Bay Area Clean Water Agencies (BACWA)

Compliance Milestones Reporting for the Bay Area Nutrient Watershed Permit

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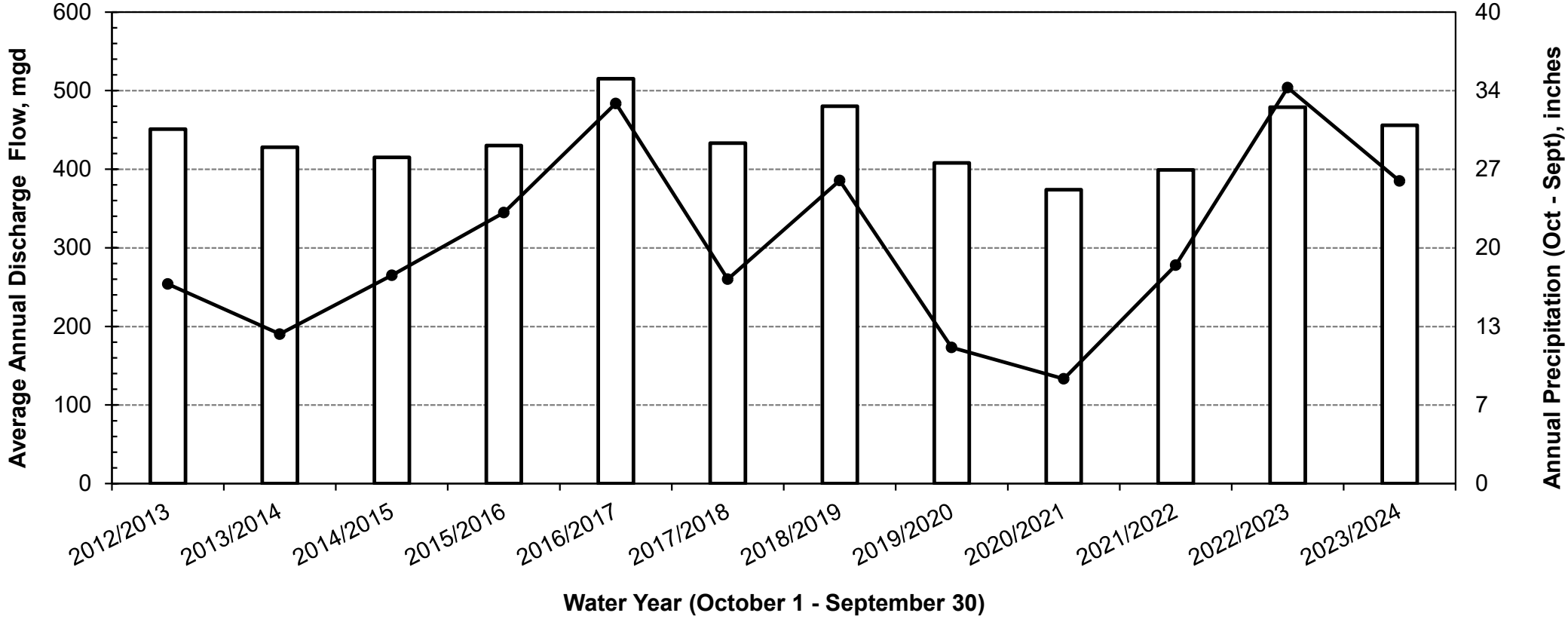
01

Group Annual Report

Group Annual Report (Submitted 4/1/25)

- Influent Flows and Loads:
  - 21 Quarters worth of data
  - Limited to Plants >10 mgd permitted capacity
- Discharge Flows and Loads:
  - Flows: dry season increased 2% from 2023 (4% higher than average)
  - TIN: dry season loads similar the last 4-years (7% less than average)
- Several dischargers continued optimization efforts (e.g., EBMUD) and upgrades are in process (e.g., San Mateo, Palo Alto, etc.)
- Recycled Water Volumes: 15% less than 2022 (attributed to a relatively wet spring in 2023)
- **Milestone Reporting**

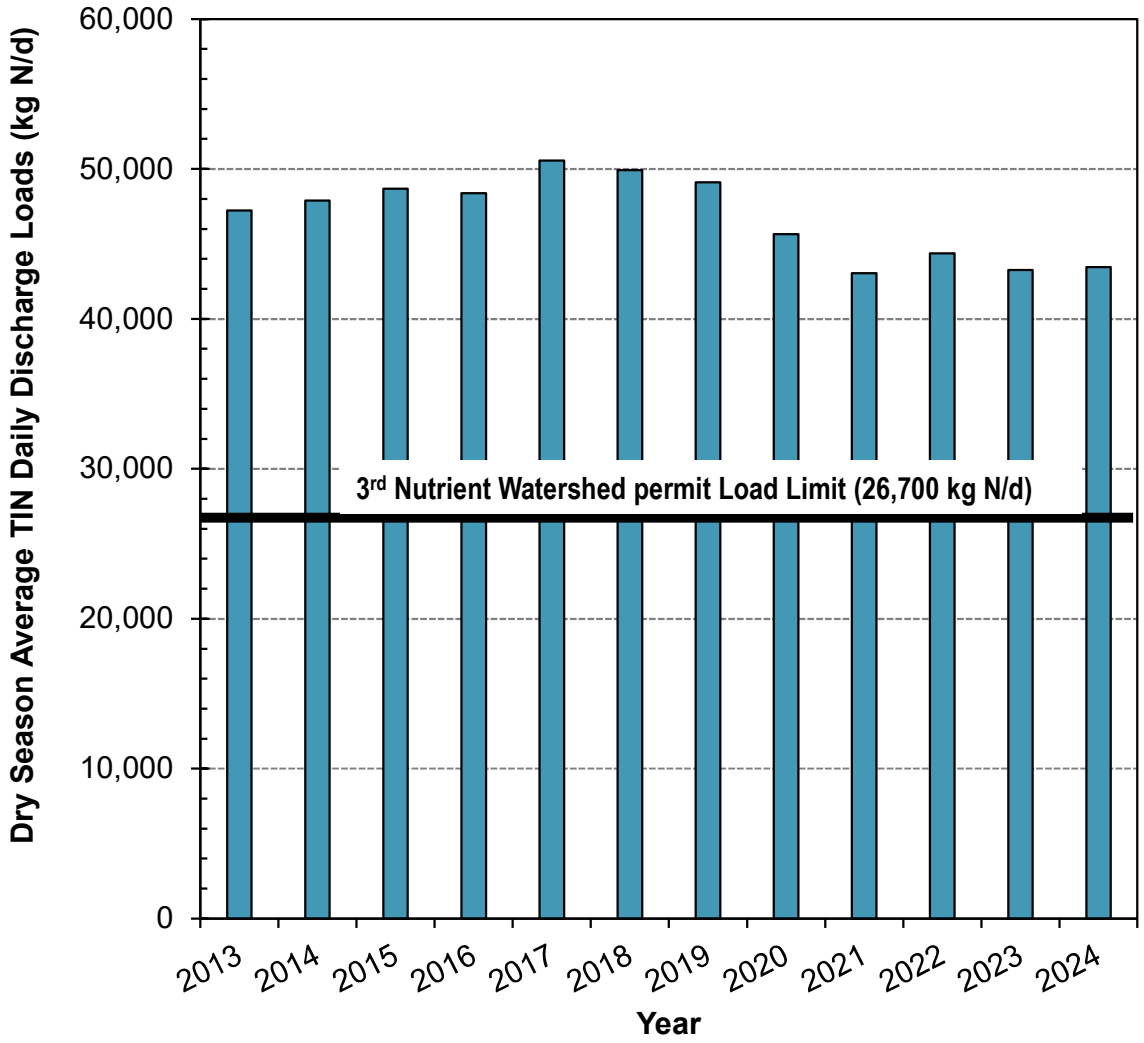


Flows for 2023/2024:

- Precipitation Source: https://ggweather.com/sf/monthly.html
- 26 inches of rain (3rd highest since sampling began; compared to ~33 inches the previous year)

Baywide TIN Loadings

- Peak TIN Load:
  50,700 kg N/d in 2017
- 2024 dry season: 43,700 kg N/d
- ~15% decline since 2017
- Steady-State TIN discharge since 2021?



02

2nd Watershed Permit Reuse Findings Update

WHERE ARE STARTING AT?

- Current Dry Season Discharge Flows to the Bay are Approx. 340 mgd (160,000 AF during the Dry Season)
- Approx. 14% of Current Dry Season Effluent is Recycled (Approx. 25,600 AF)

$$14\% = \frac{25{,}600\ AF}{(160{,}000\ AF + 25{,}600\ AF)}$$

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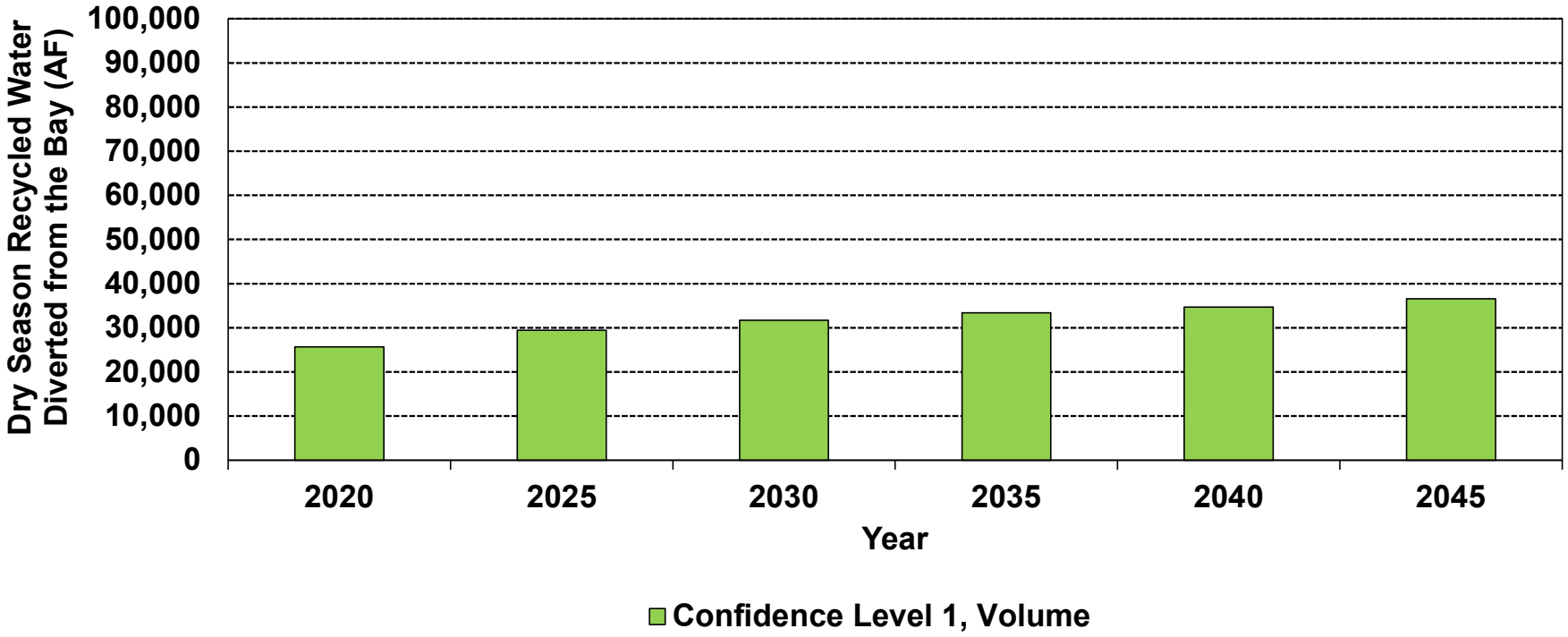
- Current Dry Season Total Inorganic Nitrogen (TIN = ammonia+nitrite+nitrate) Discharged to the Bay is Approx. 44,000 kg N/day
- Approx. 7% of this Dry Season Effluent TIN Load is Diverted from the Bay due to Reuse

RECYCLED WATER FLOWS DIVERTED FROM BAY



Confidence level = level of confidence in the values provided. 1 = includes projects that are already in place and/or currently budgeted; 2 = includes projects that are in master planning stages; 3 = includes projects that are conceptual, and 4 = includes projects that are conceptual in nature and require agreements across multiple jurisdictions/agencies.

* The total net present value might vary from the sum of the listed confidence levels due to rounding.

For Perspective: the Current Discharge Flows to the Bay are Approximately 340 mgd (about 14% of Effluent is Currently Recycled)

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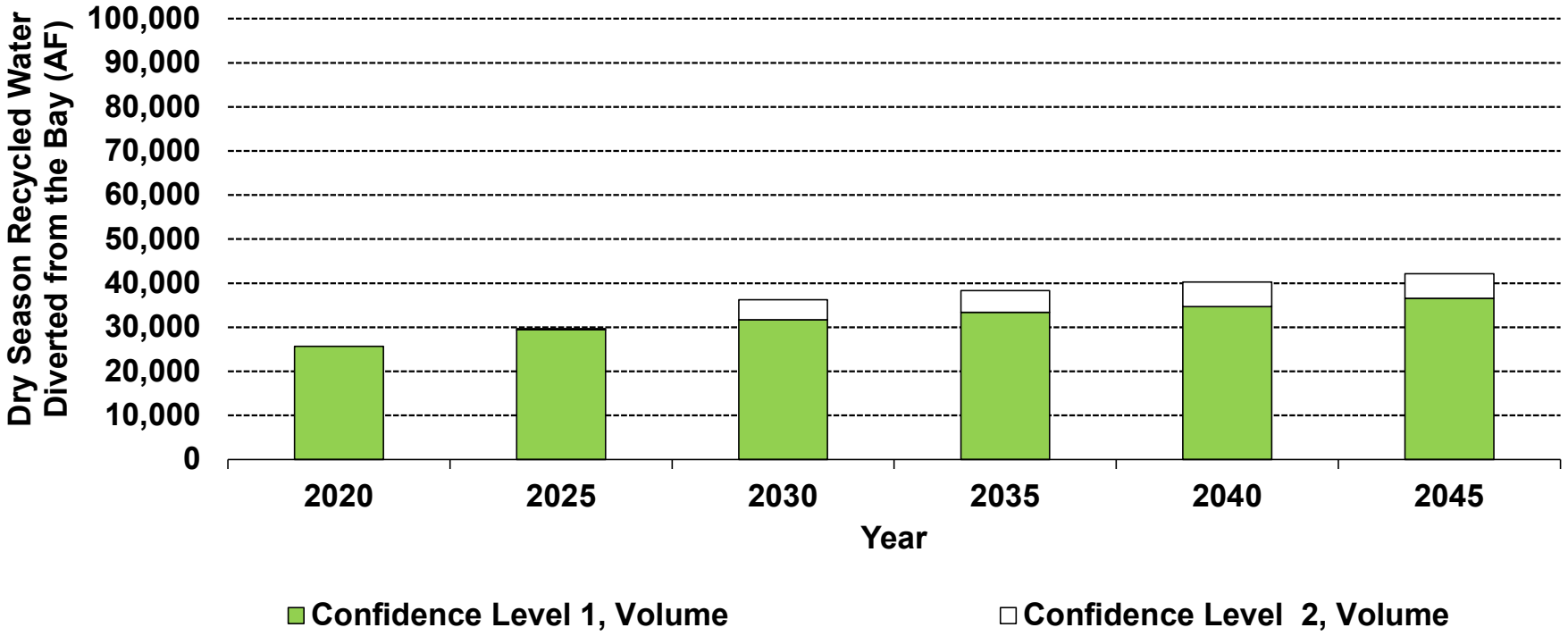

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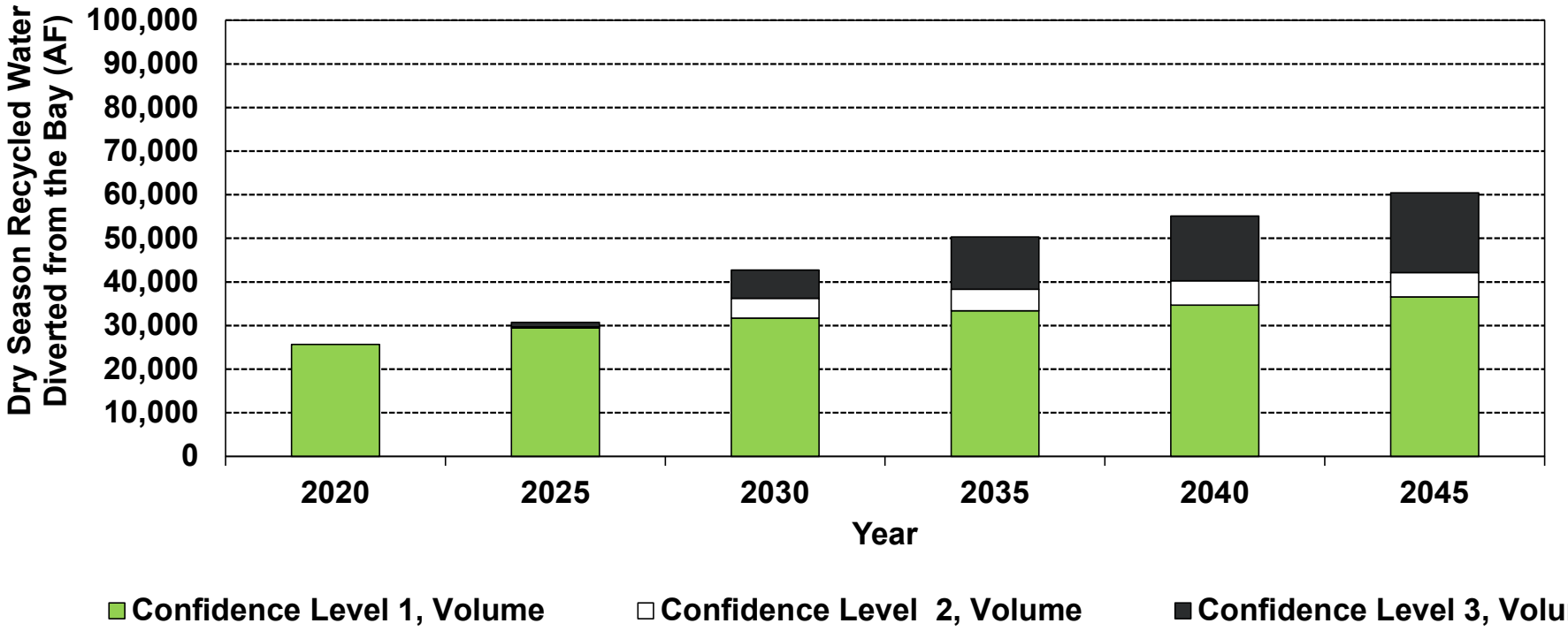

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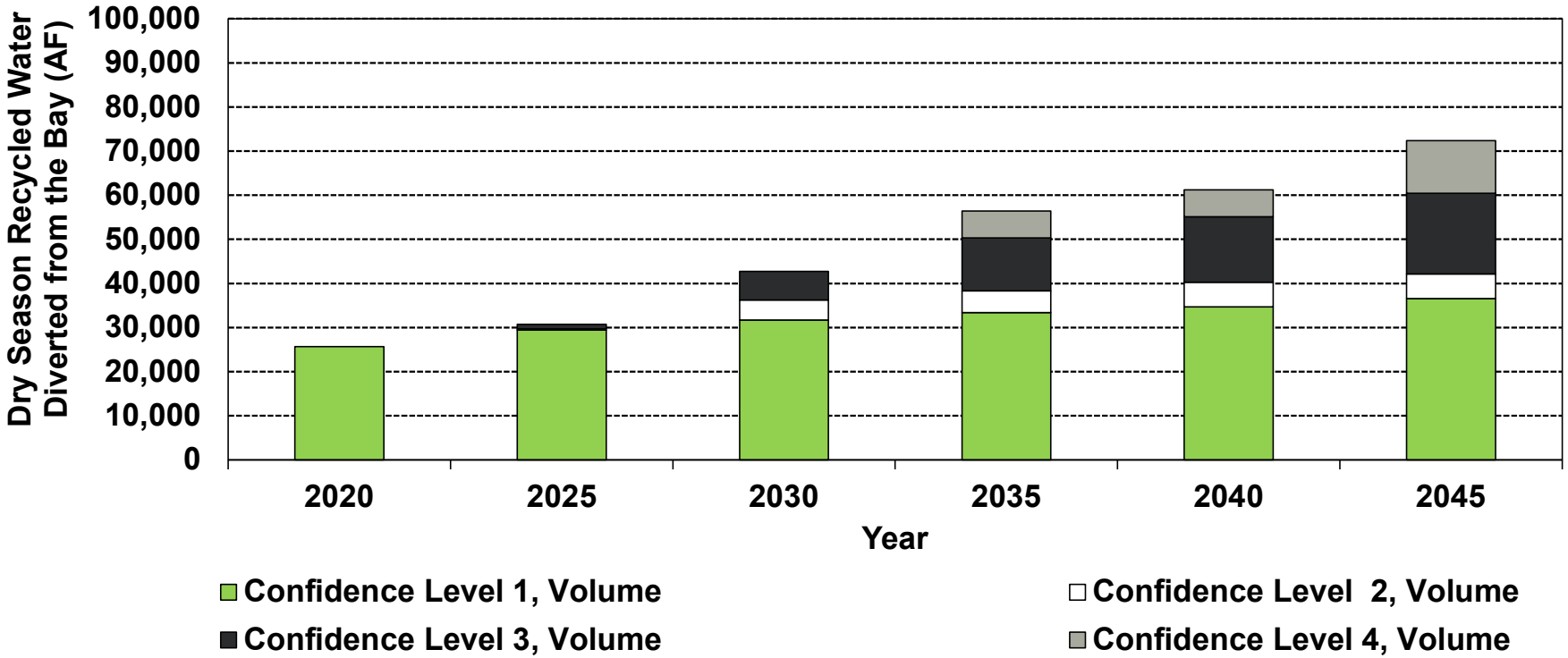

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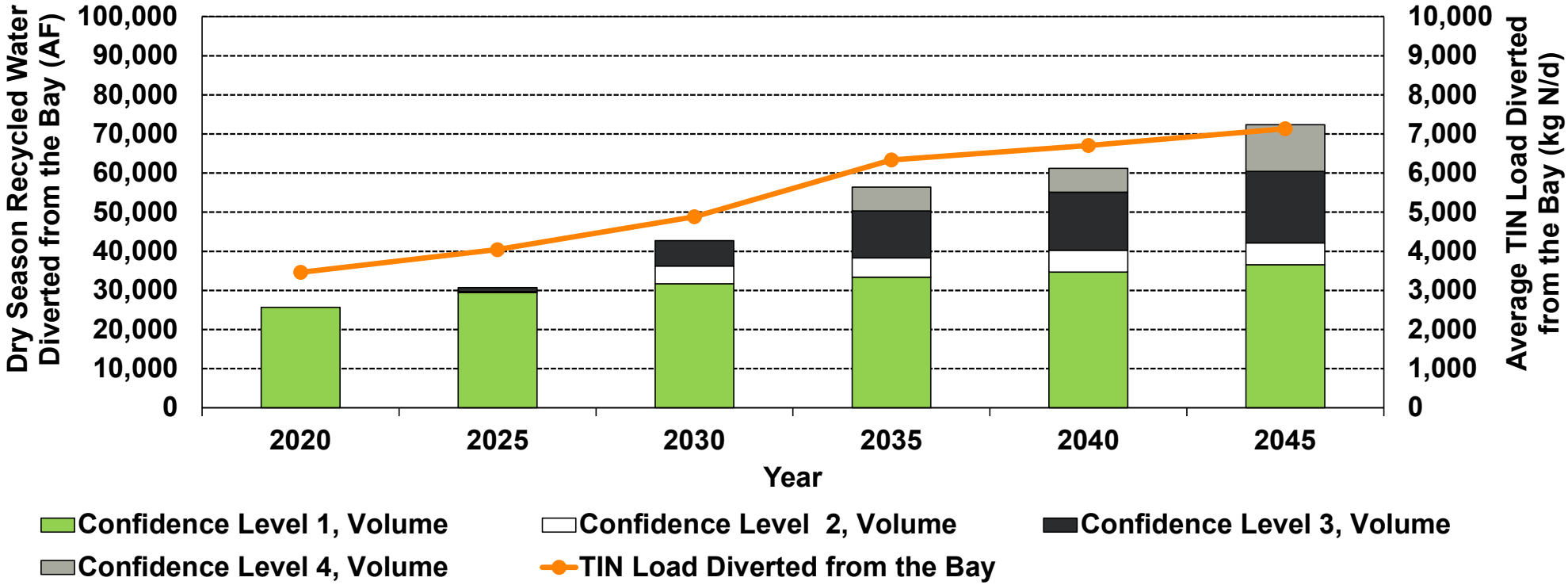

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WHAT DOES THAT TRANSLATE TO IN COST?

Confidence Level	Net Present Value	Comment
Confidence Level 1	$0.8 billion	Increase from 25,600→36,500 AF
Confidence Level 2	$0.4 billion	Upwards of 5,600 AF
Confidence Level 3	$2.3 billion	Upwards of 18,300 AF
Confidence Level 4	$1.6 billion	Upwards of 12,000 AF
Total	**$5.1 billion**	

$5.1 billion for 7,000 kg N/day diverted from the Bay

03 Recent Milestones Compliance Summary

Compliance Milestones Summary

- Included as an Appendix in the Group Annual Report

  (Submitted on 4/1/25; BACWA Nutrient Watershed Permit Group Annual Report for 2023-2024)

- 3rd Watershed Permit Requirement (Annual Submission):
  - Status of how each agency is progressing for meeting TIN limits
  - Specific Milestones Elements:
    - Identify alternatives and perform analyses
    - Compliance plan
    - Schedule/milestones
    - Project details

Compliance Milestones: General Overview

Table 1. Summary of Questionnaire Results (Color Coded by Grouping; White = Early Actor, Light Grey = Compliance Pathway Identified; Dark Grey = Compliance Alternatives Identified)

A. Discharger[a]	B. ADWF Permitted Capacity (mgd)	C. Group[b]	D. Early Actor	E. Will Meet Final Effluent Limit	F. Projects Completed or In-Progress	G. Anticipated Compliance Pathway	H. Prelim. Alternatives Include [c]					I. Interested in Purchasing Credits	J. Schedule Summary for Projects
							NbS[d]	TTI[d]	OP[d]	RW[d]	NT[d]		
American Canyon, City of	2.5	1	Yes	Yes	RW; TTI	-	-	-	-	-	-	-	Complete
Benicia, City of	4.5	3	No	-	-	-	Yes	Yes	Yes	Yes	Yes	Maybe	TBD
Burlingame, City of	5.5	3	No	-	-	-	No	Yes	Yes	Yes	No	-	TBD
Central Contra Costa Sanitary District	53.8	3	No	-	-	-	Yes	Yes	No	Yes	Yes	Maybe	TBD
Central Marin Sanitation Agency	10	2	No	-	-	TTI; OP	-	-	-	-	-	-	Alternative to be selected in 2025
City of Richmond Municipal SD	16	1	Yes	Yes	TTI	-	-	-	-	-	-	-	TBD
Delta Diablo	19.5	2	No	-	-	TTI; NT	-	-	-	-	-	-	Construction to begin in 2026
EBDA (DSRSD, City of Hayward, City of Livermore, Oro Loma SD, City of San Leandro, Union SD)	107.8	1	Yes	Unsure	NbS; TTI; OP; RW	-	-	-	-	-	-	Maybe	DSRSD: Complete. Hayward: 2030. Livermore: RW complete, treatment evaluation is underway. Oro Loma SD: Complete. San Leandro: 2026. Union SD: Phases in 2027, 2029, 2031.
EBMUD	120	1	Yes	Unsure	OP	-	-	-	-	-	-	-	TBD
Fairfield Suisun SD	23.7	1	Yes	Yes	TTI; OP	-	-	-	-	-	-	-	2033
Millbrae, City of	3	2	No	-	-	RW, NT	-	-	-	-	-	-	Pre-design activities in 2025
Mt. View SD	3.2	1	Yes	Yes	TTI, NbS		-	-	-	-	-	-	Complete, but pursuing additional alternatives with schedule TBD.
Novato SD	7	1	Yes	Unsure	TTI; RW	-	-	-	-	-	-	-	Complete
Palo Alto, City of	39	1	Yes	Yes	TTI	-	-	-	-	-	-	-	2028
Pinole, City of	4.06	1	Yes	Yes	TTI	-	-	-	-	-	-	-	TBD. Study underway.
Rodeo SD	1.14	3	No	-	-	-	Yes	No	Yes	No	Yes	Yes	TBD
San Jose/Santa Clara WPCP	167	1	Yes	No	TTI; OP; RW	-	No	Yes	Yes	Yes	No		See individual response
San Mateo, City of	15.7	1	Yes	Yes	TTI	-	-	-	-	-	-	-	2025
Sausalito-Marin City SD	1.8	3	No	-	-	-	No	Yes	Yes	Yes	Yes	Maybe	TBD
SD N. 5 of Marin County (Tiburon)	0.98	3	No	-	-	-	-	Yes	-	-	-	Yes	TBD
Sewerage Agency of Southern Marin	3.6	3	No	-	-	-	Yes	No	No	Yes	Yes	Maybe	TBD
SFO Airport	2.2	1	Yes	Yes	TTI; RW	-	-	-	-	-	-	-	TBD. 50 percent design for current phase in 2025.
SFPUC Southeast	85.4	1	Yes	Yes	-	TTI	-	-	-	-	-	-	TBD. Design-build contractor to be selected 2025.
SFPUC Treasure Island	2.0	1	Yes	Yes	TTI; RW	-	-	-	-	-	-	-	2026
Silicon Valley Clean Water	29	3	No	-	-	-	-	Yes	Yes	Yes	-	-	TBD. Evaluating 4 alternatives.
South San Francisco and San Bruno	13	2	No	-	-	TTI	-	-	-	-	-	-	TBD. Evaluating process modification alternatives in 2025.
Sunnyvale, City of	29.5	1	Yes	Yes	TTI	-	-	-	-	-	-	-	2028
Vallejo Flood and Wastewater District	15.5	2	No	-	-	TTI; NT	-	-	-	-	Yes	-	TBD. Evaluating process alternatives in more detail in 2025 and 2026.
West County Wastewater District	12.5	1	Yes	Yes	TTI; OP; RW	-	-	-	-	-	-	-	Complete

a. Dischargers not included here due to dry season discharge prohibitions: Sonoma Valley County Sanitation District, Napa Sanitation District, City of Petaluma, and Las Gallinas Valley Sanitary District. Other Dischargers not included here: Crockett Community Services District (Port Costa Wastewater Treatment Facility) and Sanitary District Number 5 of Marin County (Paradise Cove Treatment Plant) (see Section 0).

b. Group 1 consists of Early Actors; Group 2 consists of other Dischargers that have identified a compliance pathway; Group 3 consists of other Dischargers that have identified preliminary alternatives.

c. In addition to projects listed under columns F and G.

d. NbS = Nature-based Solutions, TTI = Traditional Treatment Infrastructure; OP = Optimization; RW = Recycled Water, and NT = Nutrient Trading.

Compliance Milestones: Findings

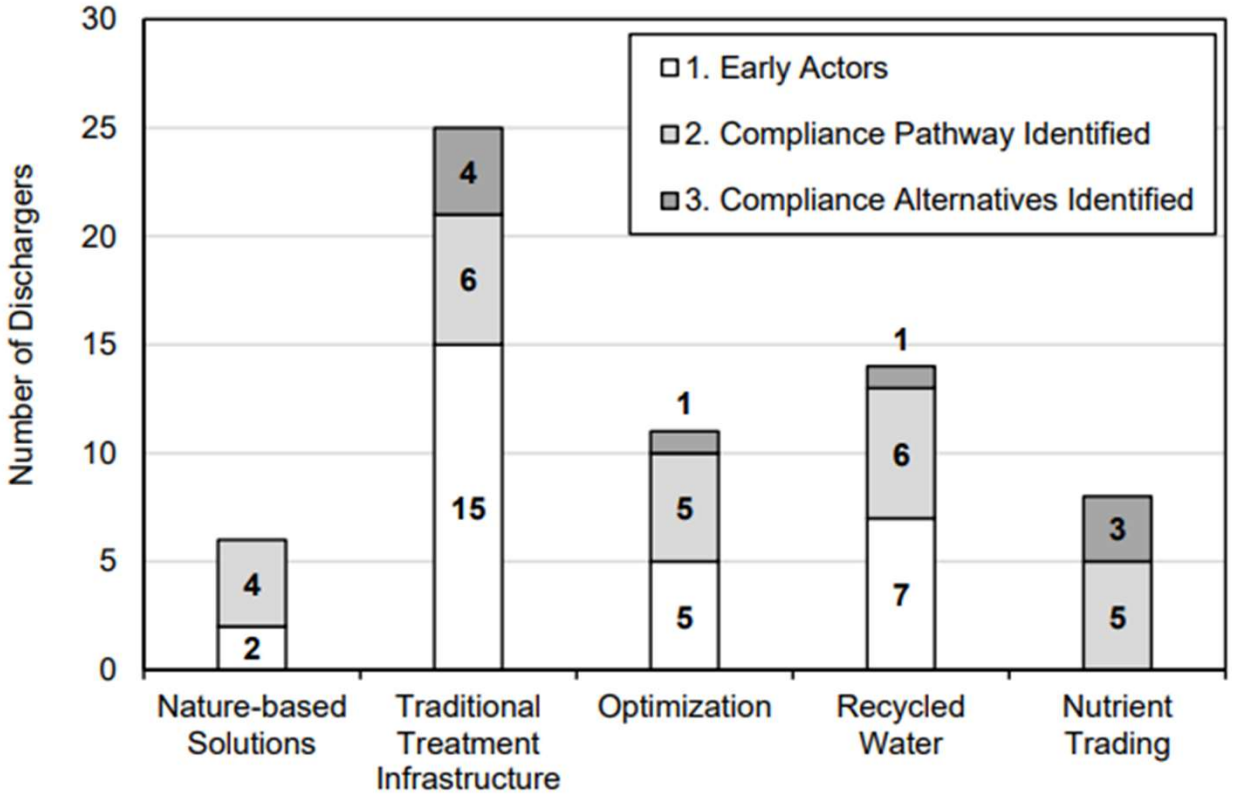
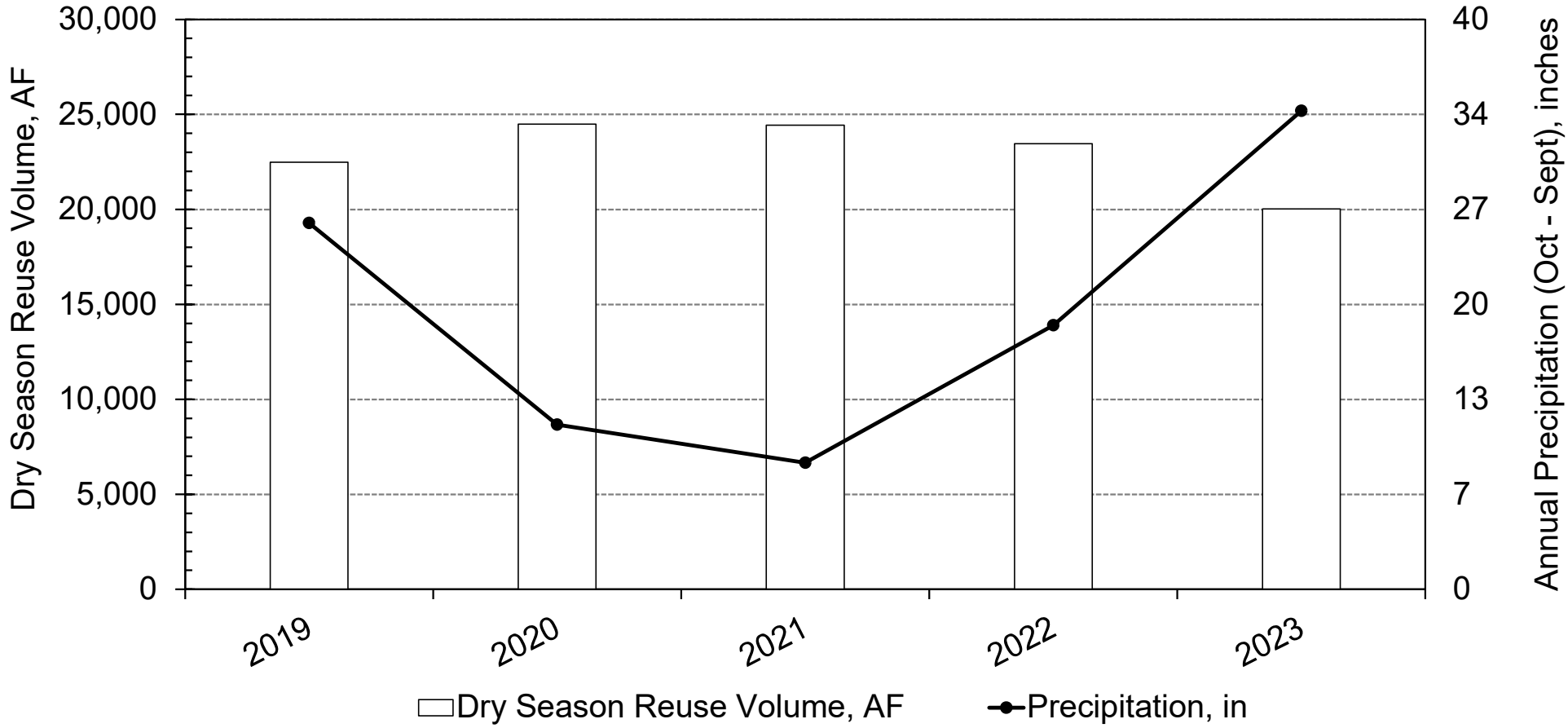


Figure 3. Distribution of Nutrient Reduction Strategies among Dischargers

04 Role of Precipitation on Meeting Nutrient Limits

Role of Precipitation on Reuse Demands (Baywide)



Role of Precipitation on Reuse Demands (DSRSD)