

# Group Annual Report (2025)

Overview of Changes to Report Structure and Preliminary Results



2026-01-05

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# Outline

- Revised Group Annual Report Structure
- Results for 2025 (Preliminary)
- Trending Analysis (Preliminary)

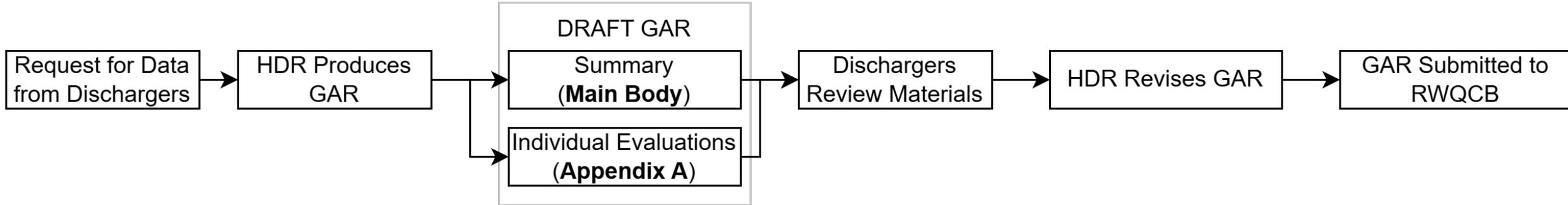


# Revised Group Annual Report Structure

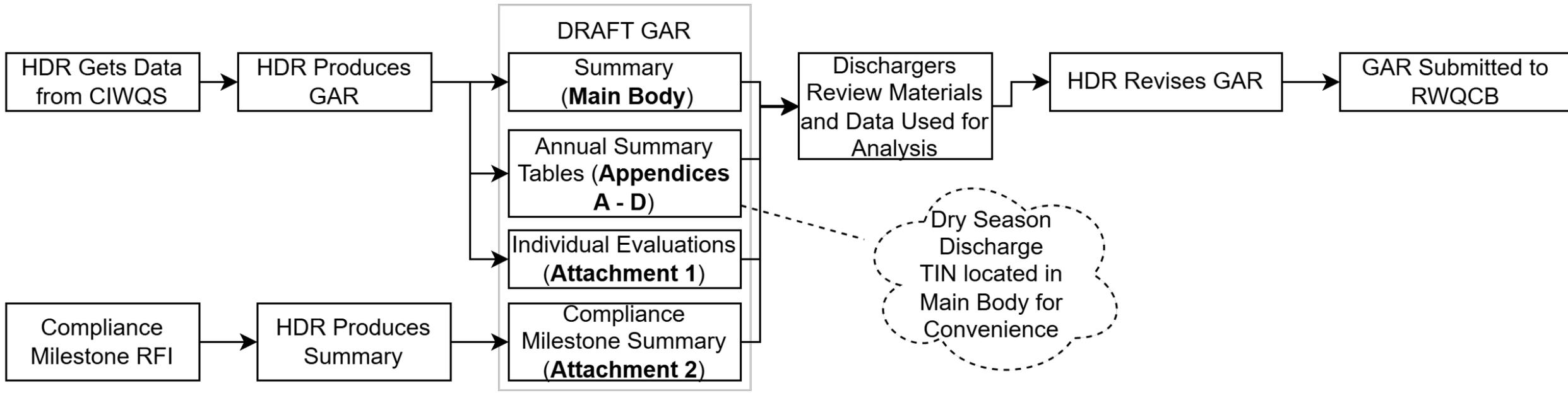
- Goal of revision is to improve the flow, readability, and usability.
- Key changes:
  - Addition of Executive Summary.
  - Plot style updated.
  - Expanded Introduction section to provide more historical context.
  - Expanded Approach section to provide more clarity on methods.
  - Population trending added to discussion.
  - Restructuring:
    - Large annual average tables moved from main body to appendices.
    - Individual evaluations are now “Attachment 1” (previously known as Appendix A)
    - Compliance milestone summary is now “Attachment 2” (previously known as Appendix B)

# Revised Group Annual Report Structure

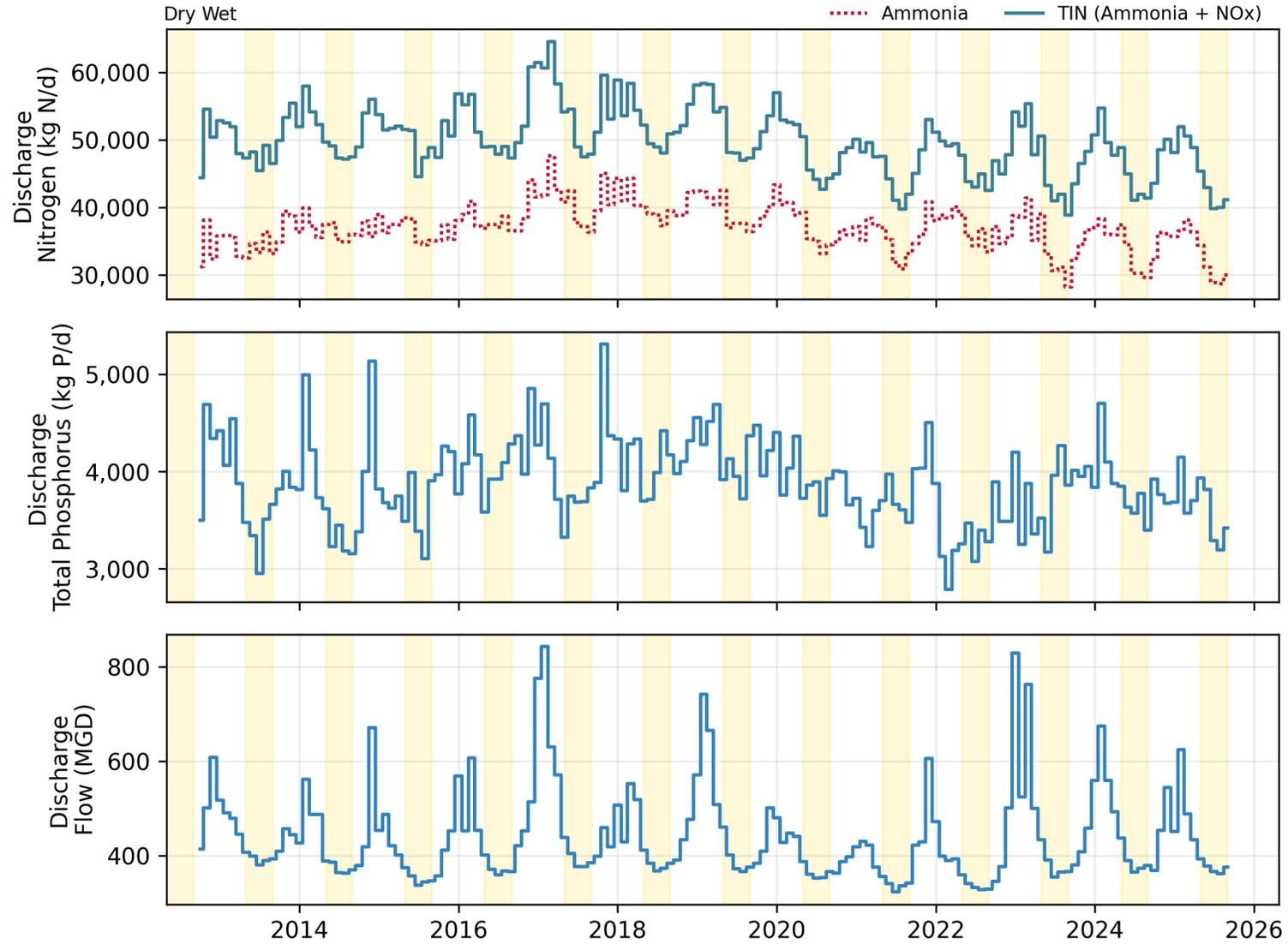
## Historical



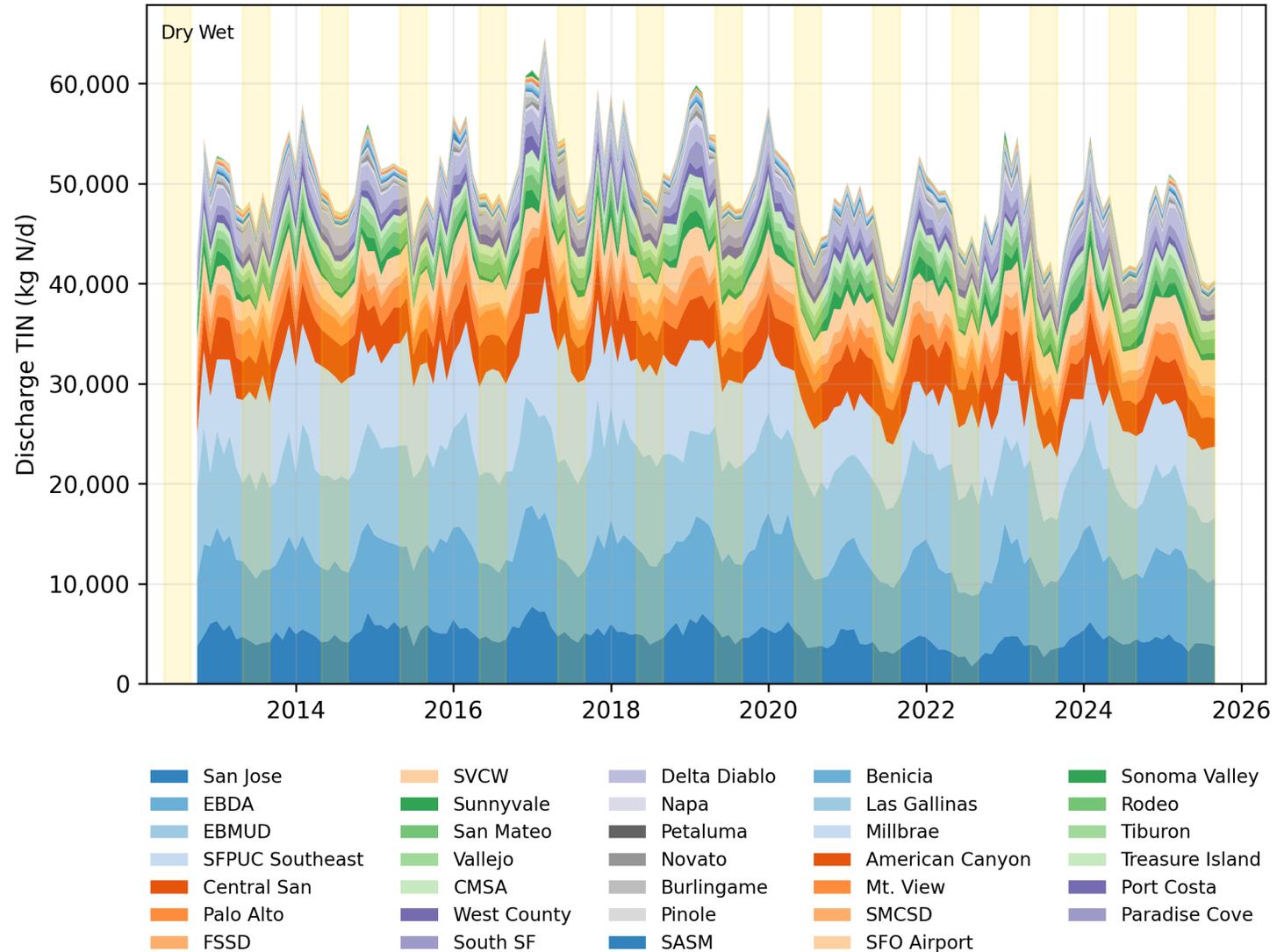
## Current



# Preliminary Results

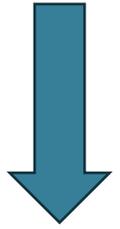


# Preliminary Results – TIN



# Preliminary Results – Dry Season Discharge

- May 1 through September 30



| Constituent                | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   | 2023   | 2024   | 2025          | Average |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------------|---------|
| Flow, mgd                  | 393    | 374    | 351    | 372    | 396    | 383    | 394    | 363    | 339    | 337    | 381    | 388    | <b>374</b>    | 371     |
| Ammonia, kg N/d            | 34,000 | 36,300 | 36,200 | 37,300 | 38,900 | 38,900 | 38,200 | 35,400 | 33,600 | 35,800 | 32,400 | 32,400 | <b>30,600</b> | 35,500  |
| NO <sub>x</sub> , kg N/d   | 13,300 | 11,800 | 12,500 | 11,100 | 11,700 | 11,000 | 10,800 | 10,000 | 9,290  | 8,540  | 10,700 | 11,200 | <b>11,200</b> | 10,800  |
| TIN, kg N/d <sup>(d)</sup> | 47,300 | 48,100 | 48,700 | 48,400 | 50,600 | 50,000 | 49,200 | 45,700 | 43,100 | 44,400 | 43,300 | 43,700 | <b>41,700</b> | 46,400  |
| TP, kg P/d                 | 3,400  | 3,320  | 3,570  | 3,960  | 3,660  | 4,000  | 4,010  | 3,790  | 3,680  | 3,300  | 3,760  | 3,650  | <b>3,530</b>  | 3,690   |

# Preliminary Results – Dry Season Discharge

- May 1 through September 30



| Constituent                | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   | 2023   | 2024   | 2025          | Average |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------------|---------|
| Flow, mgd                  | 393    | 374    | 351    | 372    | 396    | 383    | 394    | 363    | 339    | 337    | 381    | 388    | <b>374</b>    | 371     |
| Ammonia, kg N/d            | 34,000 | 36,300 | 36,200 | 37,300 | 38,900 | 38,900 | 38,200 | 35,000 |        |        |        | 32,400 | <b>30,600</b> | 35,500  |
| NO <sub>x</sub> , kg N/d   | 13,300 | 11,800 | 12,500 | 11,100 | 11,700 | 11,000 | 10,800 | 10,000 |        |        |        | 11,200 | <b>11,200</b> | 10,800  |
| TIN, kg N/d <sup>(d)</sup> | 47,300 | 48,100 | 48,700 | 48,400 | 50,600 | 50,000 | 49,200 | 45,700 | 43,100 | 44,400 | 43,300 | 43,700 | <b>41,700</b> | 46,400  |
| TP, kg P/d                 | 3,400  | 3,320  | 3,570  | 3,960  | 3,660  | 4,000  | 4,010  | 3,790  | 3,680  | 3,300  | 3,760  | 3,650  | <b>3,530</b>  | 3,690   |

Calculated using  
Monthly Averages  
(Historical Method)

# Preliminary Results – Dry Season Discharge

- May 1 through September 30

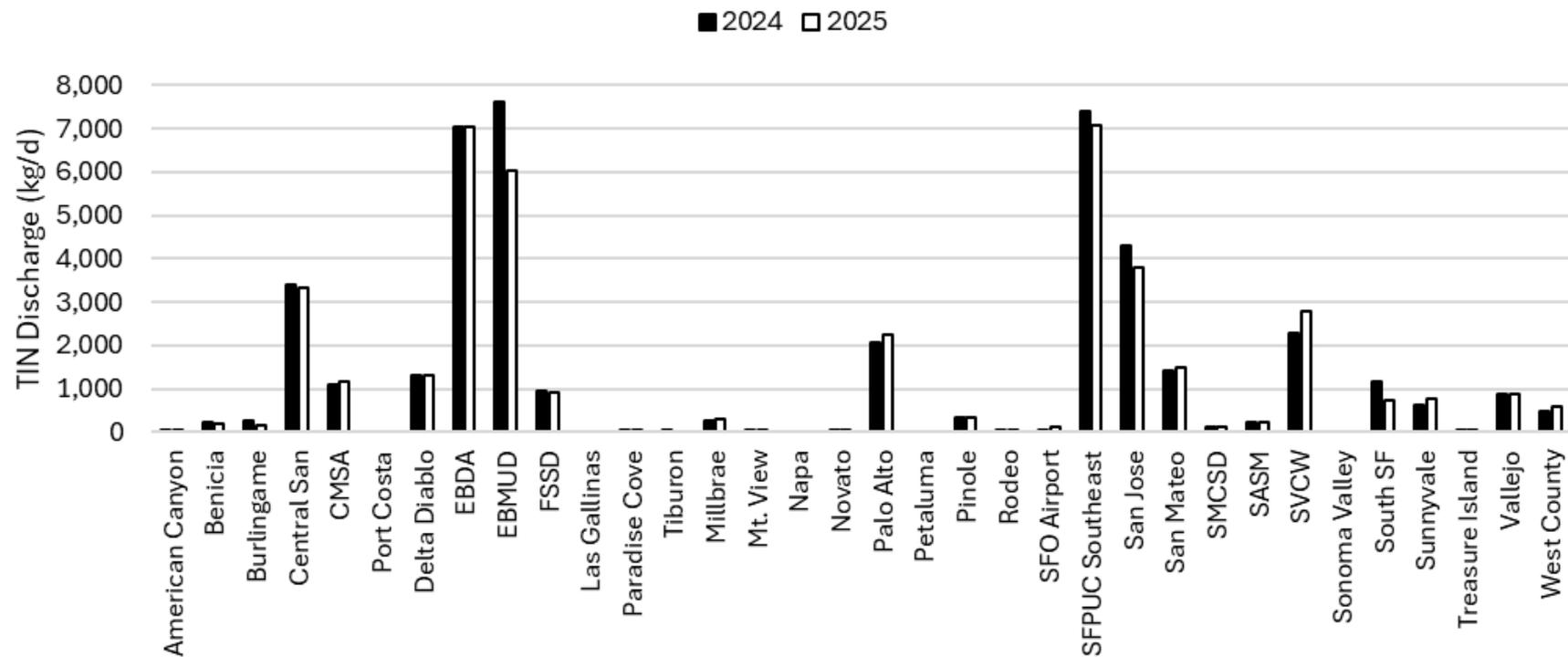


| Constituent                | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   | 2023   | 2024   | 2025            | Average |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|---------|
| Flow, mgd                  | 393    | 374    | 351    | 372    | 396    | 383    | 394    | 363    | 339    | 337    | 381    | 388    | <b>374</b>      | 371     |
| Ammonia, kg N/d            | 34,000 | 36,300 | 36,200 | 37,300 | 38,900 | 38,900 | 38,200 | 35,000 | 35,000 | 35,000 | 35,000 | 32,400 | <b>30,600</b>   | 35,500  |
| NOx, kg N/d                | 13,300 | 11,800 | 12,500 | 11,100 | 11,700 | 11,000 | 10,800 | 10,000 | 10,000 | 10,000 | 11,200 | 11,200 | <b>11,200</b>   | 10,800  |
| TIN, kg N/d <sup>(d)</sup> | 47,300 | 48,100 | 48,700 | 48,400 | 50,600 | 50,000 | 49,200 | 45,700 | 43,100 | 44,400 | 43,300 | 43,700 | <b>41,452.4</b> | 46,400  |
| TP, kg P/d                 | 3,400  | 3,320  | 3,570  | 3,960  | 3,660  | 4,000  | 4,010  | 3,790  | 3,680  | 3,300  | 3,760  | 3,650  | <b>3,530</b>    | 3,690   |

Calculated using Average Flow and Average Concentration (Required Method)

# Observations

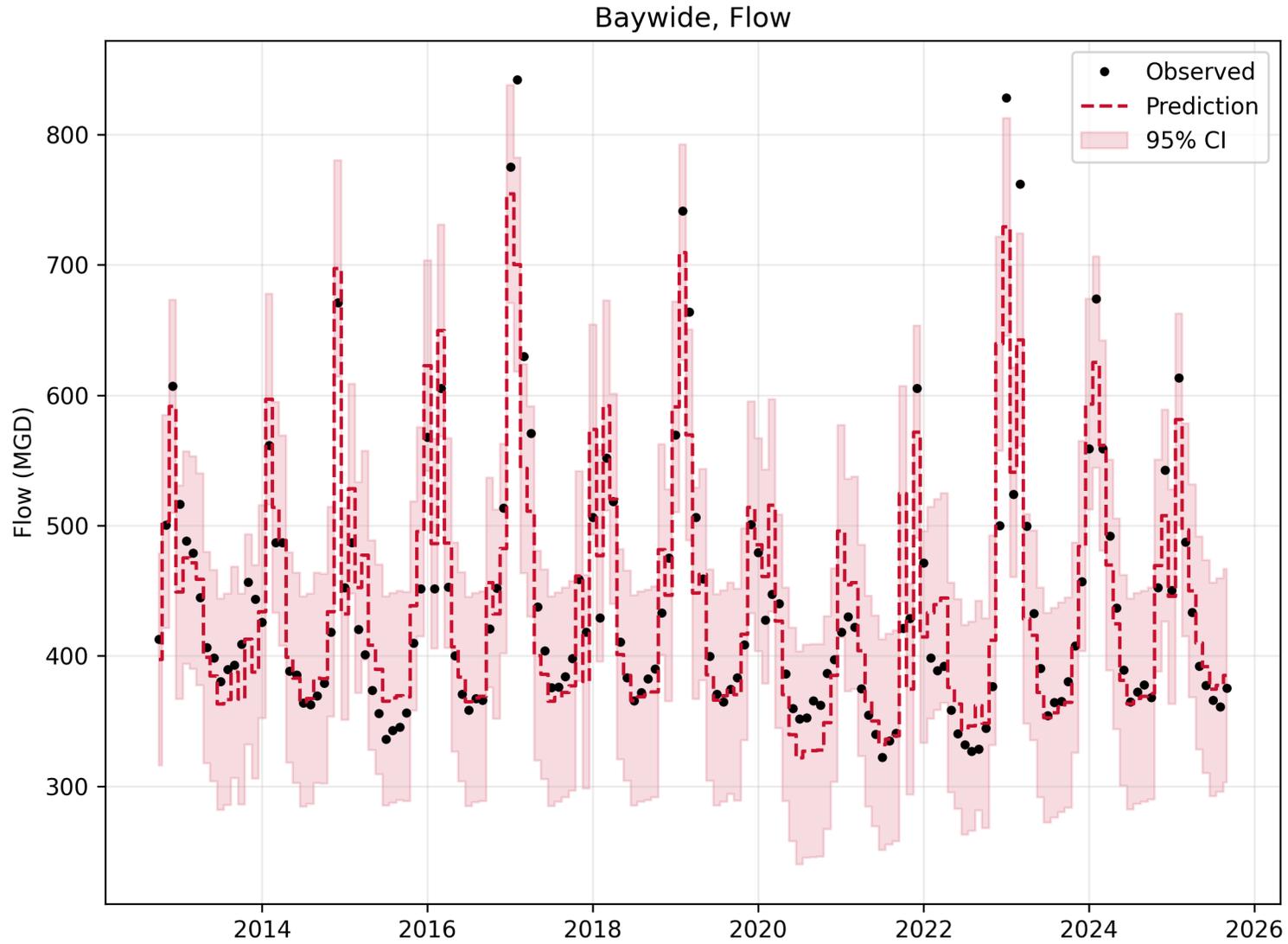
- Main driver of reduction observed in 2025 is EBMUD's ongoing optimization effort.
- South SF, SFPUC Southeast, San Jose, Central San, and others also contributed.



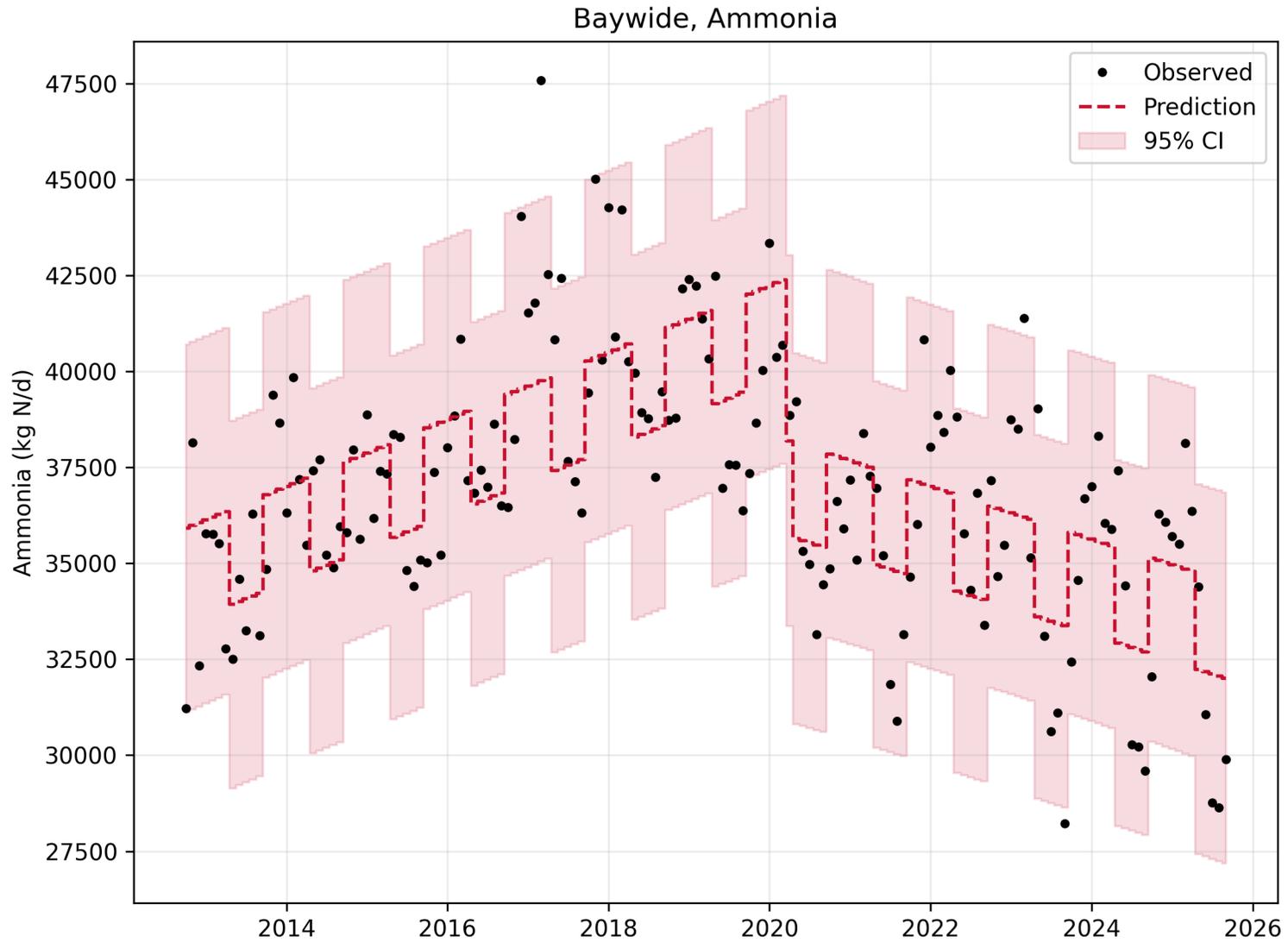
## Trend Analysis (Preliminary)

- Historically, the GAR trend analysis has consisted of a simple linear trendline.
- Trend analysis has been updated to reflect multiple variables.
  - Separate pre and post pandemic slopes to see trends before and after, if different.
  - Include the effect of the pandemic on flows and loads.
  - Deseasonalize the trend estimates (i.e., account for seasonal variations).
  - Account for specific historical events without corrupting underlying trend
  - Precipitation effect on flows
- This year's GAR will include an analysis of the impact of the pandemic (regression analysis only).

# Trend Analysis (Preliminary, Baywide)

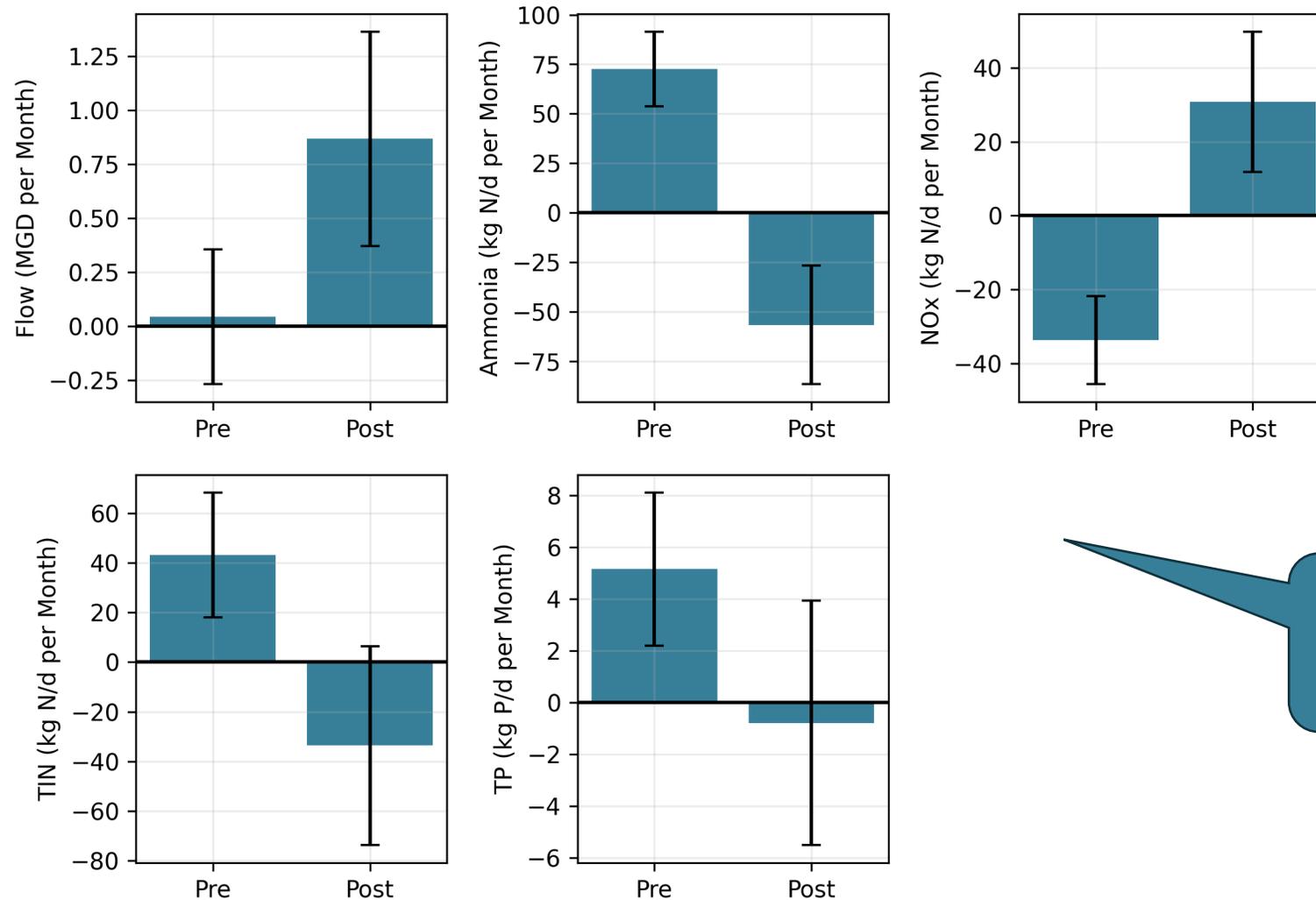


# Trend Analysis (Preliminary, Baywide)



# Trend Analysis (Preliminary, Baywide)

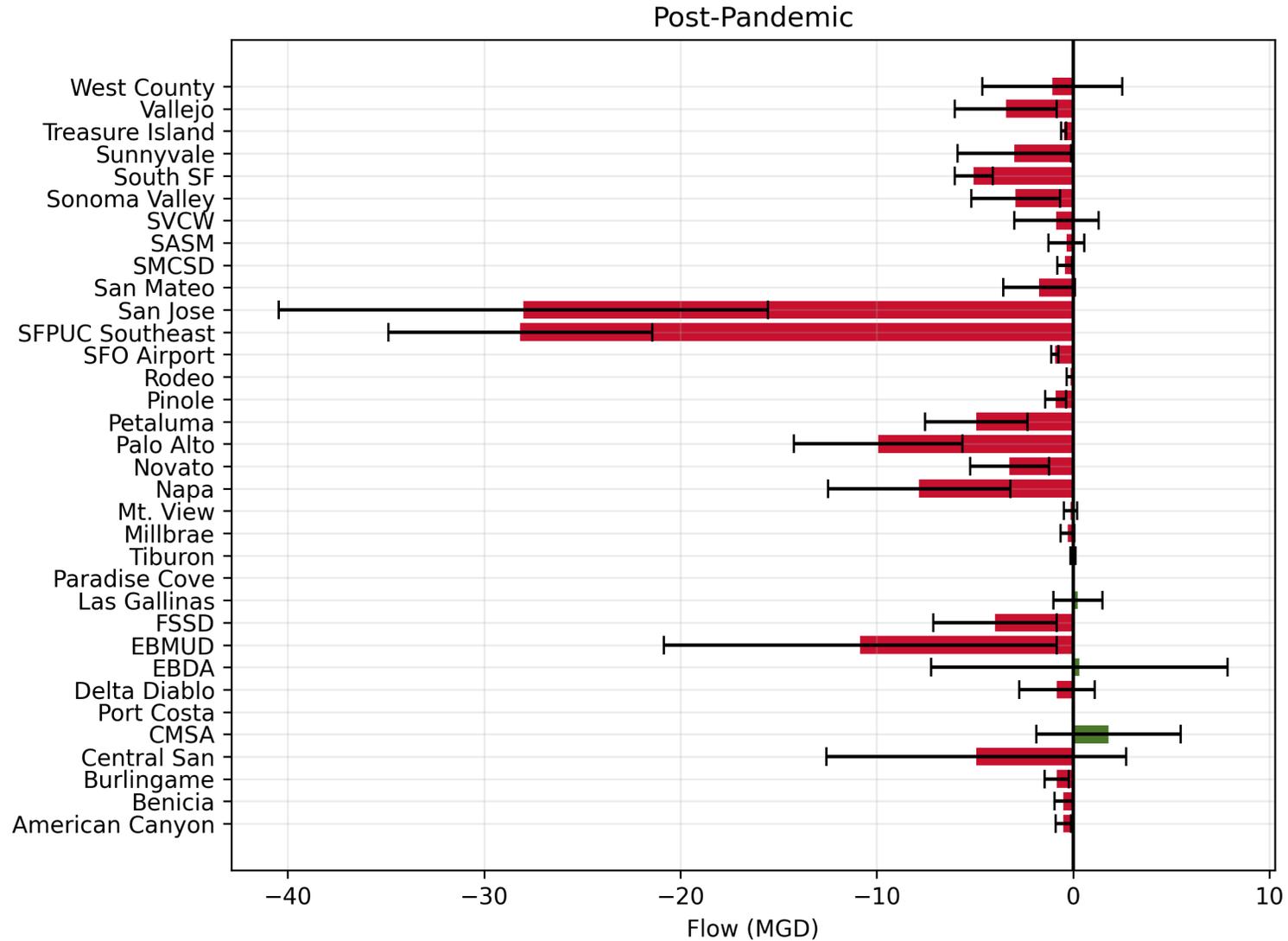
Timestep Coefficient



Slopes of trendlines  
before and after  
pandemic

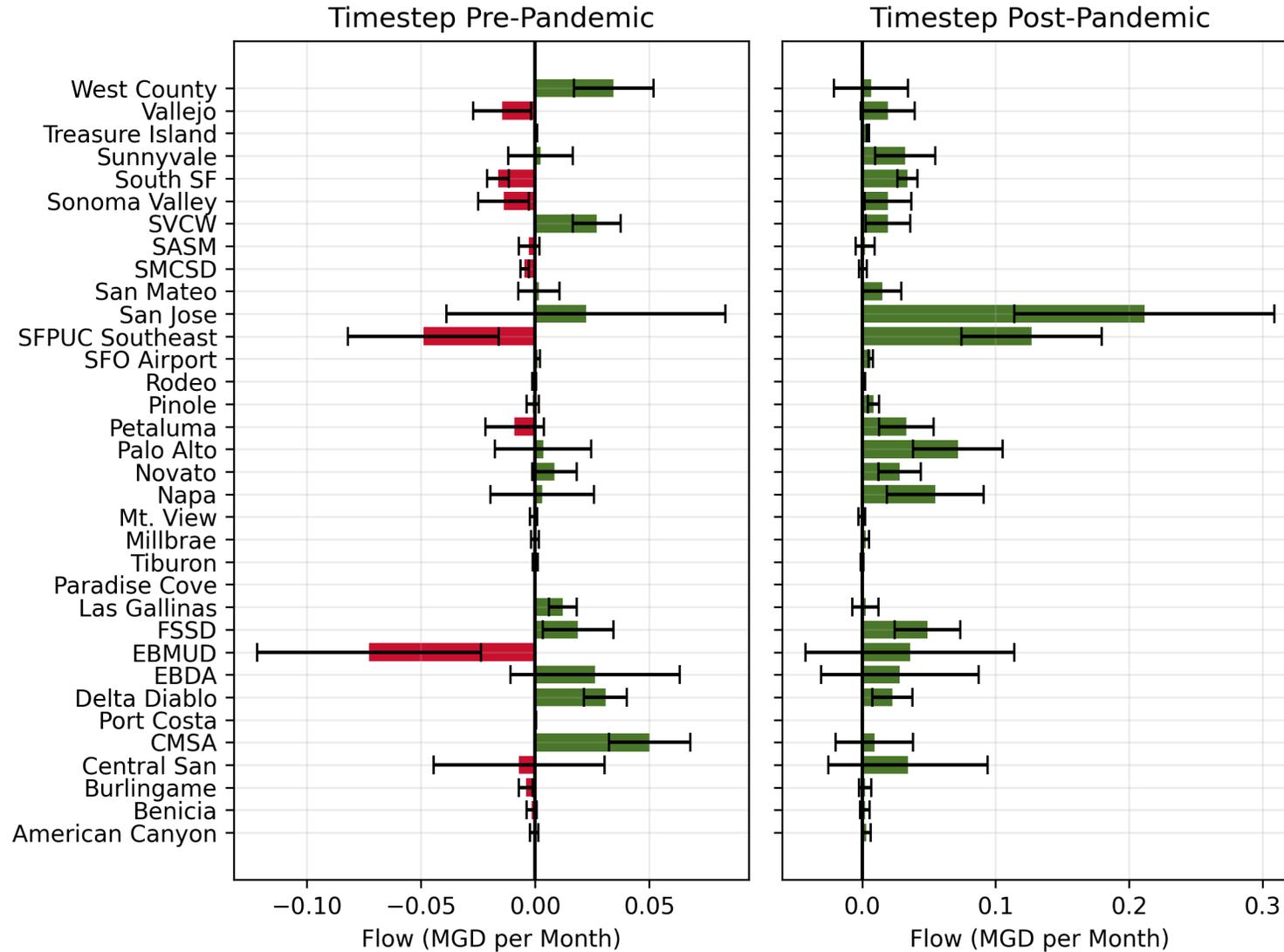
# Trend Analysis (Preliminary)

Constant that accounts for impact of the pandemic



# Trend Analysis (Preliminary)

Slopes of trendlines before and after pandemic



# Trend Analysis (Preliminary)

Slopes of trendlines before and after pandemic

