



BACWA Annual Meeting: Group Annual Report

January 10, 2020



- 
- 01 **Changes between 1st and 2nd Watershed Permit**
 - 02 **Preview of Draft 2018/2019 dataset**
 - 03 **Next steps**



01

Changes between 1st and 2nd Watershed Permit

Reporting Changes

1st Watershed Permit

- Discharge
- July – June
- Discharge:
 - Ammonia, TKN, Nitrite, Nitrate, and TN
 - Phosphate and Total P

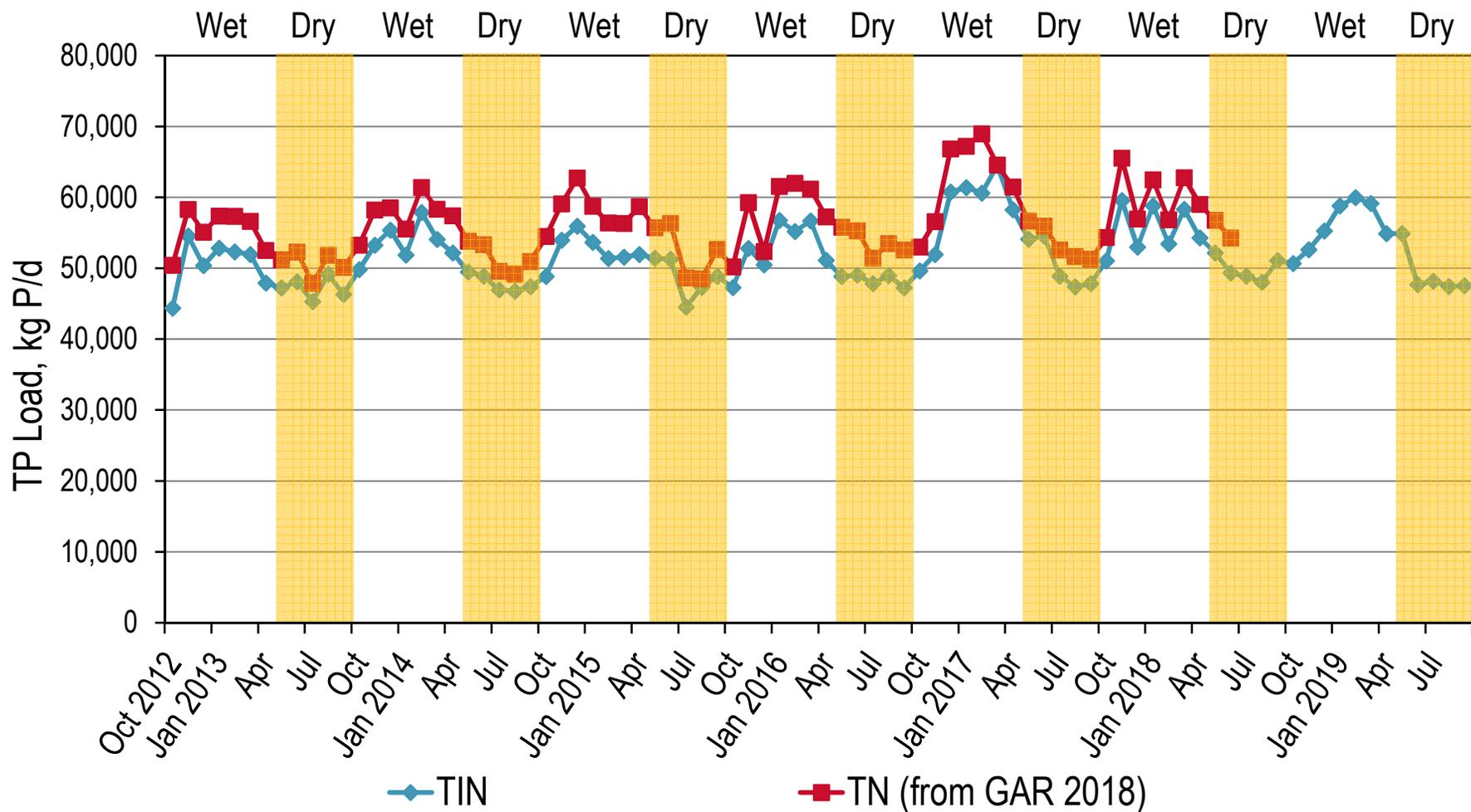
- Submittal Date: 10/1

2nd Watershed Permit

- Influent and Discharge
- October – September
- Discharge:
 - Ammonia, Nitrite, Nitrate, and TIN
 - Total P
- Influent:
 - Ammonia, TKN, Nitrite, and Nitrate
 - Total P
- Submittal Date: 2/1

TN versus TIN

- Data supports that TIN and TN track together, although TN is higher than TIN (as expected)
- TN is 8% greater on average than TIN





02

**Preview of Draft
2018/2019 Dataset**

DRAFT Yearly Data Summary Methods

Dry Season Yearly Average and Trending Statistics

Constituent	2012/13*	2013/14*	2014/15*	2015/16*	2016/17*	2017/18*	2018/19*	Trend**	7-yr avg
Flow, mgd									
Ammonia, kg N/d	***	***	***	***	***	***	***	***	***
NO _x , kg N/d	***	***	***	***	***	***	***	***	***
TIN, kg N/d	***	***	***	***	***	***	***	***	***
TP, kg P/d	***	***	***	***	***	***	***	***	***

* October – September

** None/Up/Down for statistical trending and percent change per year is calculated by the regression analysis slope divided by the 7-yr average value

*** Loads are calculated by daily average composite sample concentrations and the daily average flows for that particular day.

DRAFT Yearly Data Summary

Dry Season Yearly Average and Trending Statistics

Constituent	2012/13*	2013/14*	2014/15*	2015/16*	2016/17*	2017/18*	2018/19*	Trend**	7-yr avg
Flow, mgd	393	374	351	372	396	383	394	None	381
Ammonia, kg N/d	34,000	36,300	36,200	37,300	38,900	38,900	38,200	Up (+2.0%/yr)	37,100
NOx, kg N/d	13,400	11,800	12,500	11,100	11,700	11,000	10,900	Down (-3.1%/yr)	11,800
TIN, kg N/d	47,300	48,100	48,700	48,400	50,600	50,000	49,200	Up (0.8%/yr)	48,900
TP, kg P/d	3,400	3,320	3,570	3,960	3,660	4,000	4,010	Up (3.2%/yr)	3,700

* October – September

** None/Up/Down for statistical trending and percent change per year is calculated by the regression analysis slope divided by the 7-yr average value

DRAFT Yearly Data Summary

Dry Season Yearly Average and Trending Statistics

Constituent	2012/13*	2013/14*	2014/15*	2015/16*	2016/17*	2017/18*	2018/19*	Trend**	7-yr avg
Flow, mgd	393	374	351	372	396	383	394	None	381
Ammonia, kg N/d	34,000	36,300	36,200	37,300	38,900	38,900	38,200	Up (+2.0%/yr)	37,100
NOx, kg N/d	13,400	11,800	12,500	11,100	11,700	11,000	10,900	Down (-3.1%/yr)	11,800
TIN, kg N/d	47,300	48,100	48,700	48,400	50,600	50,000	49,200	Up (0.8%/yr)	48,900
TP, kg P/d	3,400	3,320	3,570	3,960	3,660	4,000	4,010	Up (3.2%/yr)	3,700

Annual Yearly Average and Trending Statistics

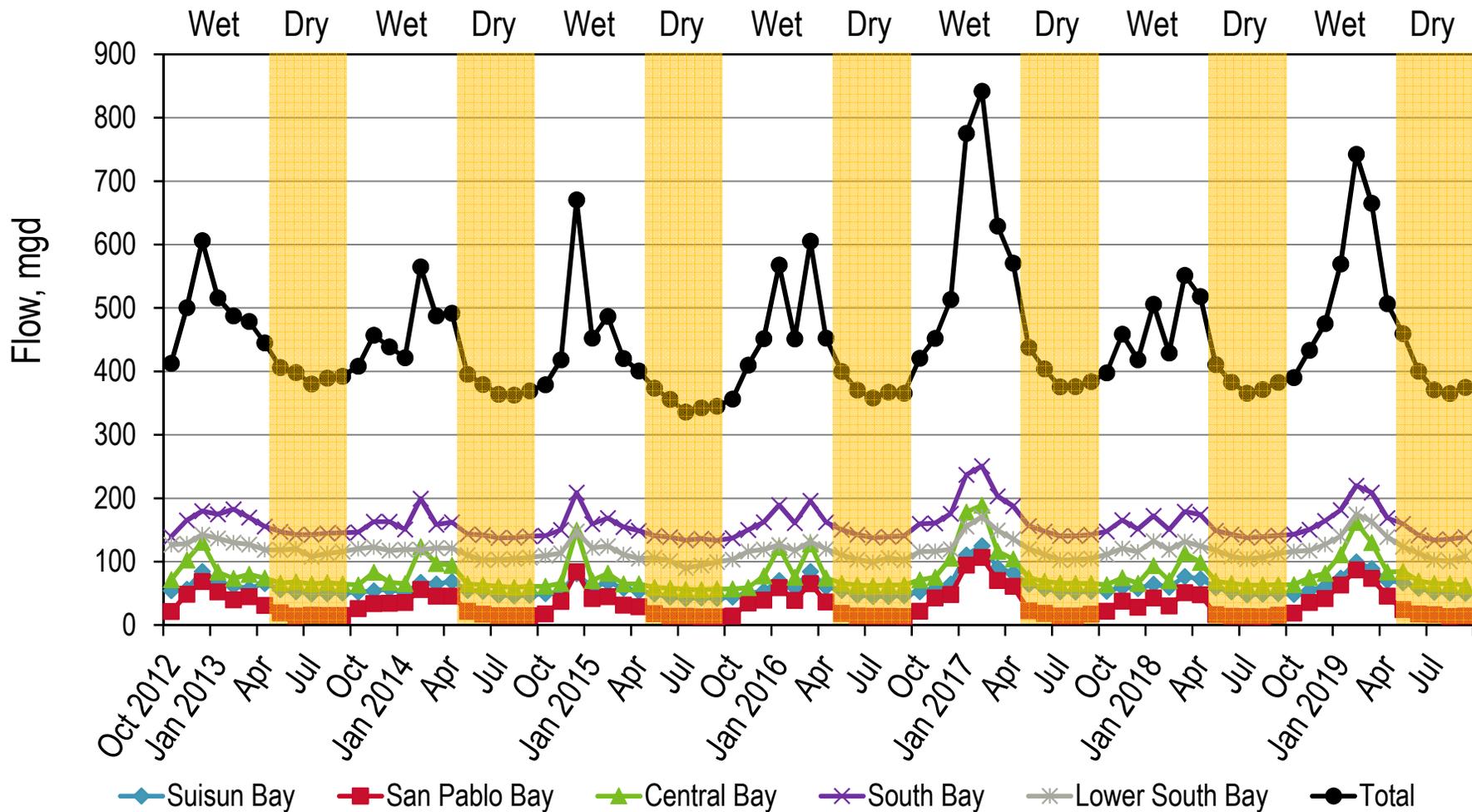
Constituent	2012/13*	2013/14*	2014/15*	2015/16*	2016/17*	2017/18*	2018/19*	Trend**	7-yr avg
Flow, mgd	451	428	415	430	515	433	480	None	453
Ammonia, kg N/d	34,300	37,000	36,700	37,500	40,600	40,800	39,800	Up (+2.6%/yr)	38,100
NOx, kg N/d	15,000	14,300	14,200	13,600	14,500	12,400	13,000	Down (-2.5%/yr)	13,900
TIN, kg N/d	49,300	51,300	50,900	51,100	55,000	53,200	53,100	Up (+1.3%/yr)	52,000
TP, kg P/d	3,860	3,750	3,770	4,070	4,020	4,190	4,210	Up (+2.0%/yr)	3,980

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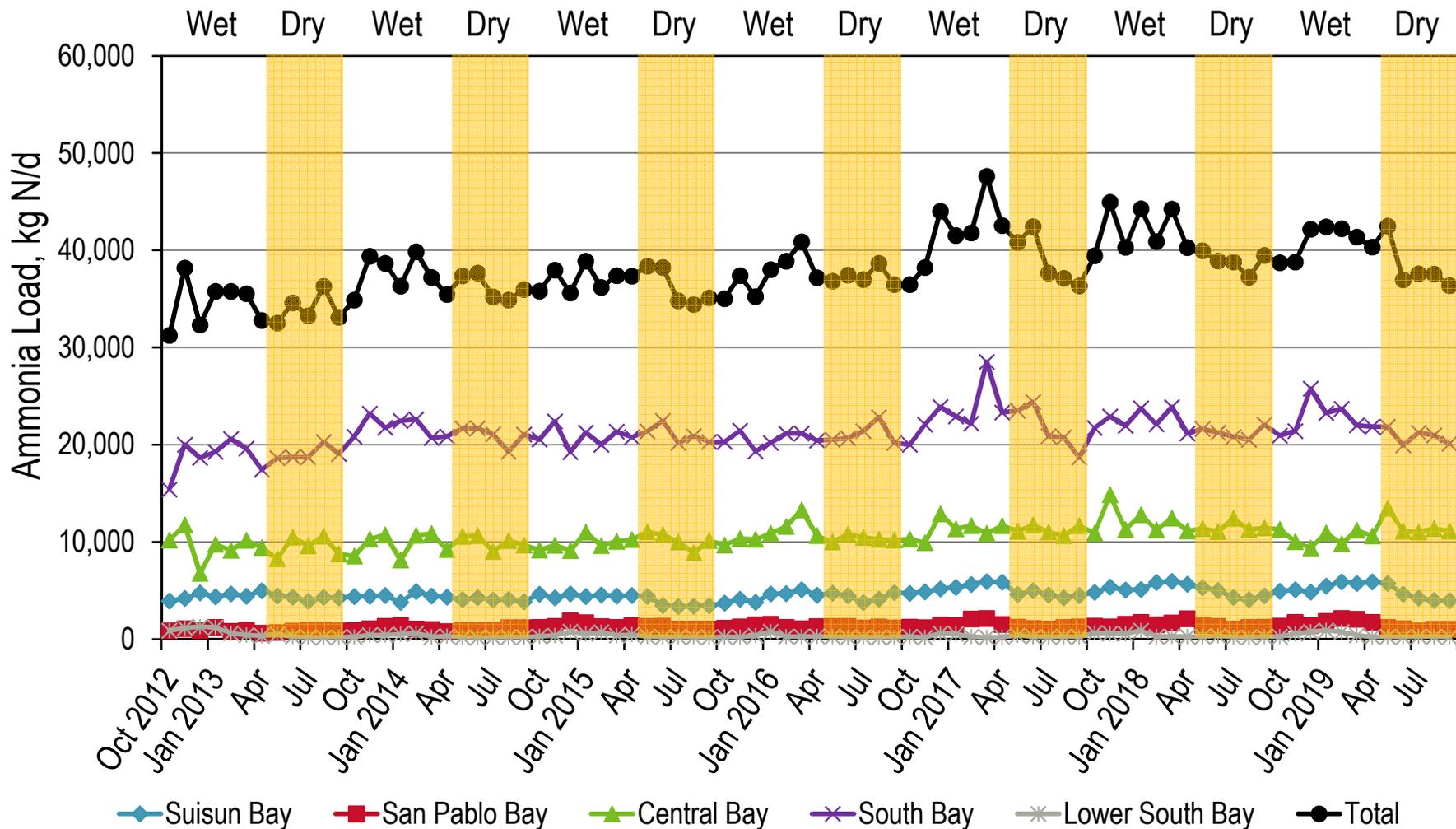
2019 Group Annual Report: Flow

- 2018/2019 represented the second highest monthly average flows
- Initial 2019 dry season flow data was high



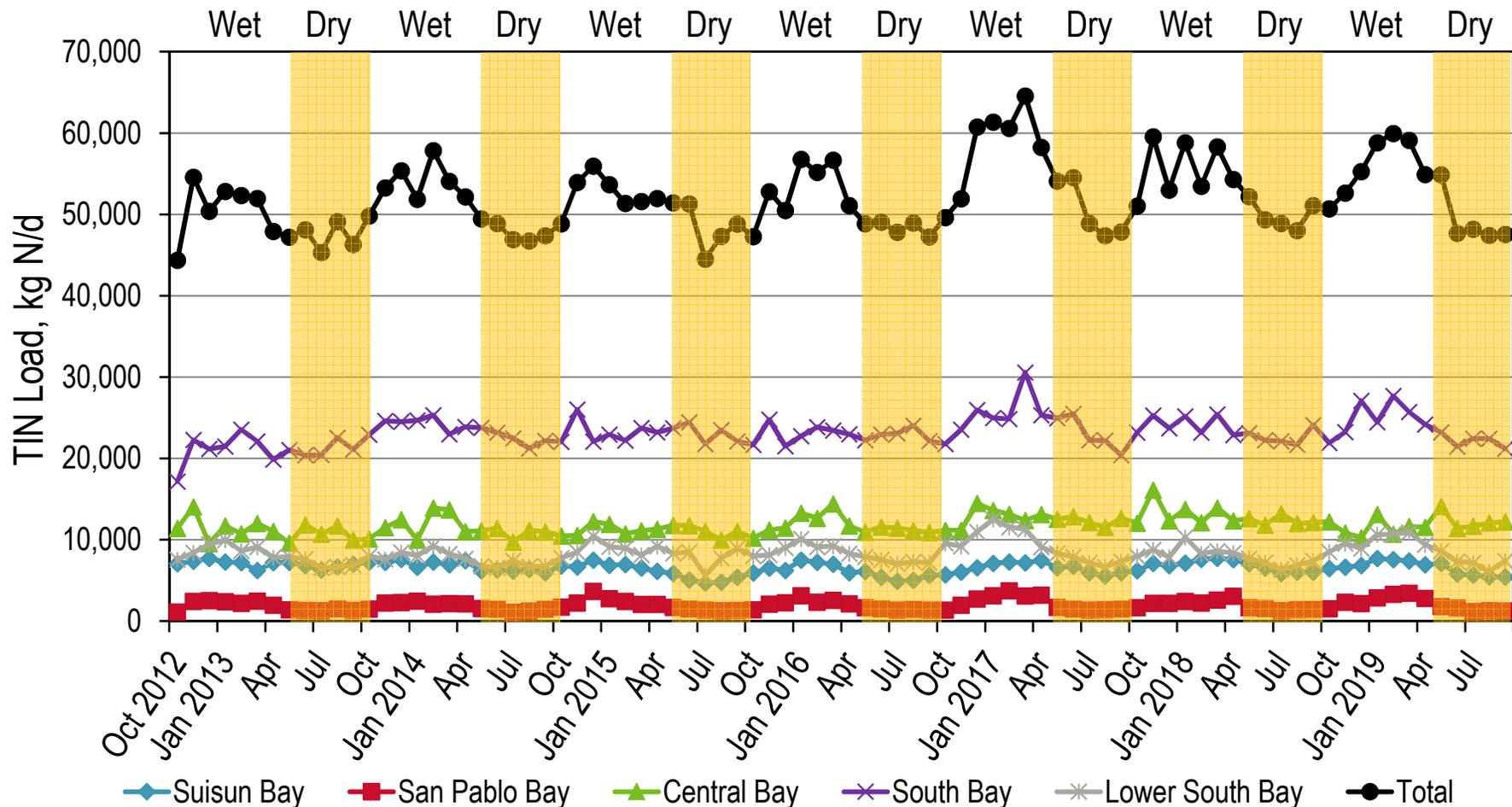
2019 Group Annual Report: Ammonia

- Both total average annual and total dry season loads have plateaued the last several years



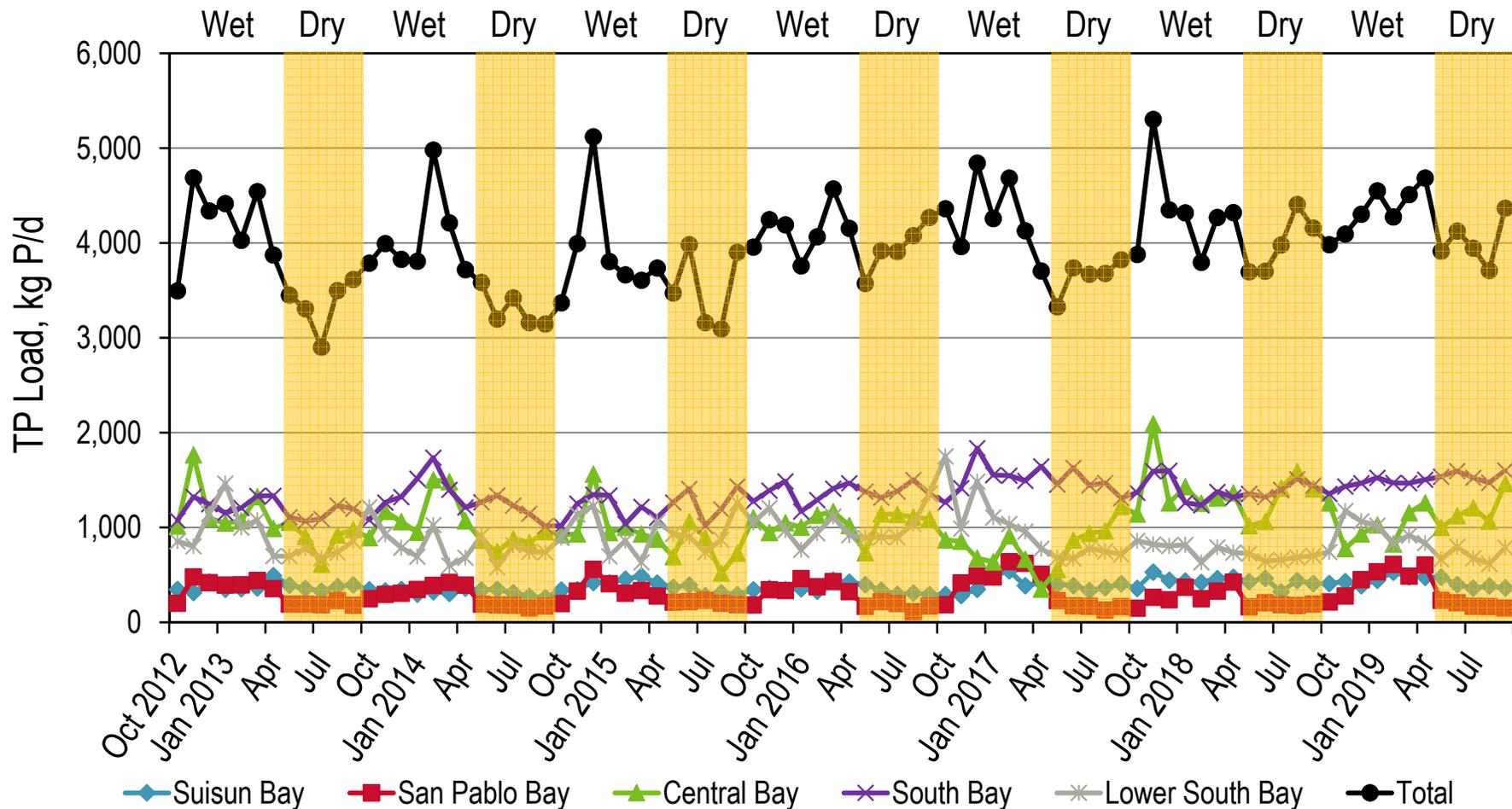
2019 Group Annual Report: Total Inorganic Nitrogen

- Both total average annual and total dry season TIN loads have plateaued the last several years
- Central Bay is the only subembayment with a statistically significant dry season trend (TIN load increasing)



2019 Group Annual Report : Total Phosphorus

- TP loads are increasing Bay-wide. TP loads in Suisun Bay, Central Bay, and South Bay are increasing, while Lower South Bay and San Pablo Bay do have a significant trend.





03 **Next Steps**

Next Steps

- Finalize individual plant appendices
(a few agencies still owe us responses)
- Finalize the 2019 Group Annual Report and submit by 2/1/2020



BACWA Annual Meeting: Group Annual Report

January 10, 2020

