

**CENTRAL COAST LONG-TERM ENVIRONMENTAL ASSESSMENT
NETWORK (CCLEAN) Steering Committee
Meeting Minutes**

April 22nd, 2026, 2:00 pm
Via Teleconference Zoom Webinar

The meeting was called to order on **April 22nd, 2026**, at approximately **2:04 pm** by Jennie Munster. Roll call was taken of the voting committee members signed on to Zoom.

Participants - Voting Members: Present:

Jennie Munster, Laboratory Manager: City of Santa Cruz
Patrick Treanor, District Engineer: CAWD
Mohammed Serageldin, Laboratory Manager: CAWD
Connie Machuca, Laboratory Manager: City of Watsonville
Jeremy Long, Wastewater Division Manager: City of Scotts Valley
Olivia Woolery, Laboratory Supervisor: Monterey One Water (MIW)

Voting Members: Absent:

Anne Hogan, Wastewater System Manager: City of Santa Cruz
Dave Martin, Environmental Compliance Inspector: City of Santa Cruz
Mike Crane, Water Quality Chemist: City of Watsonville
Jose Guzman, Operations Manager: Monterey One Water
Sarah Stevens, Environmental and Regulatory Compliance Supervisor: Monterey One Water
Laura Dale, EH&S Manager: Vistra Corp (Moss Landing Power Plant)

A quorum was present.

Participants - Non-Voting Members: Present

Aroon Melwani, Senior Scientist, Central Coast Managing Principal Partner: Applied Marine Sciences (AMS)
Sarah Bragg-Flavan, Water Resource Control Engineer: Central Coast Water Board
Cameron Kostigen Mumper, Associate Manager | Pure Water Soquel / Soquel Creek Water District

Non-Voting Members: Absent

Dane Hardin, Senior Marine Scientist, Principal: Applied Marine Sciences
Mary Hamilton, Environmental Program Manager: Central Coast Water Board

Virtual Public Attendees: None

1. APPEARANCES / PUBLIC COMMENTS

No public comments were made.

2. AGENDA CHANGES

None

3. AGENDA ITEMS

A. Introductions

<p>Discussion:</p> <p>Attendance was taken by agency. Watsonville joined after roll call began and was marked present once Connie Machuca entered the meeting.</p>
<p>Decision:</p> <p>None.</p>
<p>Action Item:</p> <p>None.</p>

B. Chair's Report, by Santa Cruz Representative

<p>Discussion:</p> <p>Jennie Munster reported that CASA is seeking nutrient management information and is holding related workshops, including one hosted by the City of Santa Cruz on May 20th. CASA contacted AMS about presenting CCLEAN nutrient information; Aroon Melwani was unavailable, so Jennie will present and coordinate with Aroon for figures and graphics from CCLEAN reports.</p> <p>Jennie also reported that Santa Cruz likely lost data from its semi-permeable membrane device (SPMD) sampling event due to an extraction malfunction by the extraction laboratory. The loss may affect TCDD-equivalency data that are not reproduced by standard composite sampling. Jennie indicated she may need to coordinate with CCLEAN regarding integrative sampler data and noted that Scotts Valley's related event would likely need to occur during the next dry season.</p> <p>Cameron Kostigen Mumper asked about broader nutrient management efforts and whether nutrient watershed permitting or related requirements may be under consideration for Monterey Bay. Jennie, Aroon, and Sarah explained that the current effort appears to be in an early data-gathering and modeling stage, including data solicitation and model scoping for hypoxia, harmful algal blooms, and nutrient dynamics.</p>
<p>Decision:</p> <p>None.</p>

Action Item:

Jennie Munster to coordinate with Aroon Melwani for figures and information for the CASA nutrient workshop presentation.

Jennie Munster to send Cameron Kostigen Mumper the CASA workshop invitation or related information.

Santa Cruz to determine next steps regarding the lost SPMD sampling data and potential reliance on CCLEAN integrative sampler data.

C. Review of Prior Meeting Minutes, Report by CAWD

Discussion:

Patrick Treanor summarized the March 25, 2026 meeting minutes. Topics summarized included the Santa Cruz 001B sampling update, the Santa Cruz headworks rehabilitation project, the ongoing DMR/CIWQS issue, the tabled Soquel Creek membership discussion, the Phase 4 program design and budget discussion, Water Board comments, and the financial report.

Patrick noted that slides from AMS had been incorporated into the March minutes as meeting materials. Jennie added that she no longer planned to propose changes to the meeting agenda format discussed during the prior meeting.

Decision:

Jennie Munster moved to approve the March 25, 2026 meeting minutes. Patrick Treanor seconded the motion. The minutes were approved without opposition.

Action Item:

None.

D. Lead Agency Remarks, Report by CAWD

Discussion:

Patrick Treanor stated that he did not have separate Lead Agency remarks. He introduced the upcoming Soquel Creek / MOA discussion by noting that the issue may take time to resolve and that the Committee should first focus on understanding each agency's position before trying to reconcile the different perspectives.

Decision:

None.

Action Item:

None.

E. Discuss Addition of Soquel Creek Water District as Member of CCLEAN

Discussion:

The Committee continued discussion of whether and how Soquel Creek Water District / Pure Water Soquel should participate in CCLEAN as a paying and/or voting member.

Jennie Munster asked Olivia Woolery to summarize Monterey One Water's proposed MOA revisions. Olivia stated that Monterey One Water reviewed the MOA and circulated proposed language intended to clarify terminology such as member, party, participating member, non-voting member, and voting rights. Olivia also provided a comparison to the current MOA language.

Jennie reported that Santa Cruz reviewed the issue internally, but much of the historical discussion appears to have occurred among former or less-involved staff. Jennie stated that the City's main concern is liability if Pure Water Soquel's discharge is treated as part of Santa Cruz's discharge, and that Santa Cruz's current position is that Pure Water Soquel should be a paying, voting member.

Cameron Kostigen Mumper stated that if Soquel Creek Water District is expected to contribute financially, it should have voting rights, particularly if future CCLEAN decisions could affect the District's monetary contribution. Cameron also supported further discussion with Melanie and Santa Cruz staff to clarify the history and expectations around Soquel Creek's role.

Patrick Treanor suggested the issue may need involvement from general managers or other higher-level agency leadership, particularly from Monterey One Water, Santa Cruz, and Soquel Creek Water District. He also noted that existing Santa Cruz / Soquel agreements may be relevant to understanding liability, cost-sharing, and outfall use.

Sarah Bragg-Flavan stated that the Water Board supports CCLEAN but does not determine voting membership or internal funding arrangements, provided that permit requirements and monitoring intent are met. She noted that participation and cost-sharing are matters for the participating agencies to resolve.

Decision:

No vote was taken. The item was tabled for continued discussion after additional agency-level review and coordination.

Action Item:

Jennie Munster to coordinate with Cameron Kostigen Mumper and appropriate Santa Cruz / Soquel Creek leadership regarding existing agreements, liability, and intended CCLEAN participation.

Soquel Creek Water District to review the MOA and proposed revisions.

Monterey One Water's proposed MOA language to be reviewed by the Committee, with a separate MOA revision discussion expected at a future meeting.

F. Program Director's Report, Report by Applied Marine Sciences**Discussion:**

Annual Report: Aroon Melwani reported that the annual report analysis is complete and that the draft report was circulated to participants for review. He requested comments by May 1st. Jennie noted several updates needed in the draft, including a new Santa Cruz image and an outdated Watsonville contact reference.

Aroon summarized major annual report findings. The report includes a feature article drawing from the Phase 4 technical evaluation and discusses the evolution of the program, proposed monitoring refinements, river POP monitoring, and shifting some monitoring closer to shore.

Aroon reported that PCBs did not exceed the Ocean Plan at the ocean buoy sites during the reporting year, which is unusual in the historical record. Watsonville had one wet-season NPDES threshold exceedance. San Lorenzo River POP data, funded separately by Santa Cruz, were compared to CTR thresholds and showed a dieldrin exceedance.

Aroon reviewed sediment and mussel tissue results. DDT continued to exceed NOAA sediment effects thresholds in some sediment data, especially around dredge-related sites. Mussel tissue data continued to show elevated legacy contaminants, with the Hook remaining a consistently high site. Aroon also noted that CEC tissue monitoring is still new, with recent fipronil findings at the Hook and a broader suite of CECs added in the most recent wet-season sampling.

Aroon reviewed loads for legacy contaminants and current-use pesticides. River loads are currently limited for POPs because only San Lorenzo River POP sampling was available, but the full river comparison would be more complete if river POP monitoring is restored. He also noted recent downward patterns for several CECs, including imidacloprid and fipronil, while cautioning that the dataset remains short and may vary year to year.

Aroon also summarized corrected nutrient-load calculations. Prior annual load estimates had underreported seasonal loads because they reflected only sampled events rather than scaling to the full season. Corrected values are higher, especially for nitrogen, and Aroon had circulated the corrected prior report by email.

Program Budget: Aroon presented the updated proposed budget for the next program year. Key proposed changes include restoring river POP monitoring at all three river sites, removing FIB and TSS sampling from offshore buoy sampling, retaining offshore nutrients for now because labor savings would be minimal, and adding receiving-water nutrient/TSS/FIB sampling at near-field and far-field receiving-water locations.

Aroon noted that Santa Cruz has been funding San Lorenzo River POP monitoring separately, but the proposed Phase 4 budget would bring all three river POP sites back into the pooled CCLEAN program. He also explained that Pajaro and Salinas river autosampler installations would need to be rebuilt, adding first-year setup cost.

For CEC analyses, the budget assumes continued use of PHYSIS, with neonicotinoid samples sent to WEC for the LC method preferred by the Water Board. The Committee will revisit the longer-term analytical approach after reviewing side-by-side PHYSIS/WEC results.

Aroon explained that the proposed total budget is higher than the current year but that the comparison is not direct because the current year included benthic sampling and Phase 4 technical work, while the proposed year adds river POP monitoring and river-site setup costs.

Decision:

No vote was taken on the proposed budget. The Committee requested a formal written budget package before taking action.

Action Item:

Committee members to provide written annual report comments to Aroon Melwani by May 1st unless additional time is needed.

Aroon Melwani to provide a formal written budget package with final confirmed numbers for next program year.

Aroon Melwani to send the presentation slides to Patrick Treanor for inclusion with the meeting materials.

G. CCLEAN Topics or Questions for Water Board Staff

Discussion:

No separate questions were raised under this item beyond topics already discussed during the Chair's Report, Soquel Creek membership discussion, and Program Director's Report.

Decision:

None.

Action Item:

None.

H. Water Board's Report, Report by Central Coast Water Board**Discussion:**

Sarah Bragg-Flavan reported that a data solicitation notice had recently been issued for hypoxia and nutrients for the 2030 Integrated Report, including the San Francisco Bay, Central Coast, and other regions. She explained that the effort may ultimately inform water quality standards, TMDLs, and Ocean Plan updates related to hypoxia and harmful algal bloom concerns.

Sarah also reported that the DMR issue is broader than California and also affects Arizona, suggesting a larger system issue. There is still no resolution. She noted that the CIWQS Help Desk currently has a very helpful contact for users with questions.

Decision:

None.

Action Item:

Agencies to be aware of the hypoxia/nutrient data solicitation and consider whether relevant data should be submitted.

Agencies with CIWQS questions should contact the CIWQS Help Desk while the DMR issue remains unresolved.

I. General Announcements**Discussion:**

Jennie Munster, Olivia Woolery, and Mohammed Serageldin attended the CWEA Annual Conference in Sacramento. Jennie congratulated Monterey One Water for receiving the Large Plant of the Year award. Olivia noted that the laboratory track included useful method-development and method-challenge presentations, including toxicity-related content.

Decision:

None.

Action Item:

None.

J. Financial Report, Report by CAWD

Discussion:

Patrick Treanor reviewed the financial statements through April 15, 2026. He noted the Committee had entered the fourth quarter and explained that CAWD uses accrual accounting, meaning revenue is booked when invoiced rather than only when cash is received.

Patrick reported that AMS appeared to have approximately \$180,000 remaining to bill for the year and that total cash was approximately \$305,000. Jennie asked about the previously approved contingency-funded PHYSIS/WEC comparison study. Aroon explained that AMS has not yet invoiced those costs because lab charges have not yet been received and that the contingency use will likely appear on a final invoice. Patrick noted that the contingency is built into the budget and would be drawn down only when billed.

Decision:

No action was taken on the financial report.

Action Item:

Aroon Melwani to include any approved contingency-funded side-by-side analytical costs on a future AMS invoice once lab charges are received.

4. ADJOURNMENT / NEXT MEETING DATE

May 27th, 2026 at 2:00 PM was identified as the next scheduled meeting for the CCLEAN Committee.

ADJOURNMENT: Jennie Munster moved to adjourn the meeting. Olivia Woolery seconded the motion. The meeting was adjourned at approximately 3:14 p.m.



PY24-25 CCLEAN ANNUAL REPORT

REPORT SUMMARY - WHAT DID WE LEARN?

APR 22, 2026



ANNUAL REPORT

2024-25

Central Coast Long-term Environmental Assessment Network

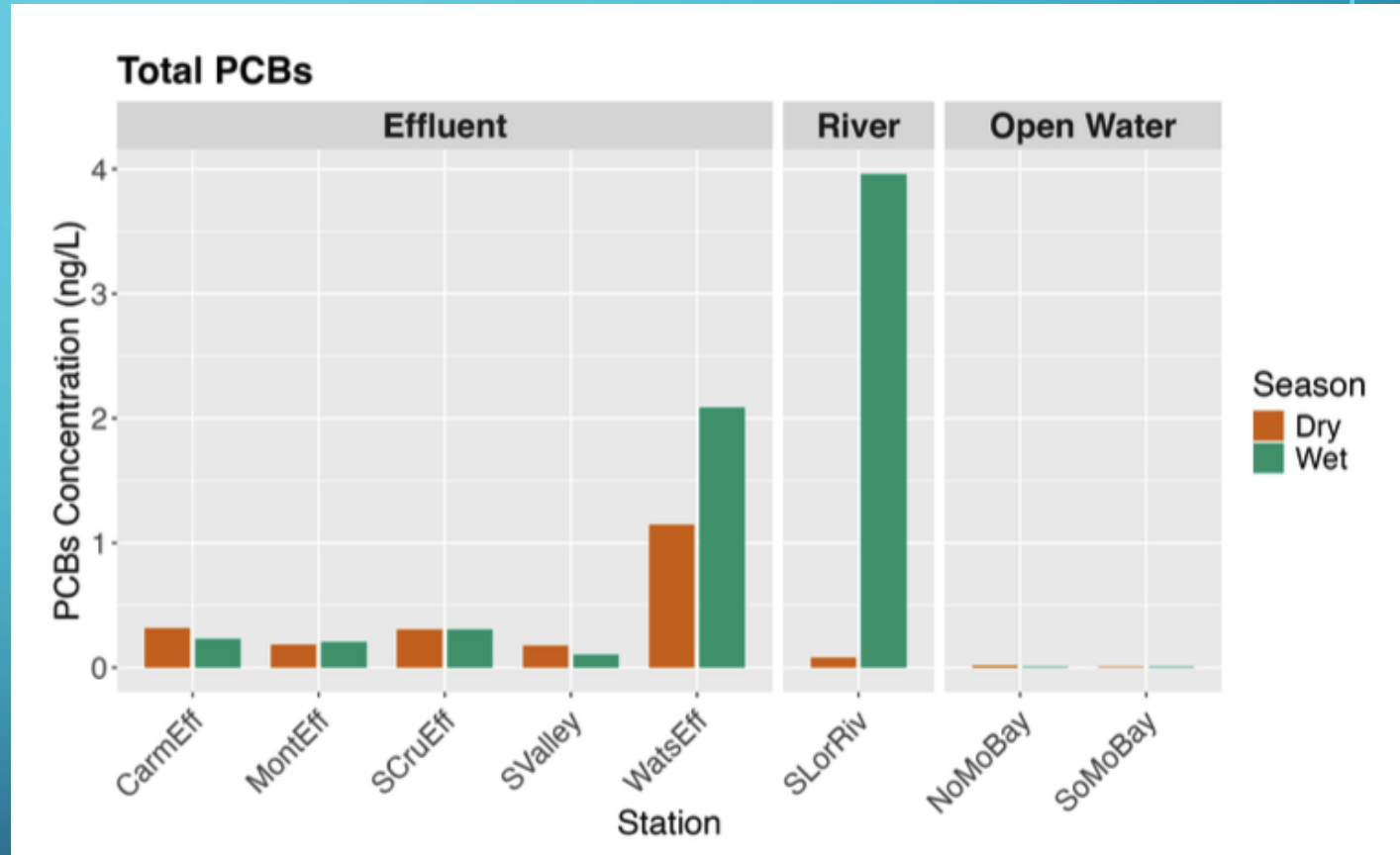


FEATURE: ADAPTIVE MANAGEMENT OF CCLEAN

- CCLEAN's design is phased, adaptive management approach.
 - Summary of Phases I to III
 - Phase IV evaluation
 - Priorities and refinements
-
- Revise with decisions on Program scope (i.e. river POPs, nutrients)

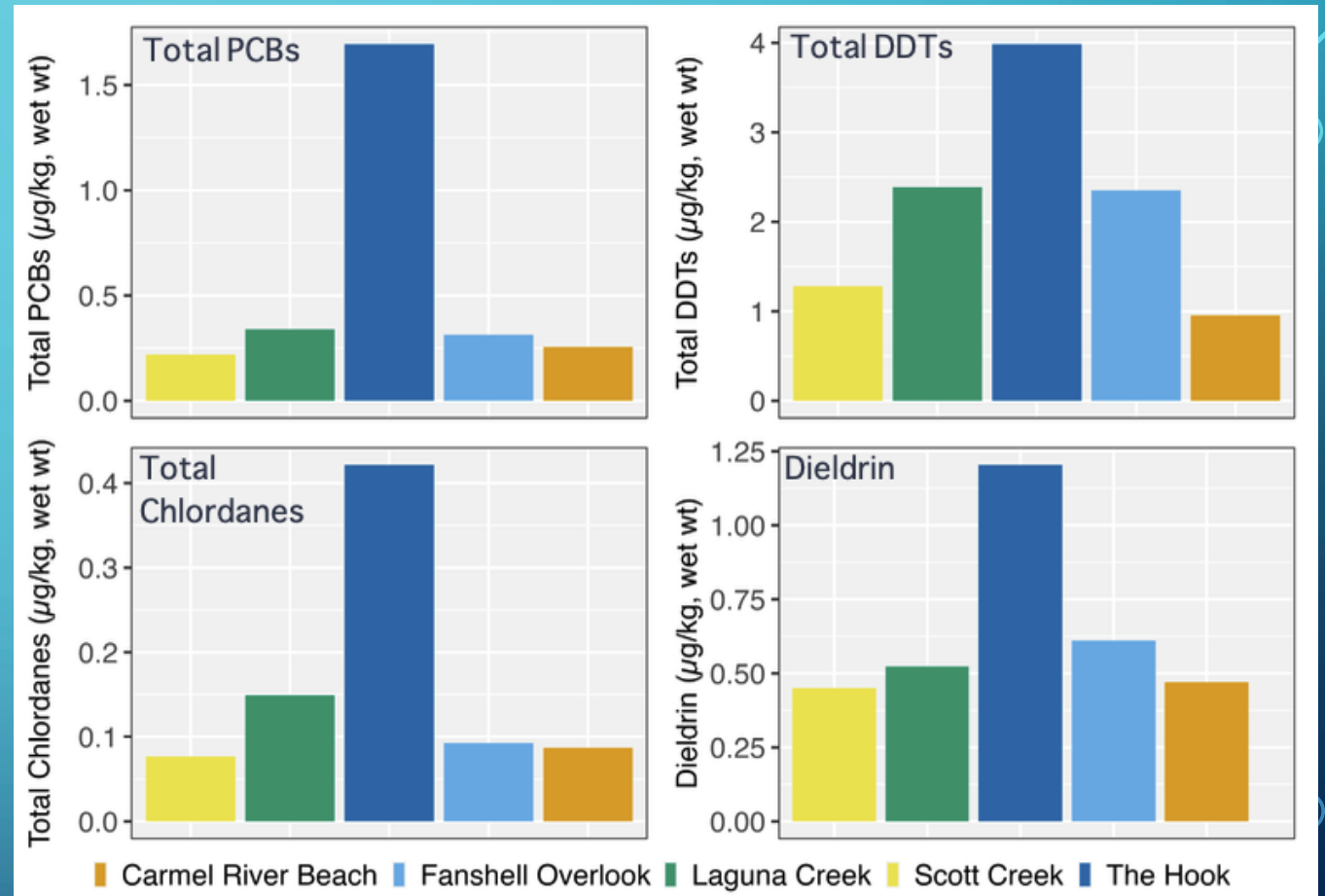
PY24-25 STATUS OF CONCENTRATIONS AND LOADS

- No Ocean exceedance for PCBs!
- San Lorenzo River exceeded CTR for dieldrin
- Watsonville exceeded NPDES threshold for PCBs (wet only)



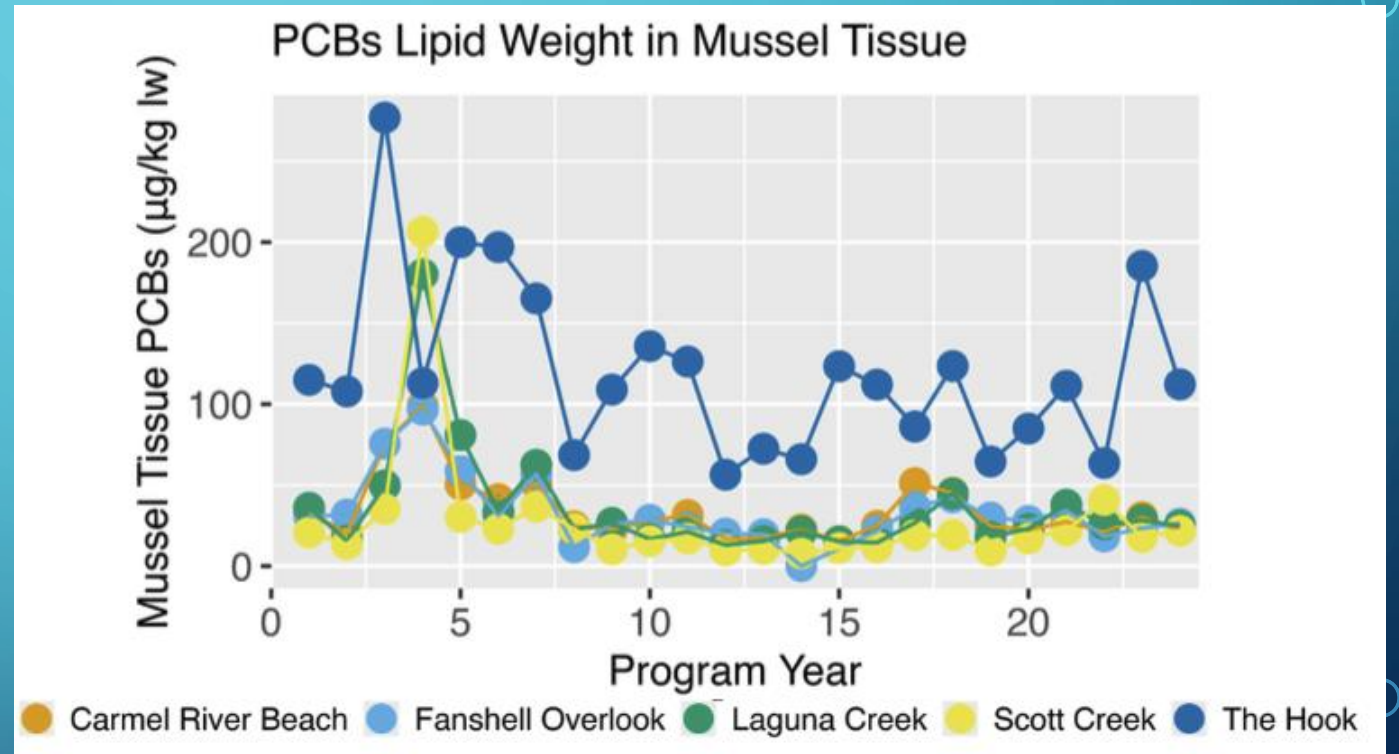
HUMAN HEALTH / ECOLOGICAL STATUS

- PCBs and OCs problem
- Dieldrin exceeded OEHHA human consumption threshold at four sites



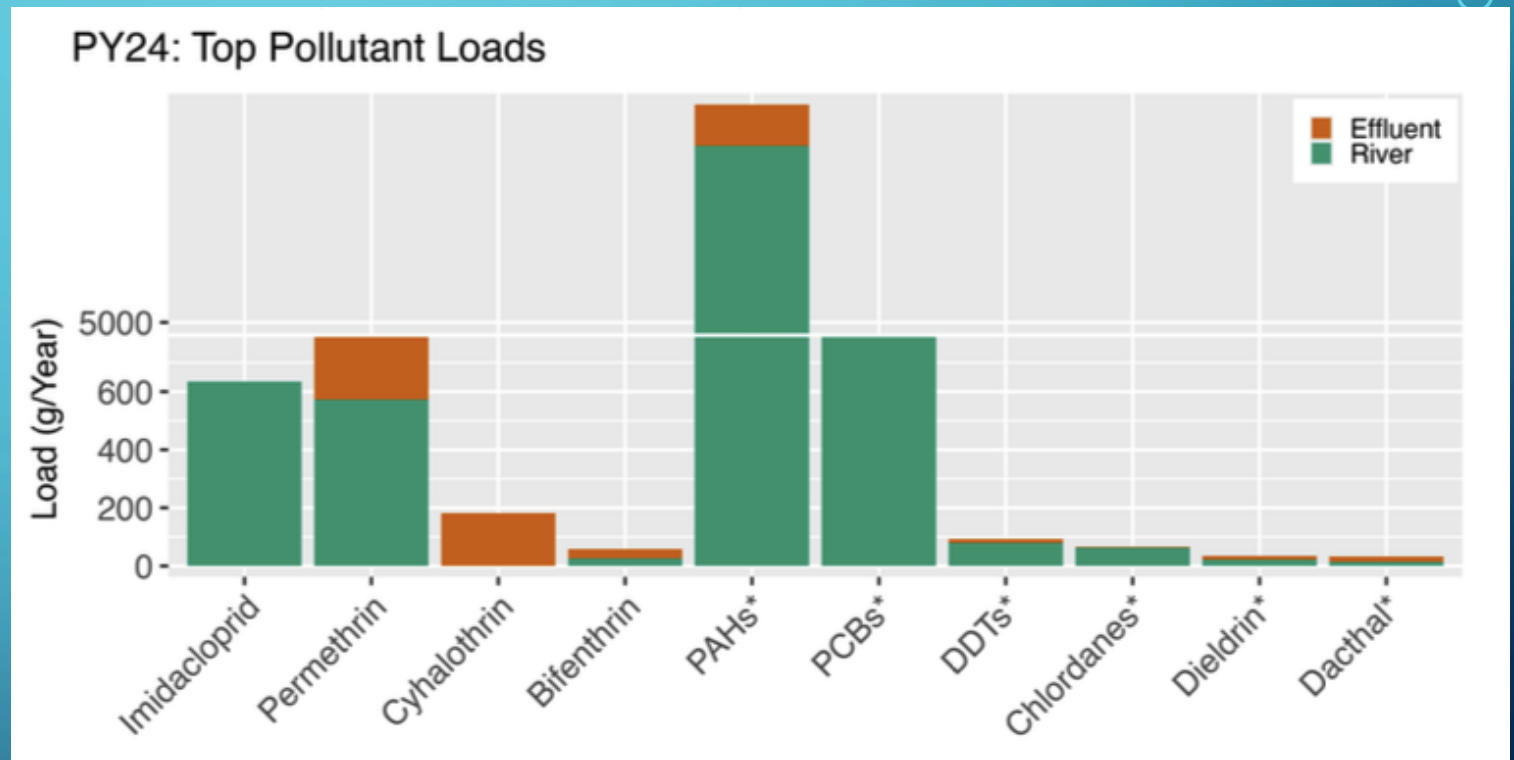
PY24-25 STATUS OF CONCENTRATIONS AND LOADS

- The Hook (in Northern Monterey Bay) PCBs are elevated
- PCBs in 23-24 increased to peak levels



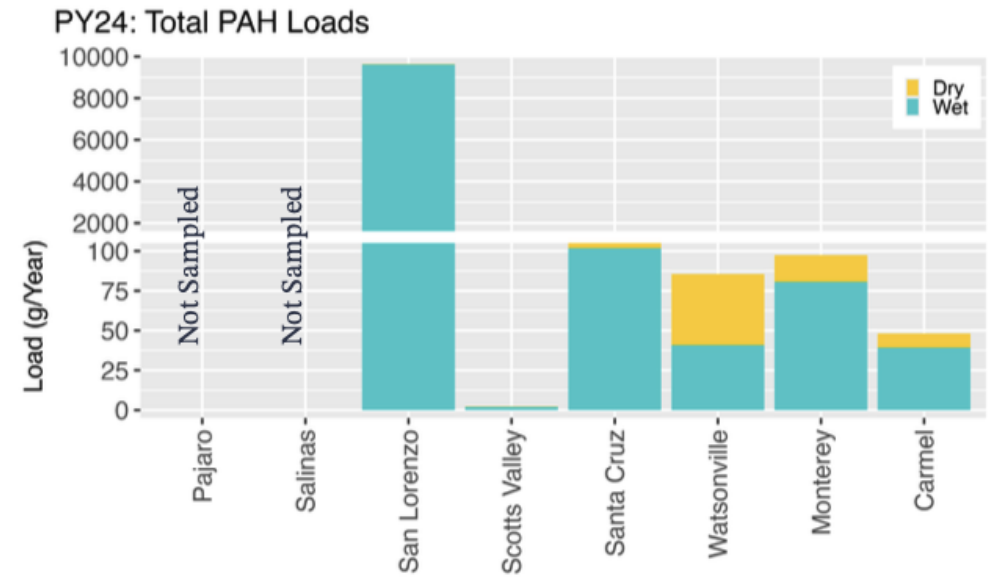
PY24-25 SOURCES AND LOADS

- Incomplete estimates due to NO POP sampling of Pajaro/Salinas
- Notable CEC loads in rivers
- PAH loads prevalent
- Difficult to interpret PCBs and DDTs without other rivers

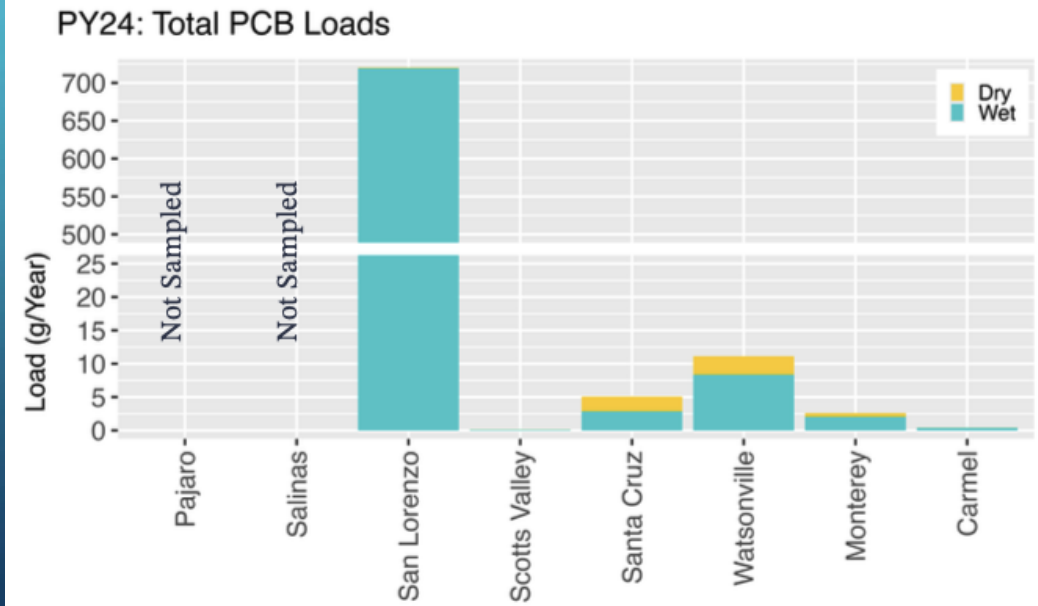


PCB AND PAH LOADS

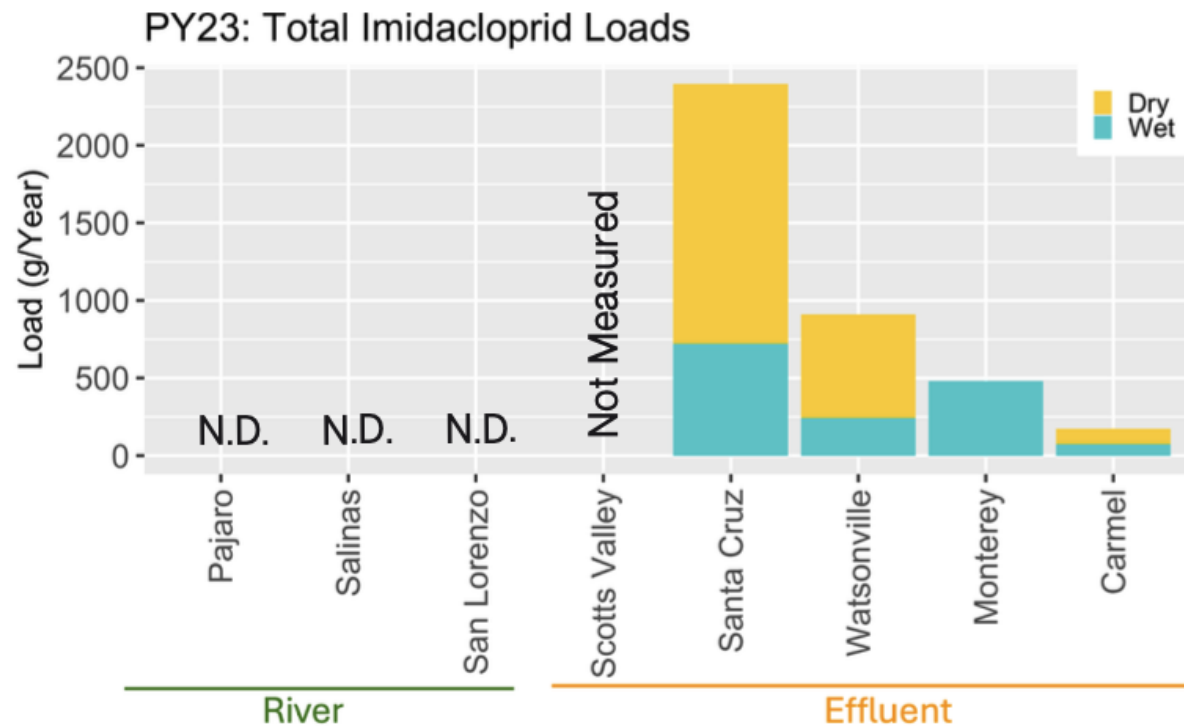
- Majority of loads derived in wet season
- San Lorenzo River alone still contributed more PAHs and PCBs than the POTW discharges combined



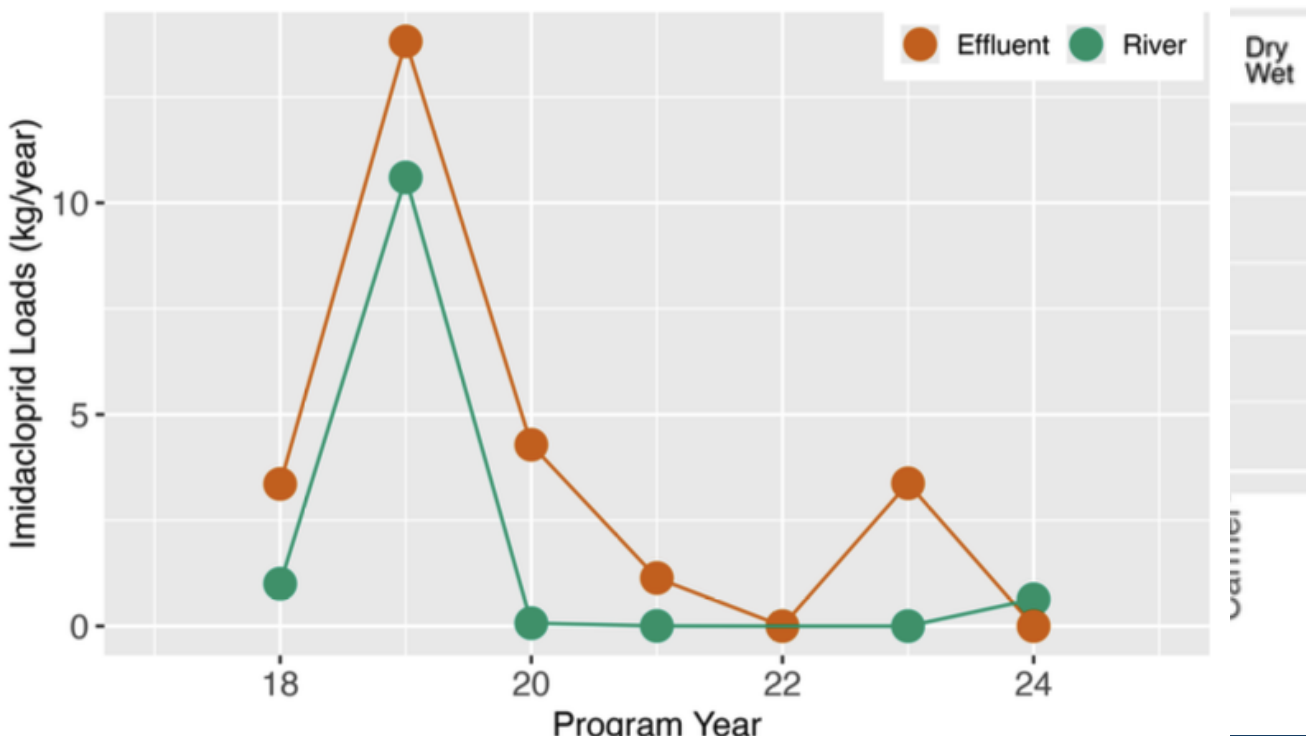
Total PAH loads measured in 30-day flow-proportioned river and effluent samples from the San Lorenzo River and POTW discharges.



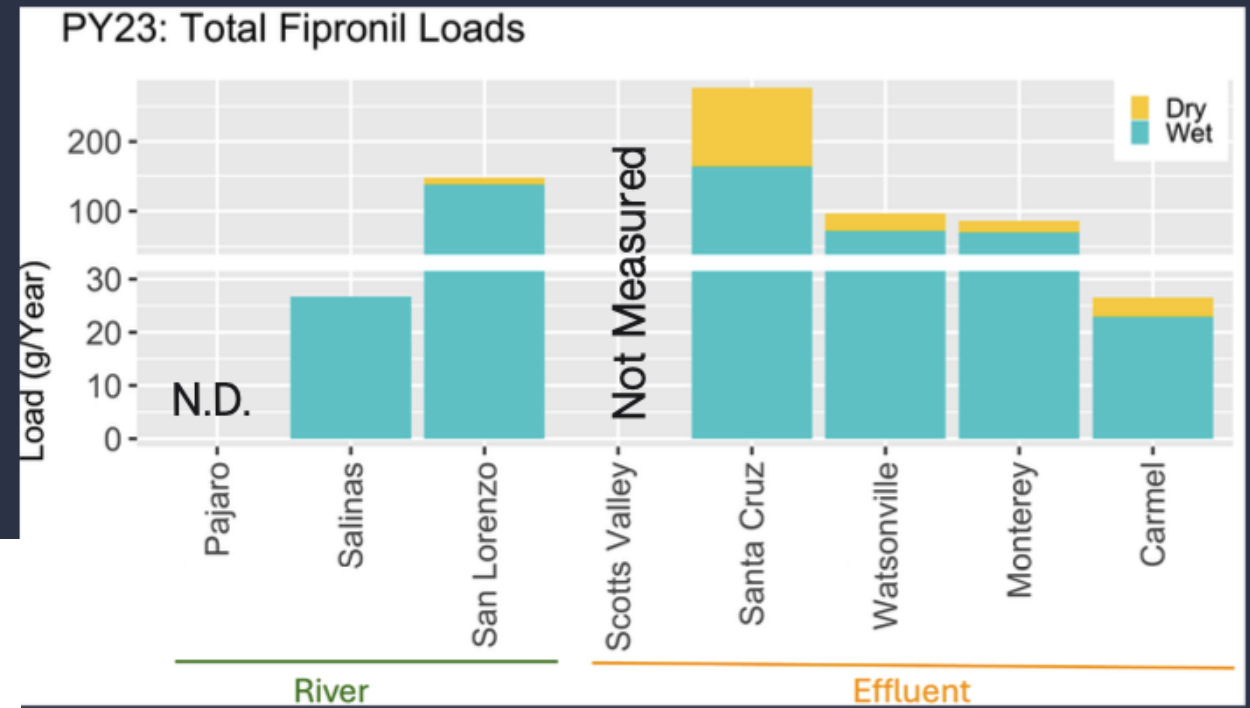
IMIDACLOPRID LOADS



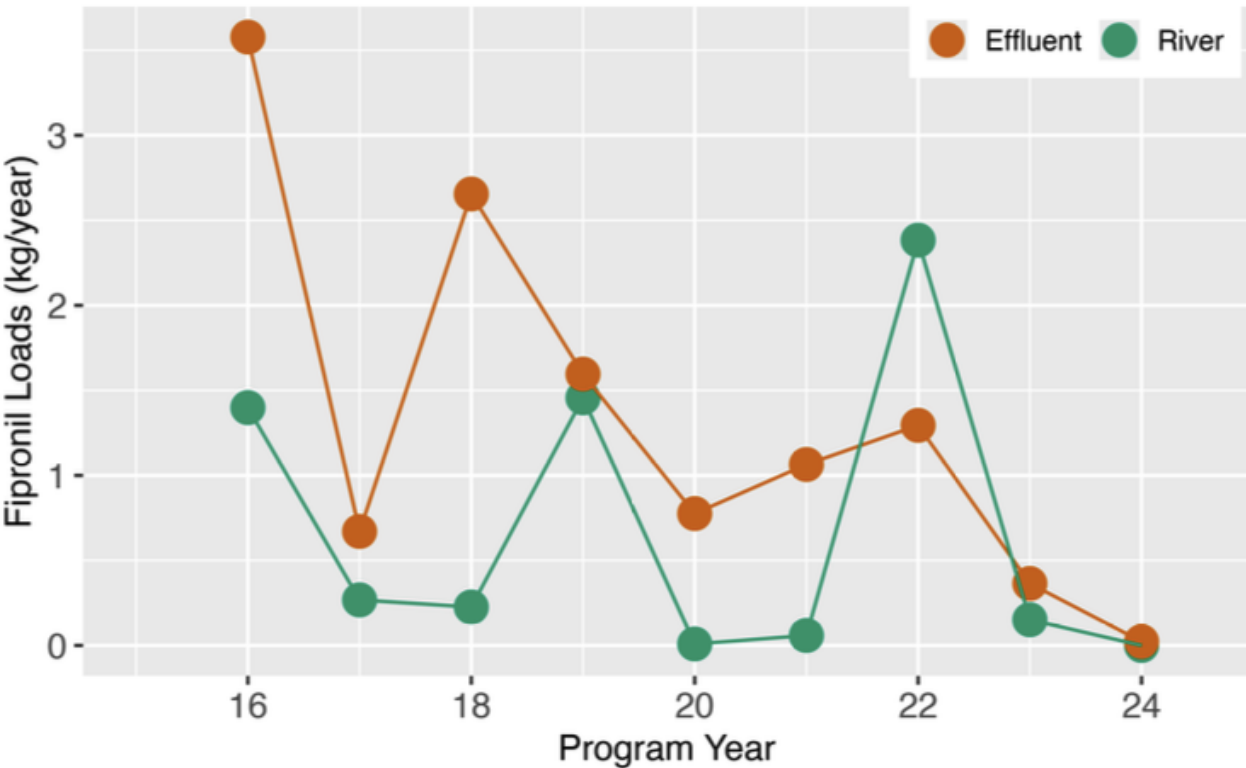
Total Imidacloprid Loads in Rivers and Effluent



FIPRONIL LOADS



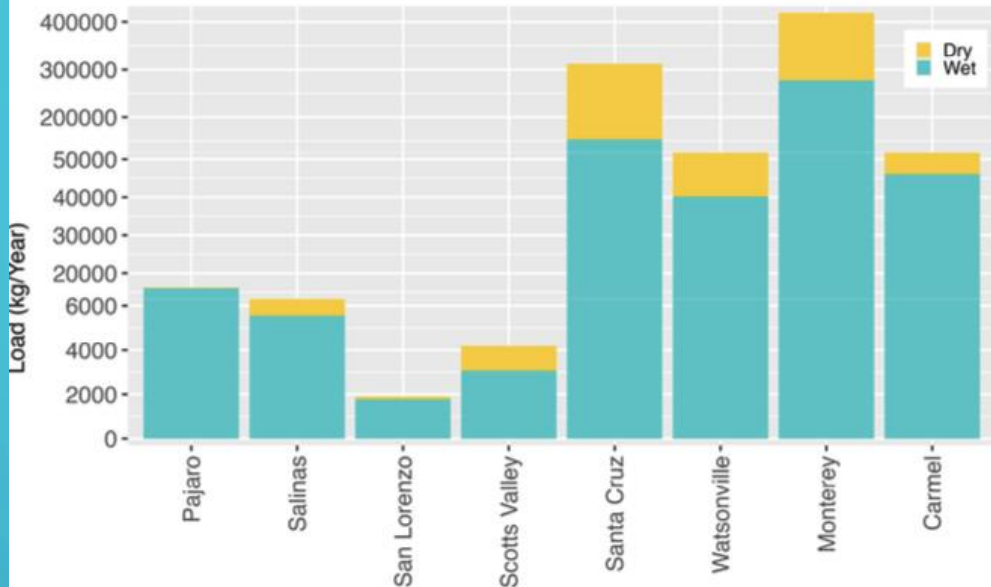
Total Fipronil Loads in Rivers and Effluent



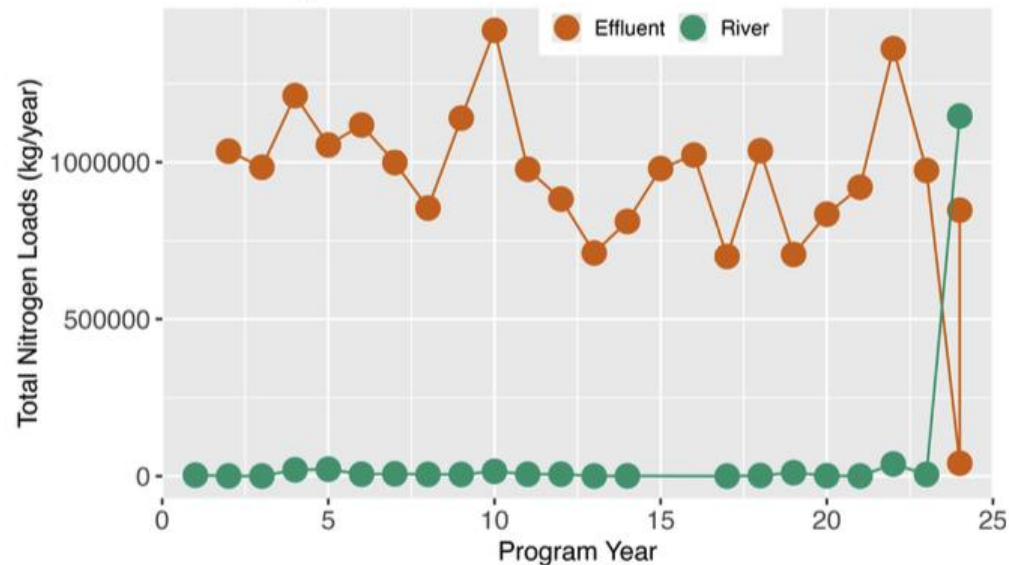
- Fipronil results all ND in PY24

NUTRIENTS

PY24: Total Nitrogen Loads

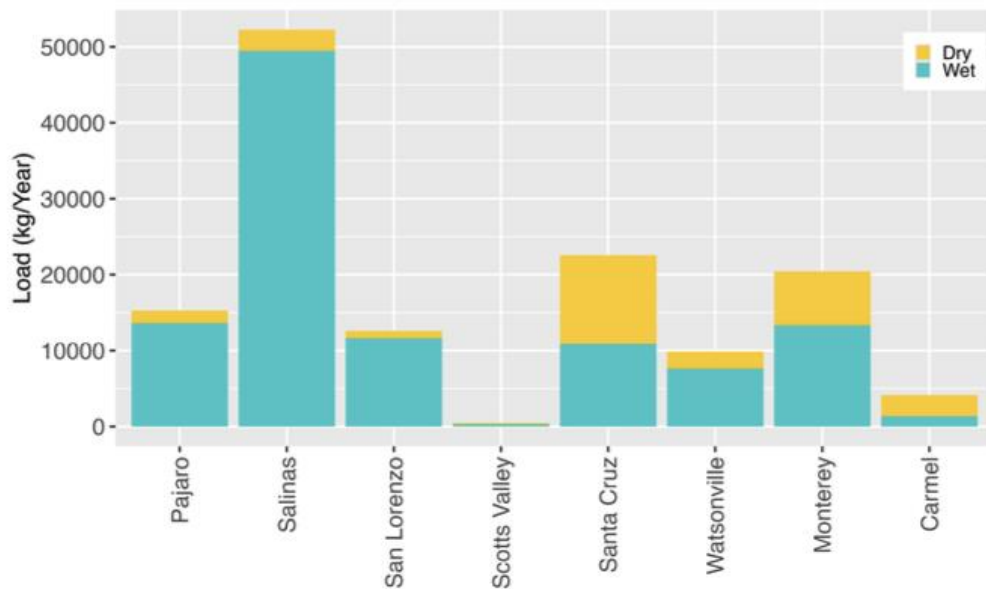


Total Nitrogen Loads



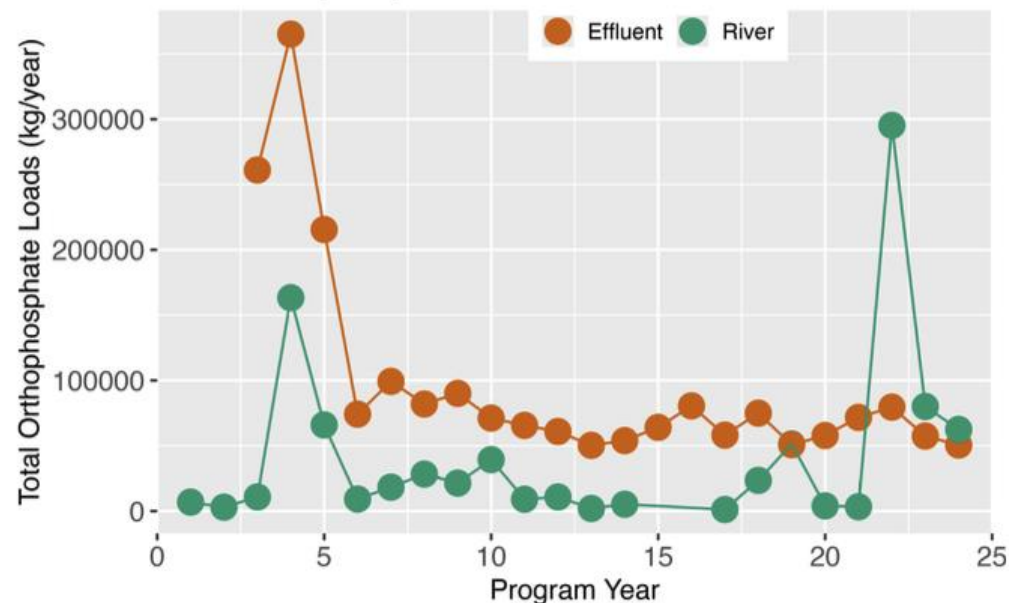
Total Ammonia loads from rivers and POTW discharges in Program Year 24. Yellow bars are dry season and blue bars are wet season.

PY24: Total Orthophosphate Loads

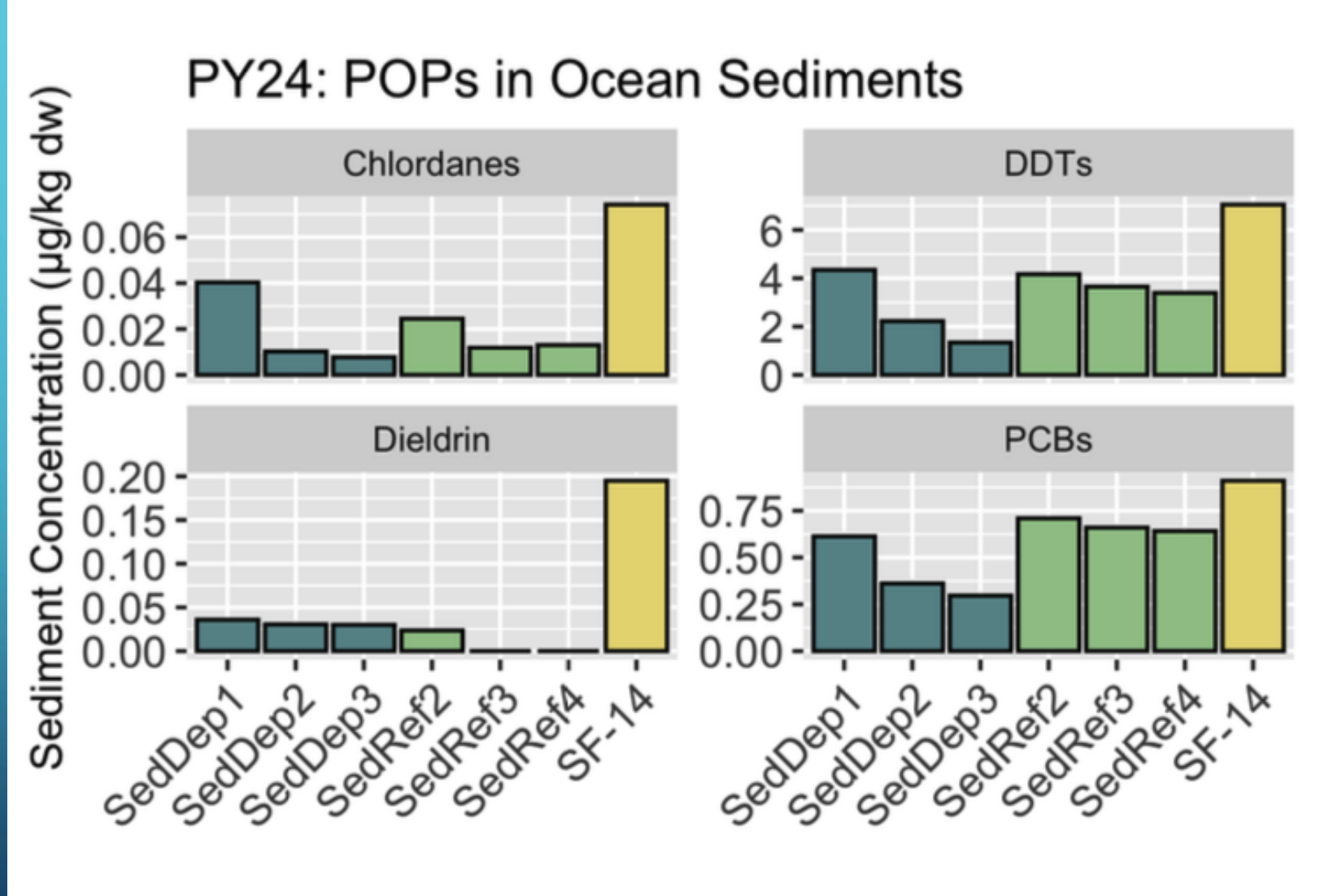


Total Nitrate loads from rivers and POTW discharges, 2001-2024. Orange symbols are effluent and green symbols are rivers.

Total Orthophosphate Loads

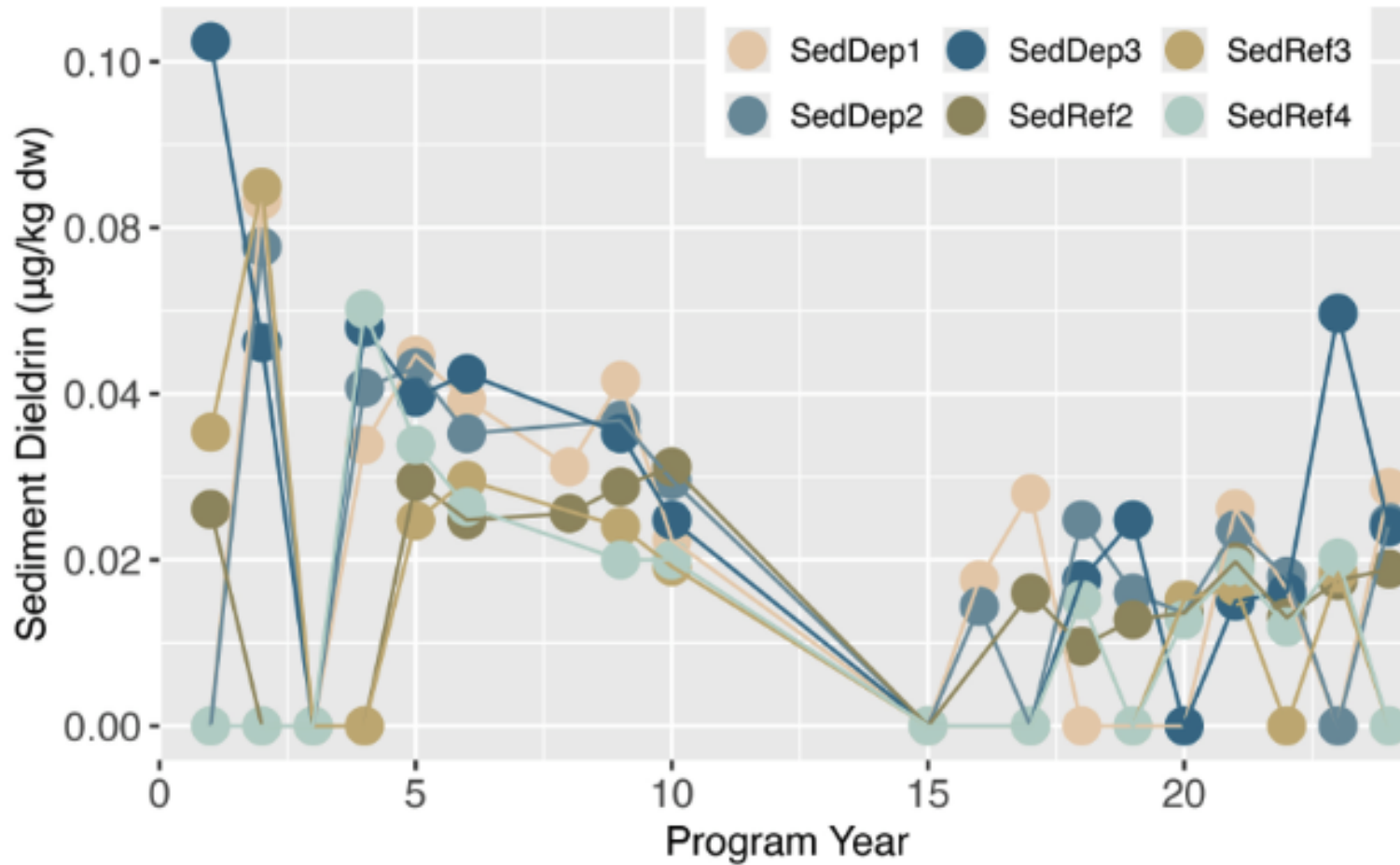


SEDIMENTS



SEDIMENT POPS

Dieldrin in Ocean Sediments



KEY POINTS

- PCBs did not exceed Ocean Plan
- PCBs, DDTs, and Dieldrin from SLR, also remain elevated in Ocean sediments
- Shifting patterns in CECs from POTW effluent
- Nutrient discharges and their effects in Monterey Bay

CCLEAN SCOPE AND DRAFT COST PROPOSAL PY 26



04/22/26

A.Melwani, AMS

TASK SUMMARY

- Task 1 – Program Management (**status quo**)
- Task 2 – Field Sampling and Analysis
 - 2.1 : Mussels (**status quo**)
 - 2.2 : Wastewater (**status quo**)
 - 2.3 : **River POPs**
 - 2.4 : Nearshore Ocean Chemistry (**remove FIBs/TSS**)
 - 2.5 : Receiving Water Ocean Nutrients/FIBs/TSS (**addition, every quarter, 4 events per year, 2 sites x 3 POTWs (M1W, SC, WAT)**)
 - 2.6 : Watsonville Influent
 - 2.7 : Rivers: Nutrients, and CECs (**change CEC Lab for neonics; FIBs in rivers via collaboration**)
 - 2.8 : Ocean Sediments (**status quo chem, next benthos in 2028**)
- Task 3 – Data Assembly and Quality Assurance (**status quo**)
- Task 4 – Annual Report (**status quo**)
- Task 5 – Miscellaneous (**status quo**)

BUDGET OVERVIEW

Table 1. Applied Marine Sciences (AMS) Budget By Task

Task	Description	PY 26			Notes
		AMS Labor Cost (\$)	Direct Costs (\$)	Total Cost (\$)	
1	Program Management	\$53,380	\$0	\$53,380	
2	Field Sampling and Laboratory Analysis	\$16,080	\$401,828	\$417,908	
2.1	Mussels Collections	\$0	\$33,488	\$33,488	Physis CECs tissue
2.2	POTW Outfall Sampling	\$0	\$138,423	\$138,423	
2.3	River POPs	\$0	\$80,583	\$80,583	River Setup Costs
2.4	Monterey Bay Ocean Sampling	\$0	\$72,587	\$72,587	Remove FIBs and TSS
2.5	Receiving Water Sampling Nutrients/TSS/FIBs	\$0	In-kind	\$0	Logistics TBC
2.6	Watsonville Influent Sampling	\$0	\$9,010	\$9,010	
2.7	Nutrients and CECs Sampling in Rivers	\$0	\$31,281	\$31,281	Neonics by Weck 48-hr Pyrethroid+ composite
2.8	Sediment Sampling	\$16,080	\$39,456	\$55,536	
3	Data Assembly and Quality Assurance	\$37,200	\$4,200	\$41,400	
4	Annual Report	\$60,420	\$0	\$60,420	
5	Miscellaneous Tasks	\$18,400	\$281	\$18,680	



TASK 2. FIELD SAMPLING AND ANALYSIS

- 2.1. Mussels: **No change to scope** : 5 sites+FD; 1 event (wet), incl CECs at 4 sites
- 2.2. Wastewater: **No change to scope**: 5 sites; 2 events (wet/dry)
- 2.3 River POPs: **Re-start** : 3 sites; 2 events (wet/dry)
- 2.3. Ocean: **Modify analyte list**: 2 sites; 2 events (wet/dry)
- 2.4. Receiving Water: **In-kind task**: 3 sites; 4 events (wet/dry)
- 2.5. Wat Inf: **No change to scope**: 1 site; 1 event (dry)
- 2.6. Rivers Nutrient/CECs: **No change to scope**: 3 sites: 2 events (wet/dry)
- 2.7. Ocean Sediments: **No change to scope** : 6 sites; 1 event (dry), +benthos

BUDGET OVERVIEW

Table 2. Budget Summary PY26 CCLEAN Program Costs

	CCLEAN Budget		
Program Year	AMS	Other Costs	TOTAL BUDGET
PY25	\$591,789*	\$71,014	\$662,803*

Table 2 presents a complete overview of PY26 costs. The total cost to implement CCLEAN includes overhead and contingency funds:

- Lead agency overhead of 7% of the subcontractor budget
- A contingency of 5% of the total budget, and

* The cost for Watsonville Influent sampling is paid exclusively by the City of Watsonville and is not split among the other CCLEAN participants.

