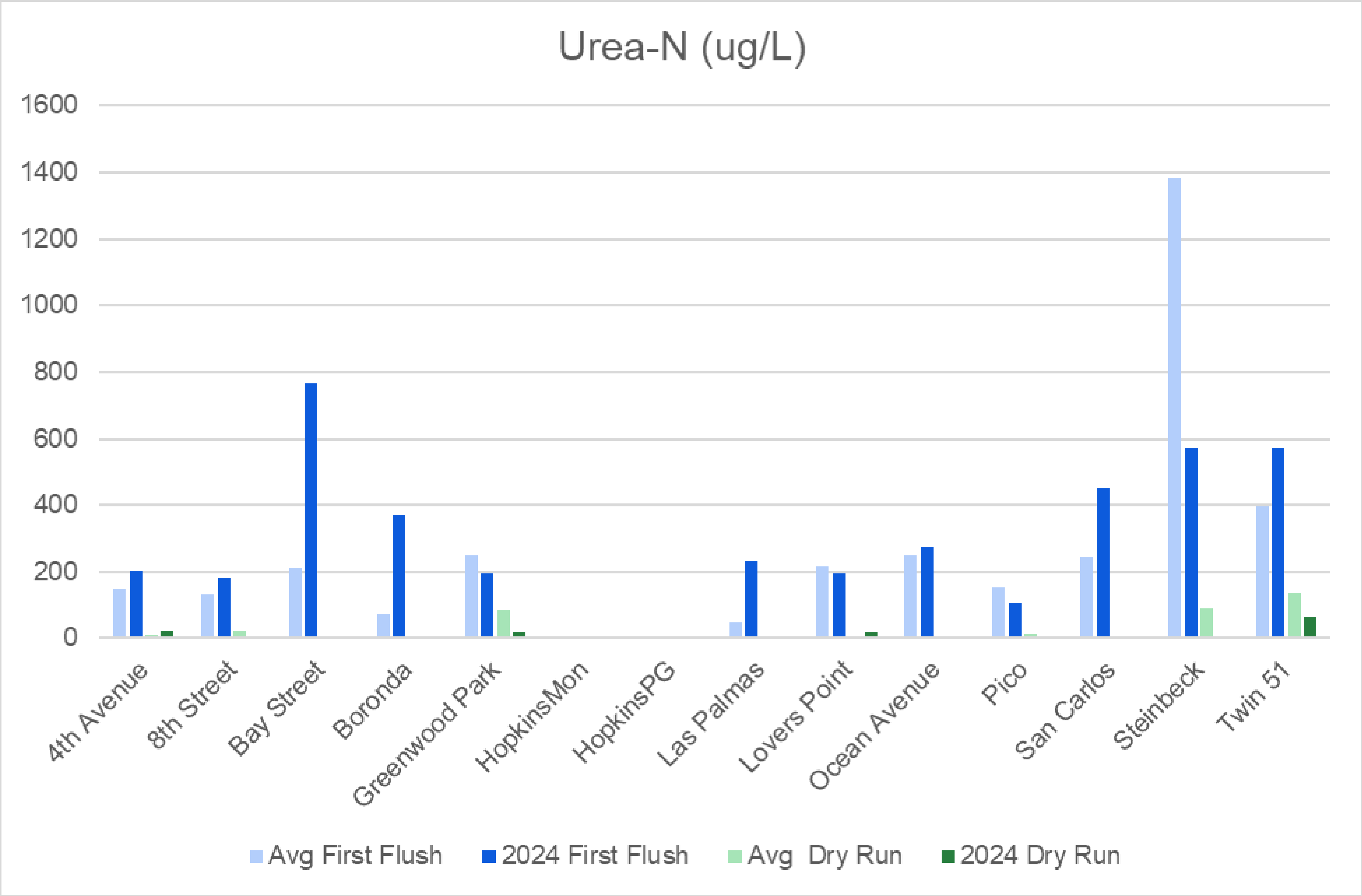
Concentrations compared between sites

Dry Run: Highest result from Twin 51s in Monterey (65 µg/L)

First Flush: Highest result from Bay St in Seaside/Sand City (765 µg/L)

2025:

Highest FF value at Steinbeck (537µg/L)



Metals

- Copper
- Lead
- Zinc

Copper

Basin Plan WQO: < 30 µg/L

Exceeded:

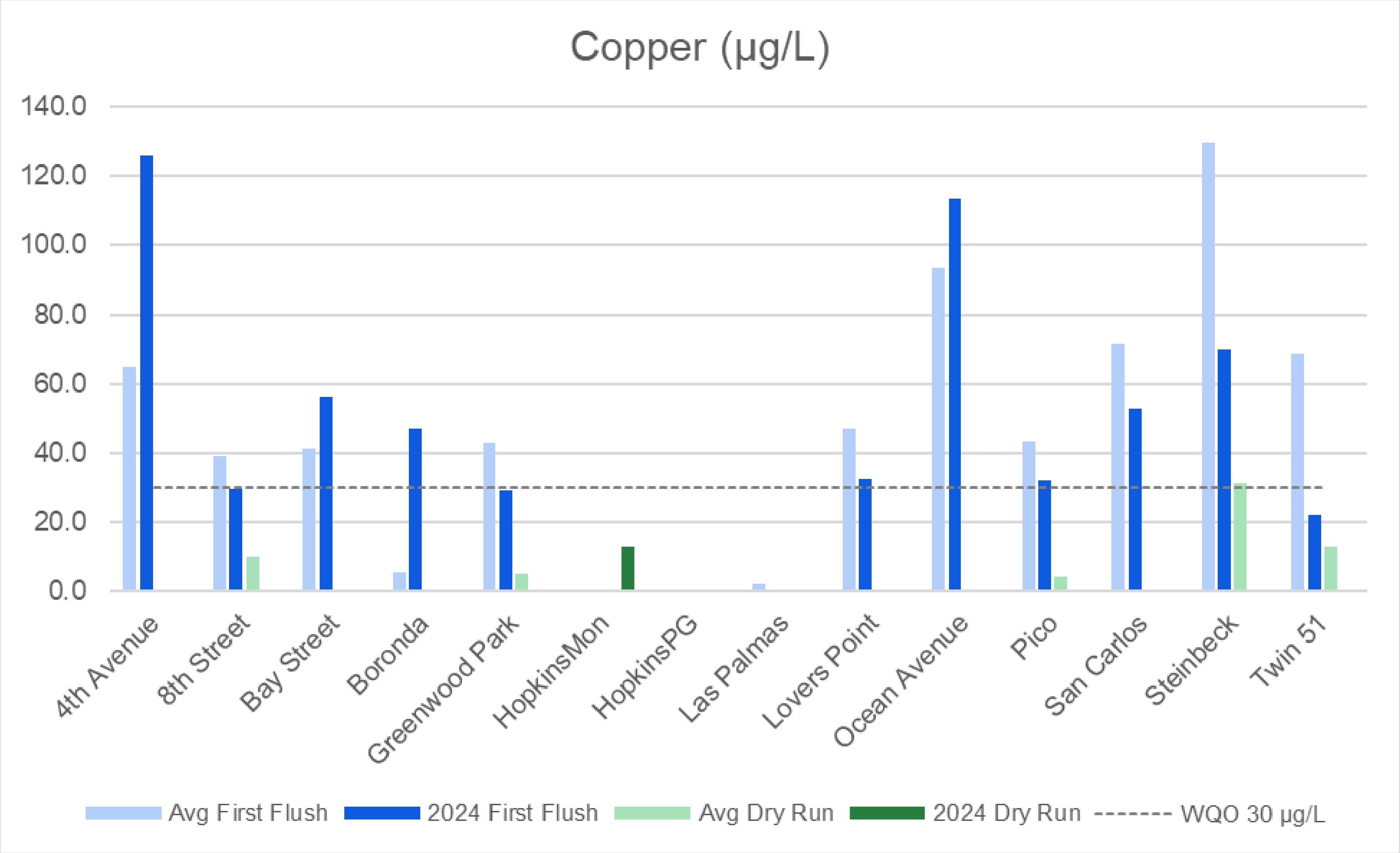
Dry Run: No sites exceeded

First Flush: 8/12 outfall sites exceeded, highest result of 126 µg/L from 4th Ave in Carmel

2025:

6/12 FF sites exceeded

Ocean Ave highest



Lead

Basin Plan WQO: < 30 µg/L

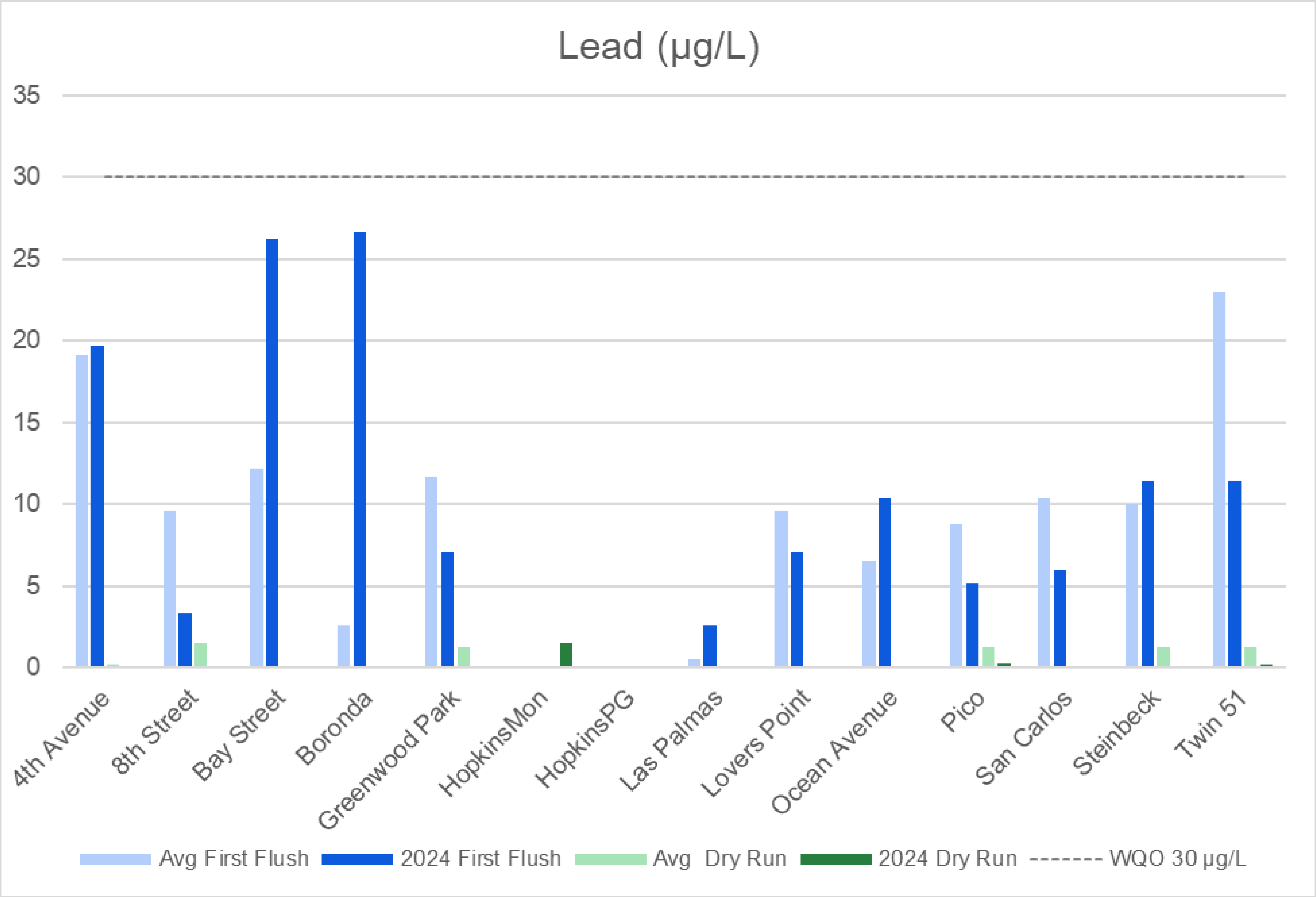
Exceeded:

Dry Run: No sites exceeded

First Flush: No sites exceeded, highest average concentration at Boronda in Salinas (26.7µg/L)

2025:

One FF exceeded at Twins (86.8 µg/L)



Zinc

Basin Plan WQO: < 200 µg/L

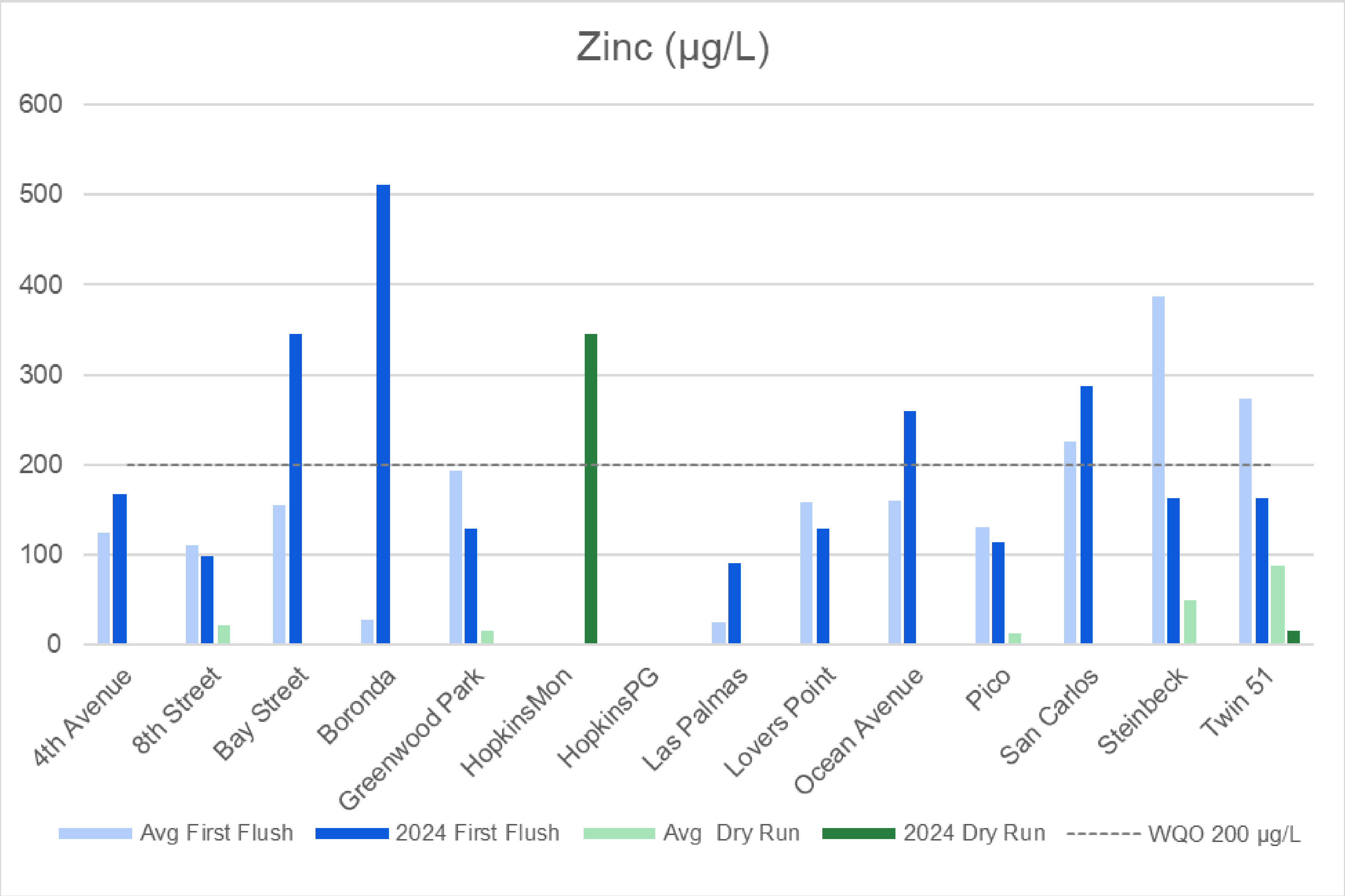
Exceeded:

Dry Run: Hopkins in Monterey (346µg/L)

First Flush: Ocean Ave, San Carlos, Bay St, Boronda (512 µg/L)

2025:

3 FF exceedances, Twins highest



Clarity

- Color
- Total Suspended Solids
- Turbidity

Color

NPDES MS4 Permit Action Level:

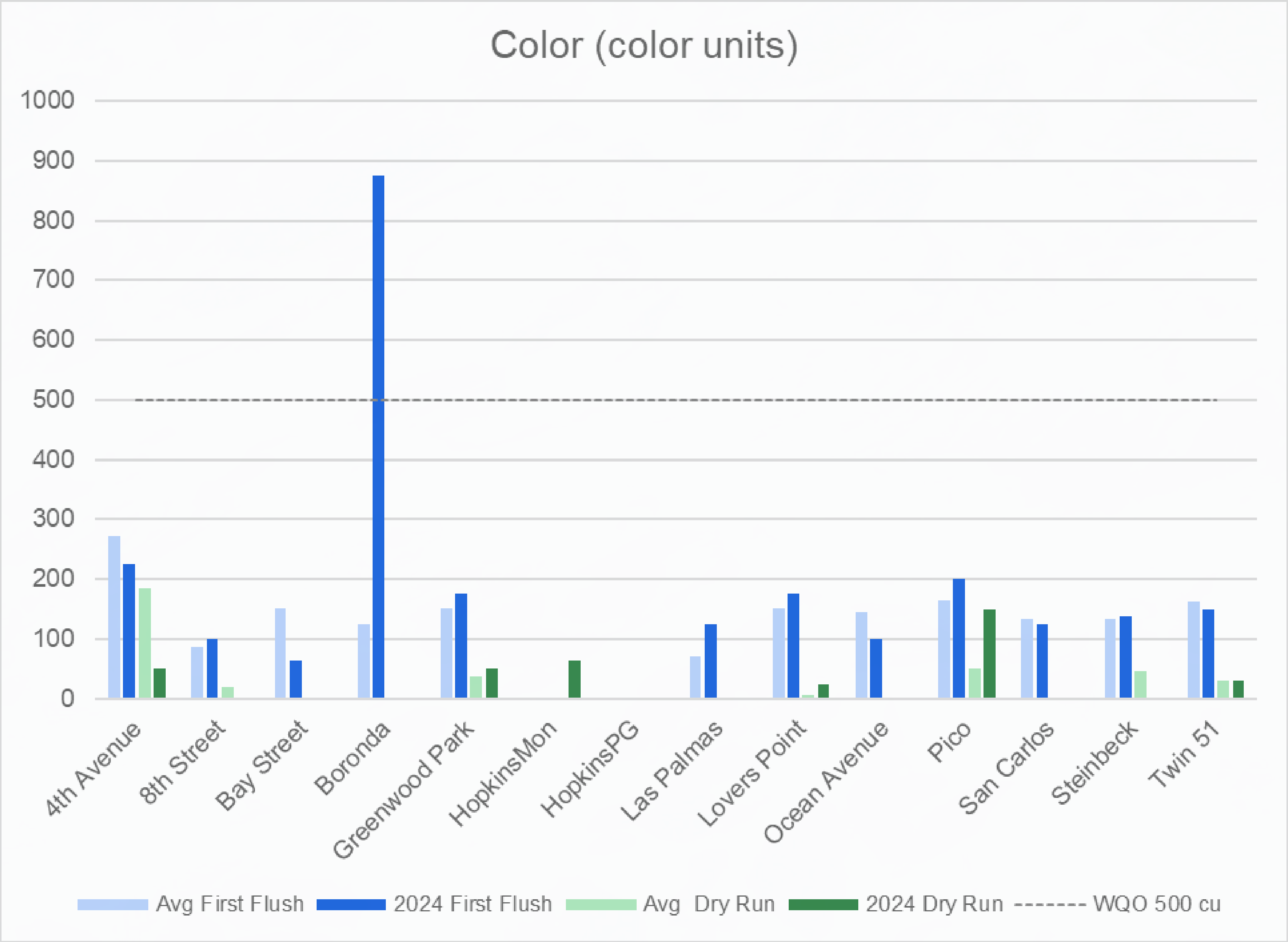
<500 color units

Exceeded:

Dry Run: None

First Flush: Boronda in Monterey County (875 cus)

2025: None



Total Suspended Solids

CCAMP Action Level: < 500 mg/L

Exceeded:

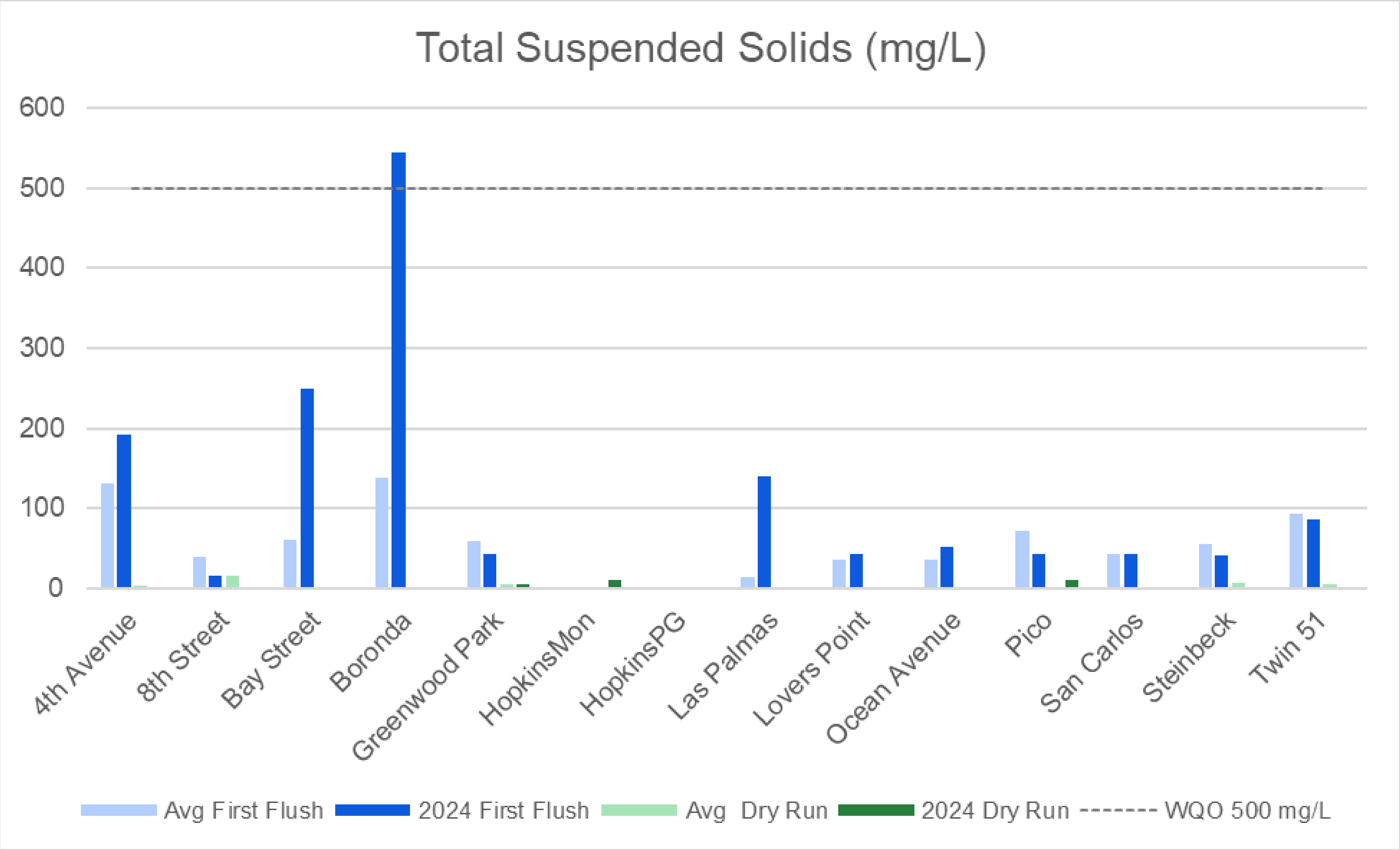
Dry Run: No sites exceeded

First Flush:

Boronda in Monterey County

(545 mg/L)

2025: None, Boronda highest again



Turbidity

CCAMP Action Level: < 25 NTU

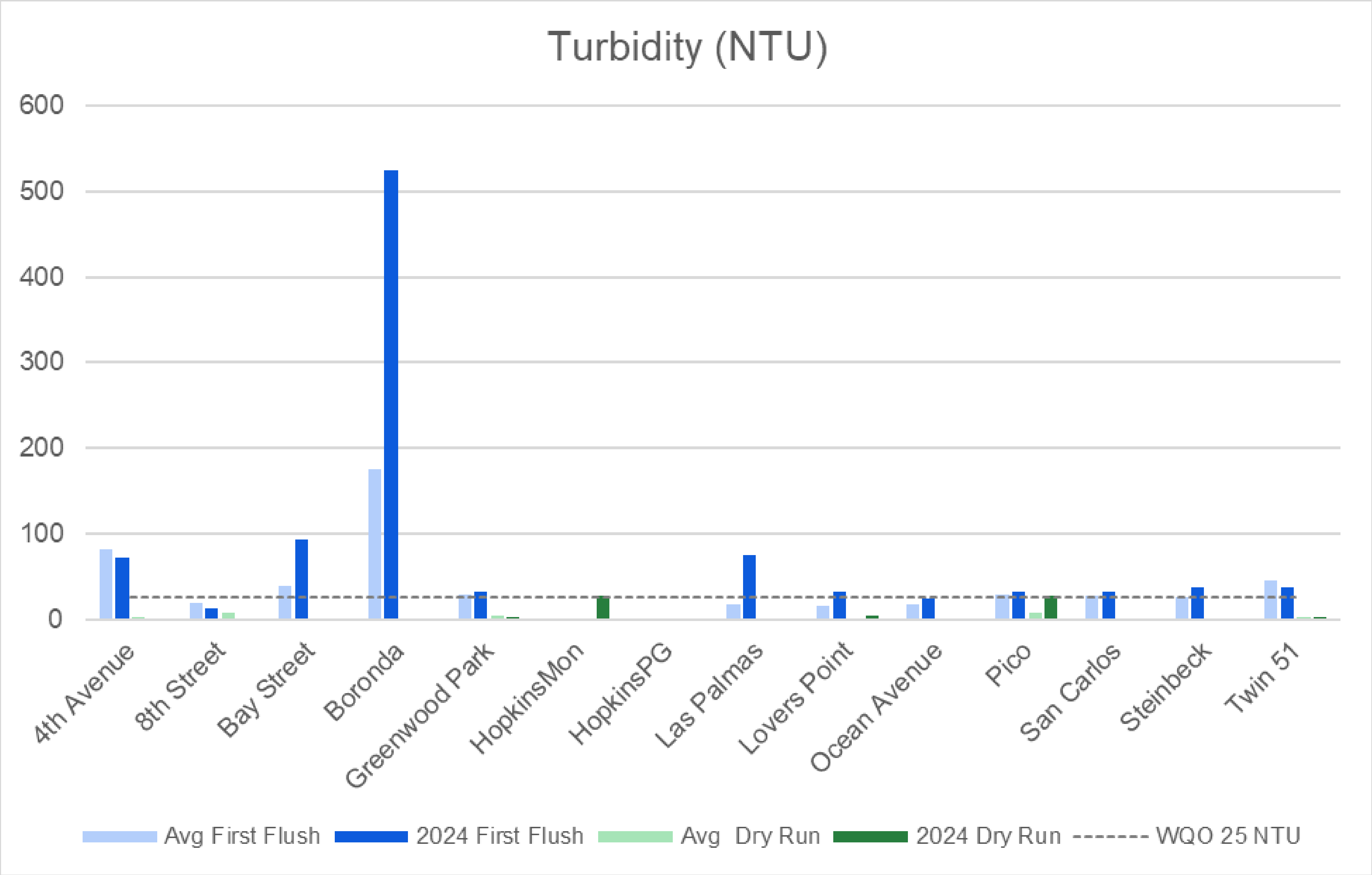
Exceeded:

Dry Run: Pico in Pacific Grove (27 NTU)

First Flush: Ten sites exceeded, Boronda highest (525 NTU)

2025:

Only 5 FF sites exceeded



Fecal Indicator Bacteria (FIB)

- E. Coli
- Enterococcus

E. Coli

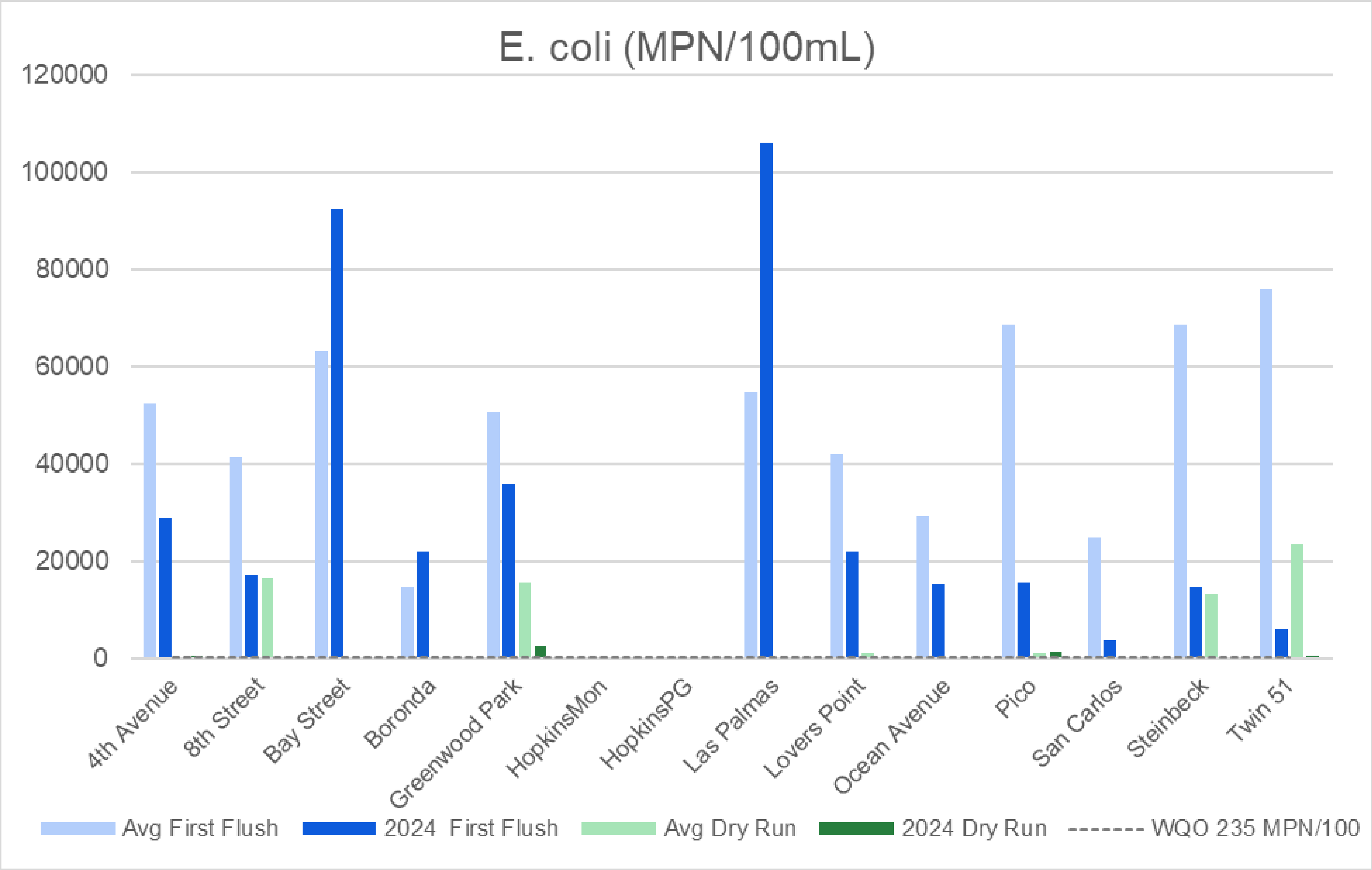
EPA WQO: < 235 MPN/100mL

Exceeded:

Dry Run: 4/6 sites exceeded, Greenwood Park in Pacific Grove highest at 2,518 MPN/100mL

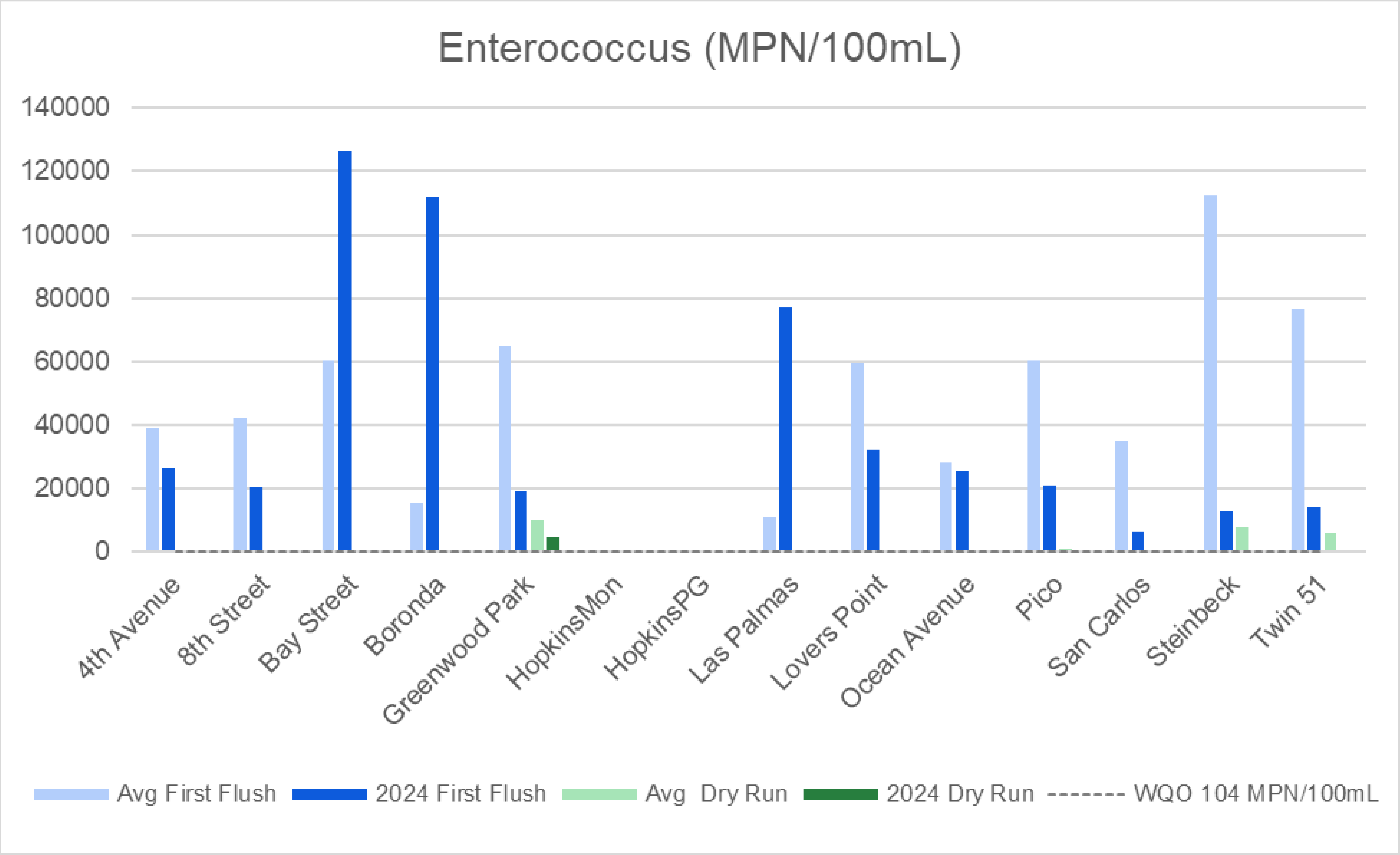
First Flush: All sites exceeded, Las Palmas highest result of 106,205 MPN/100mL

2025: All sites exceeded



Enterococcus

EPA WQO: < 104 MPN/100mL



Exceeded:

Dry Run: Three sites Greenwood Park in Pacific Grove (4,764 MPN/100mL) highest

First Flush: All sites

Bay St in Seaside/Sand City highest (126,675 MPN/100mL)

2025: All sites exceeded

Other Liquid Waste Identifiers

- Hardness (as $CaCO_3$)
- MBAS Surfactants
- Potassium

Hardness

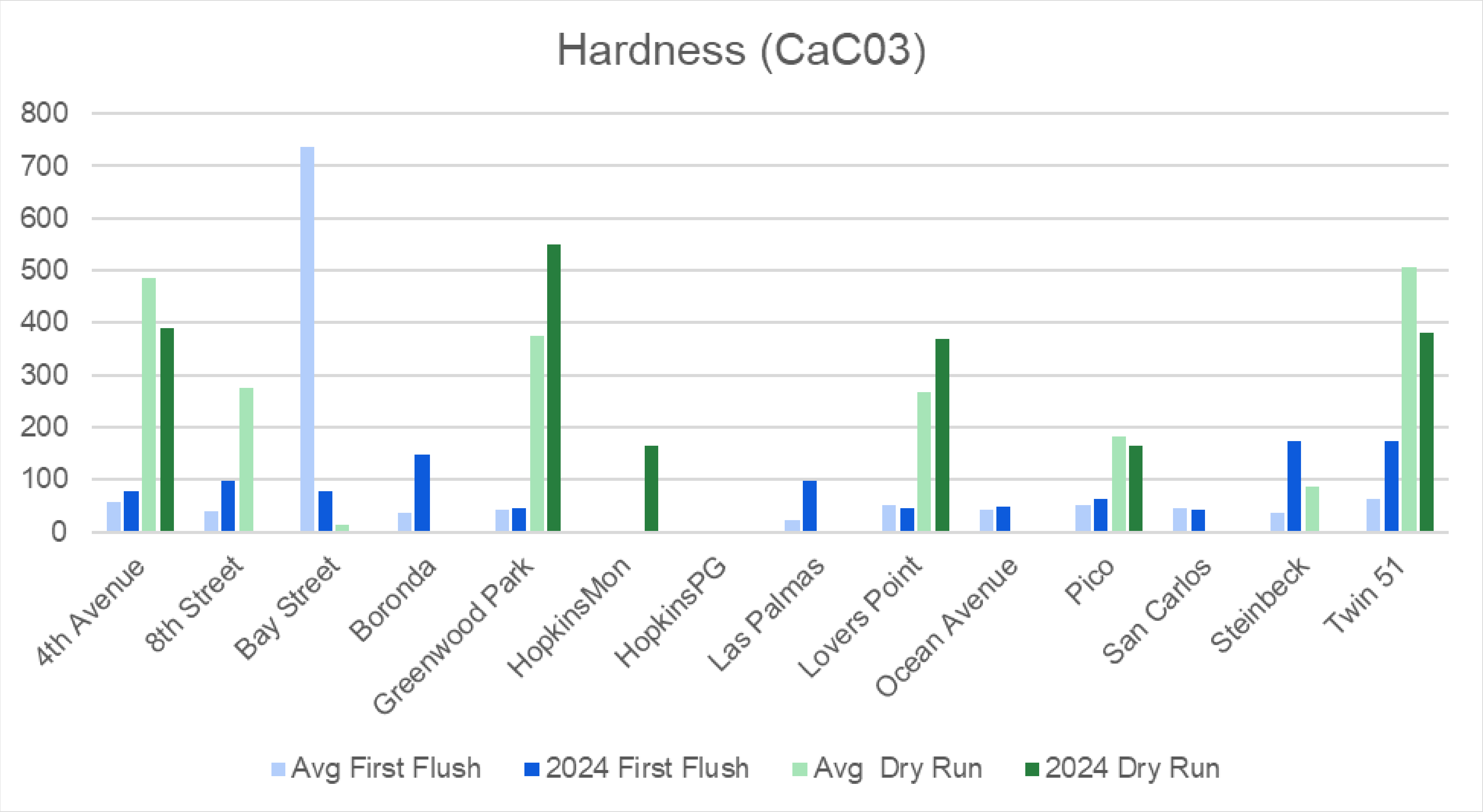
NPDES MS4 Permit Action Level:

Not ≤ 10 or ≥ 2,000 mg/L

Exceeded:

Dry Run and First Flush: None

2025: None exceeded



Potassium

SWRCB NPDES MS4 General

Permit Action Level: < 20 mg/L

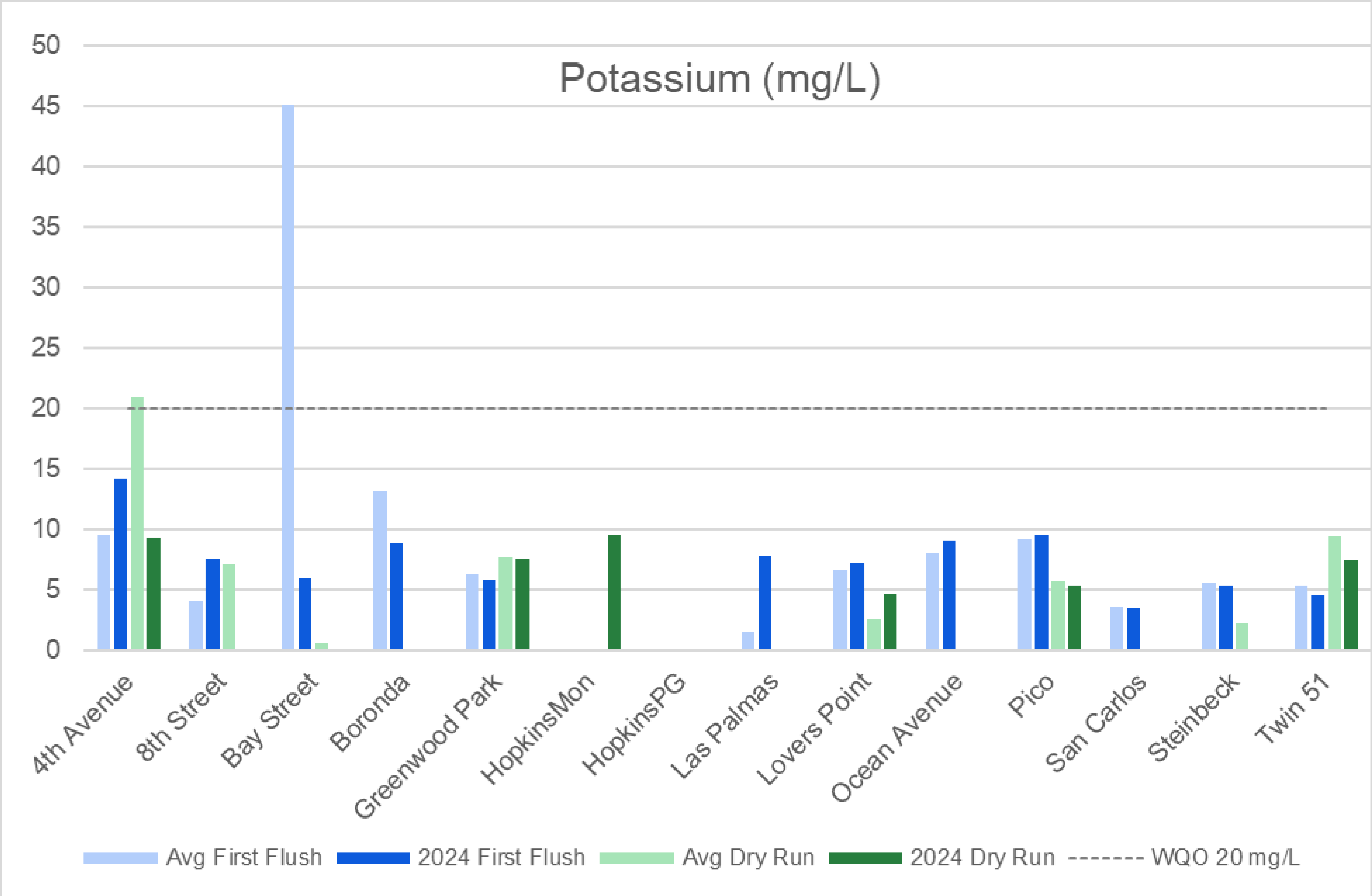
Exceeded:

Dry Run/First Flush: None

2025:

DR exceedance at Greenwood, Las Palmas

FF exceedance at Bay St



MBAS Surfactants

Basin Plan WQO: < 0.2 mg/L

Exceeded:

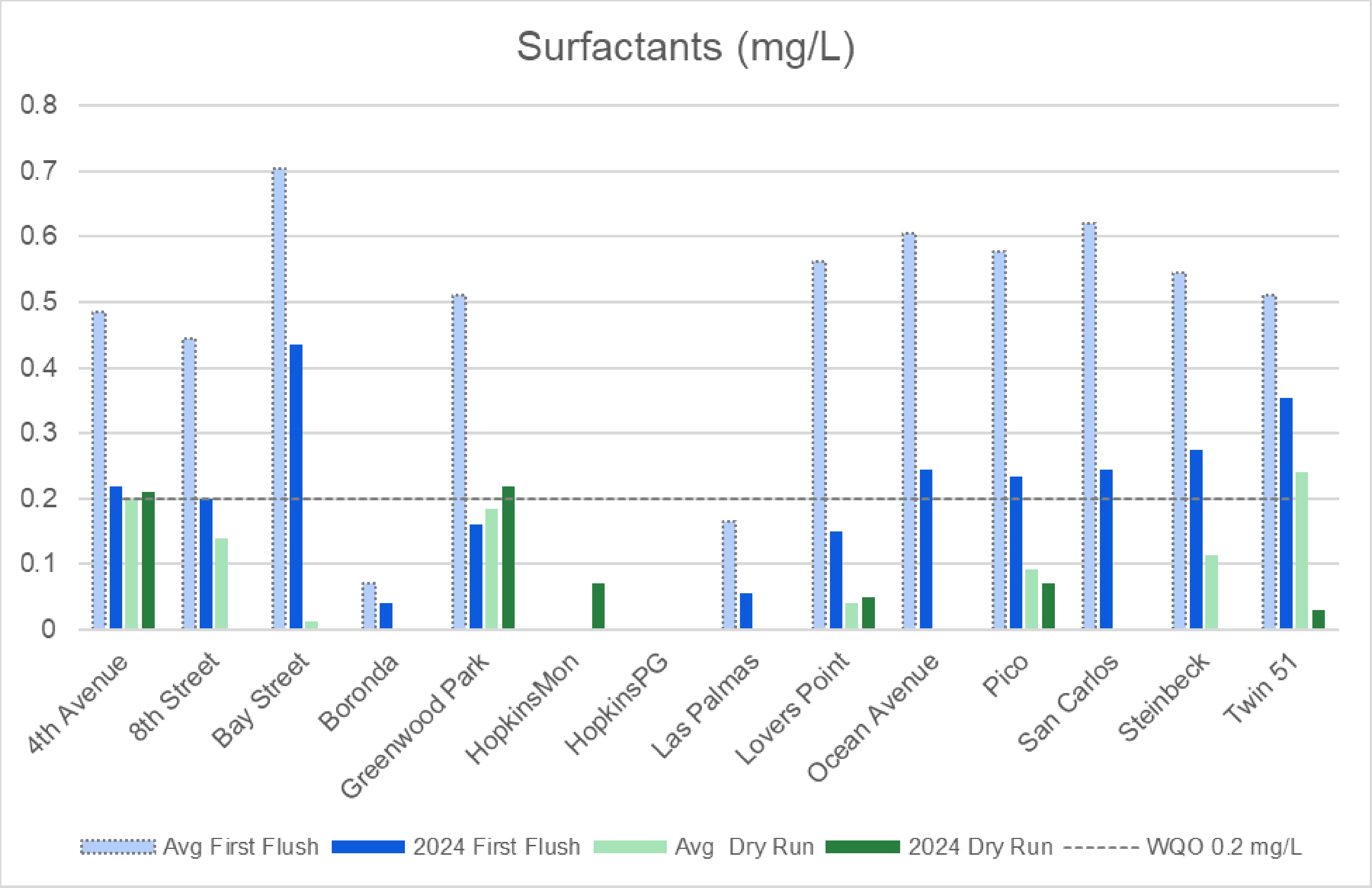
Dry Run: Greenwood Park (0.22 mg/L) and 4th Ave (0.21 mg/L)

First Flush: Seven sites, Bay St in Seaside/Sand City highest (0.435 mg/L)

2025:

10/12 FF sites exceeded

Bay St highest



Analytes that did not exceed any standards in any 2024 sample

DRY RUN

- Orthophosphate
- Ammonia
- Copper
- Lead
- Color
- TSS
- Hardness
- Potassium

FIRST FLUSH

- Nitrate
- Ammonia
- Lead
- Hardness
- Potassium

Analytes that exceeded standards for all 2024 samples

DRY RUN

- None

FIRST FLUSH

- Orthophosphate
- E. coli
- Enterococcus

Snapshot Day 2024 (May) and 2025 (July)

Site	Description	Year	E.coli (MPN/100)	Nitrate (mg/L)	Orthophosphate (mg/L)
309-MAJOR-31	Majors Creek lower	2024	402	ND	ND
		2025	Dry	Dry	Dry
309-LIBRA-31	Library or Hartnell Gulch behind Monterey City library	2024	370	0.36	ND
		2025	9768	0.5	ND
309-CENTR-31	Greenwood Park at Central and 13th St in Pacific Grove	2024	141,360	0.6	0.69
		2025	>48,400	0.5	ND
309-ASILO-31	Asilomar State Park at bridge	2024	34,658	0.3	ND
		2025	10,344	0.6	ND

- All samples exceeded E. coli threshold (235 MPN/100)
- Only one nutrient exceedance: Orthophosphate at Greenwood Park

QUESTIONS FOR MRSWMP

1) How are sites selected each year? Are any missing?
2) Should we continue Hopkins sites?
3) How do two non-coastal (MoCo) sites fit in?
4) Do you use this data other than for permit reporting?
5) Are there BMPs or community education campaigns that would benefit multiple jurisdictions?

QUESTIONS AND COMMENTS