

CENTRAL COAST LONG-TERM ENVIRONMENTAL ASSESSMENT NETWORK (CCLEAN)
Steering Committee
Meeting Minutes
September 23rd, 2026, 2:00 pm
Via Teleconference Zoom Webinar

Jennie Munster opened the meeting and conducted roll call at approximately 2:07 pm. Connie Machuca joined later and participated in the resumed discussion and vote under Item E.

Participants - Voting Member Representatives: Present

Jennie Munster, Laboratory Manager: City of Santa Cruz

Patrick Treanor, District Engineer: CAWD

Olivia Woolery, Laboratory Supervisor: Monterey One Water (M1W)

Laura Dale, EH&S Manager: Vistra Corp. (Moss Landing Power Plant; participated in the initial discussion)

Connie Machuca, Laboratory Manager: City of Watsonville (joined later in the meeting)

Other Listed Representatives: Not Recorded in Attendance

Anne Hogan, Wastewater System Manager: City of Santa Cruz

Dave Martin, Environmental Compliance Inspector: City of Santa Cruz

Mohammed Serageldin, Laboratory Manager: CAWD

Mike Crane, Water Quality Chemist: City of Watsonville

Jeremy Long, Wastewater Division Manager: City of Scotts Valley

Jose Guzman, Operations Manager: Monterey One Water

Sarah Stevens, Environmental and Regulatory Compliance Supervisor: Monterey One Water

Participants - Non-Voting Members and Guests: Present

Aroon Melwani, Senior Scientist, Central Coast Managing Principal Partner: Applied Marine Sciences (AMS)

Dane Hardin, Senior Marine Scientist, Principal: Applied Marine Sciences

Sarah Bragg-Flavan, Water Resource Control Engineer: Central Coast Water Board

Cameron Kostigen Mumper, Associate Manager - Water Resources: Soquel Creek Water District

Dr. Martha Sutula, Head of the Biogeochemistry Department: Southern California Coastal Water Research Project (guest speaker; participated by telephone)

Non-Voting Members: Not Recorded in Attendance

Mary Hamilton, Environmental Program Manager: Central Coast Water Board

1. Appearances/Public Comments

The Chair deferred public comment until Dr. Martha Sutula could connect. Dr. Sutula subsequently provided a guest update by telephone during Item G; that discussion is recorded under the Program Director's Report. No other public comments were recorded.

2. Agenda Changes

No formal agenda amendments were recorded. The membership vote under Item E was initially deferred and revisited after Connie Machuca joined. Item G was interrupted to hear Dr. Sutula's update, after which AMS completed its report.

3. Agenda Items

A. Introductions

Discussion: Introductions were conducted during the initial consideration of Item E after Laura Dale joined the discussion.
Decision: None.
Action Item: None.

B. Chair's Report, by Santa Cruz Representative

Discussion: Jennie Munster reported that Santa Cruz's semipermeable membrane devices (SPMDs) were approaching the end of their 30-day deployment, with retrieval anticipated on the next Friday or following Monday. She distinguished the SPMDs from CCLEAN's 30-day resin-based sampling method.
Decision: None.
Action Item: None.

C. Review of Prior Meeting Minutes, Report by CAWD

Discussion: Patrick Treanor reviewed the August 26, 2026 minutes, including coordination with Martha Sutula, the laboratory comparison study, re-establishment of the Pajaro River sampling site, and Water Board and financial updates. No corrections or revisions were requested.
Decision: Olivia Woolery moved to approve the August 26, 2026 minutes. Jennie Munster seconded the motion, Patrick Treanor concurred, and the Chair declared the minutes approved. No opposition was stated.
Action Item: None.

D. Lead Agency Remarks, Report by CAWD

Discussion: Patrick Treanor reported that he had no additional lead agency remarks.
Decision: None.
Action Item: None.

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

Discussion: The Committee initially deferred the membership vote because Watsonville and Scotts Valley were not represented and participants questioned the applicable quorum requirements. Laura Dale joined the discussion and introductions were conducted. Cameron Kostigen Mumper stated that Soquel Creek Water District was comfortable continuing to attend and participate in discussion without voting rights, provided it would not pay the dues associated with voting membership. No membership decision was completed at that point. After Connie Machuca joined, Jennie reopened the item. Jennie proposed that Soquel Creek Water District/Pure Water Soquel remain a non-paying, non-voting participant, with Santa Cruz working out a separate relationship with the District concerning Santa Cruz's portion of CCLEAN costs. Patrick moved that Soquel Creek Water District remain a non-voting member. He expressly removed the word 'silent' from the proposed description, and Jennie confirmed that Cameron could continue to speak and participate in open discussion. Connie Machuca and Olivia Woolery each stated their support for non-voting membership.
Decision: On Patrick Treanor's motion, the Chair declared that Soquel Creek Water District would remain a non-voting member. Jennie further confirmed that the District would not join as a paying CCLEAN member and would continue to be welcome at the meetings. No separate cost-sharing agreement with Santa Cruz was approved during this meeting.
Action Item: Santa Cruz and Soquel Creek Water District will address their separate arrangement concerning Santa Cruz's share of CCLEAN costs.

F. CCLEAN Membership MOA Revisions

Discussion: The MOA item was held over during the initial membership discussion and was not separately revisited after the Item E vote.
Decision: No MOA amendments were adopted.

Action Item:

No separate action was assigned.

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

Dry-season monitoring and sample coordination. Aroon Melwani reported that the dry-season 30-day sampling began around September 10 after additional work to arrange access to the Pajaro River site. Completion was expected around October 7-10. Ocean buoys had been deployed and river monitoring was underway. The Pajaro access arrangements had been formalized, supporting continued use of that site.

Sampling for contaminants of emerging concern (CECs) remained scheduled for the end of the 30-day period. Integral would contact the agencies about sample volumes, pickup, and timing. After the guest presentation, Jennie reported that Santa Cruz had collected its nutrient and total suspended solids (TSS) samples the preceding Tuesday and asked AMS to coordinate transfer of the frozen samples. Aroon agreed to follow up.

Data review and upcoming annual report. Jackie was reviewing electronic data deliverables (EDDs) for distribution to participants near the end of 2026 or beginning of January 2027 and subsequent use in the annual report. Aroon reported that this work remained on schedule.

AMS was considering two feature topics for the next report. One would incorporate the 2025 benthic-community sampling results into the longer time series, including comparison with the previous sampling in 2020. The other would examine nutrients, drawing on the historic dataset compiled for collaboration with Martha Sutula. These were preliminary topics to be developed as the analyses progressed.

Certified reference material study: PHYSIS and WEC. Aroon and Dane Hardin described further development of a certified reference material (CRM) study comparing PHYSIS and WEC. The proposed work would focus on neonicotinoids and could include other analytes, such as fipronils, that WEC had not analyzed during the prior wet-season comparison. Dane also discussed CRM availability for current-use pesticides, including pyrethroids.

Dane identified two possible CRM suppliers. LabMix in Germany had provided a quote and had been responsive. A comparable quote was still being sought from Agilent using the same compounds and concentration ranges. No supplier had been instructed to proceed.

The proposed design would provide each analytical laboratory with three samples having closely matched concentrations between laboratories. The first would contain the highest concentration, the second would contain 20% of the mass in the first, and the third would contain 20% of the mass in the second. Dane clarified that the CRM producer, not PHYSIS or WEC, would prepare the lower-concentration samples by dilution.

Jennie suggested including a purified-water blank to help evaluate the differing detections and non-detections observed in the earlier comparison. Dane said that an additional blank could be included and noted that some higher results from one laboratory appeared difficult to reconcile with expected environmental concentrations. Jennie also raised whether the earlier batch quality-control information had been reviewed. The blank and final study design remained open for consideration.

AMS expected to assemble a written scope, potentially the following week, after the remaining quote and design details were available. No final study cost or expenditure authorization was

presented or approved.

Guest update: Martha Sutula - coastal nutrient modeling. The Chair paused the Program Director's Report when Dr. Martha Sutula was able to participate by telephone after technical difficulties. Dr. Sutula identified herself as head of the Biogeochemistry Department at the Southern California Coastal Water Research Project and provided a verbal update on the coastal nutrient-modeling effort previously discussed with CCLEAN.

Dr. Sutula explained that the existing project was investigating land-based nutrient contributions from rivers and ocean outfalls to ocean acidification and hypoxia, with San Francisco and Monterey coast simulations covering 2012-2017. She thanked AMS for providing the curated CCLEAN ocean-outfall dataset and reiterated the need for facility-specific information requested through CASA, clarification of wastewater and recycled-water operations, and agency review of the compiled dataset.

A newly funded Ocean Protection Council project would extend the existing work and apply a model of domoic-acid-producing harmful algal blooms (HABs), adding a third management endpoint alongside acidification and hypoxia. The updated simulations would extend through 2025 to represent more recent changes in wastewater volumes, nutrient concentrations, and water recycling.

Dr. Sutula identified Daniele Bianchi at UCLA, herself at the Southern California Coastal Water Research Project, and Rafe Kudela at UC Santa Cruz as project leads. The new grant was expected to begin around November 2026, with approximately two and a half years to complete the work. She described the broader coordinated OPC-funded efforts as totaling roughly \$3 million.

Management scenarios would evaluate the effects of nutrient reductions and water-recycling projects already planned or pledged for the next five to ten years. The principal focus was San Francisco Bay and the Southern California Bight. As context, Dr. Sutula cited a 40% nutrient-load reduction requirement in San Francisco Bay and roughly 40% reductions planned or pledged by major Southern California dischargers. Central Coast agencies with planned reductions could discuss including their projects in the scenarios.

The immediate priority over the next three months was to extend and quality-check the input dataset through December 2025. Particular attention was needed to distinguish wastewater, recycled-water, and river contributions where operations in the lower Salinas River area and at Monterey One Water complicate the accounting. Dr. Sutula planned to circulate the reviewed dataset for agency feedback. A Monterey One Water tour was scheduled for the morning of October 13, and she offered to meet with other interested agencies while in the area.

Dane recalled a CCLEAN-funded study by Rafe Kudela on wastewater-discharge effects on chlorophyll in Monterey Bay, distinguished it from a HAB-specific study, and offered to share the report. Jennie noted that repeating that work had been considered during Phase 4 planning and asked how it related to the newer modeling effort.

Dr. Sutula said the earlier work could inform the current investigations. She also described a related HAB forecasting-model effort involving Rafe Kudela and Clarissa Anderson. She characterized these efforts as complementary uses of monitoring and remote-sensing data to examine mechanisms, validate model predictions, and assess uncertainty; no decision was made about commissioning another CCLEAN study.

Patrick asked about recent algal activity and the influence of El Nino. Dr. Sutula described different regional responses: in her account, Southern California's more severe domoic-acid

blooms tend to be associated with La Nina, while El Nino more often favors dinoflagellate blooms. She contrasted this with her understanding of domoic-acid events in the Monterey region, while emphasizing that she did not personally track current local events. She offered to identify an appropriate expert for a more specific briefing. Capturing these different regional responses was part of the model-validation challenge.

In response to Aroon, Dr. Sutula confirmed that the model would be extended through 2025 to test its ability to reproduce substantial year-to-year differences in domoic acid. In response to Jennie, she emphasized that nutrient regulation on the Central Coast was not a foregone conclusion: the work would help evaluate whether land-based nutrients contribute to problems and whether actions already planned might adequately address them.

Dane asked about spatial resolution. Dr. Sutula described horizontal cells of 300 meters by 300 meters and 60 terrain-following vertical layers, with finer vertical resolution near the surface and in shallower water. She noted that the simulations use supercomputers and can take months to run. The group agreed that a further discussion would be useful after the quality-reviewed dataset was circulated.

Decision:

No funding or final scope was approved for the CRM study. AMS will return with a written proposal. The annual-report feature topics remained preliminary, and no additional CCLEAN modeling study was authorized.

Action Item:

AMS will complete the EDD review and target distribution near year-end or early January, and will develop the proposed annual-report feature topics.

AMS and Dane Hardin will obtain the remaining CRM quote, consider the blank sample, and prepare a written scope for Committee review, targeted for the following week.

Integral/AMS will coordinate end-of-deployment CEC sampling and pickup. Aroon and Jennie will arrange transfer of Santa Cruz's frozen samples.

Dr. Sutula will circulate the quality-reviewed modeling dataset when ready for agency review and coordinate further briefings as appropriate. Agencies with relevant operational changes or planned nutrient reductions may discuss those details with her.

H. CCLEAN Topics or Questions for Water Board Staff

Discussion:

Aroon asked whether there had been progress on the CCLEAN Quality Assurance Project Plan (QAPP). Sarah Bragg-Flavan said the document remained at an impasse over whether the State Water Board or Regional Water Board had authority to sign it, and that the issue had not advanced.

Sarah distinguished that unresolved approval from the Regional Board's acknowledgement of the Phase 4 monitoring plan. Aroon asked whether AMS still needed to make revisions before signature. Sarah confirmed that another round of comments remained to be sent and said she would follow up with the responsible staff to move the review forward.

Decision:

No QAPP approval or new revision requirements were issued during the meeting.

Action Item:

Sarah Bragg-Flavan will follow up on the unresolved signatory responsibilities and pending QAPP comments for AMS.

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

Sarah reported that the Monterey One Water/Cal-Am permit was scheduled for December. She described it as the first Central Coast permit to address the receiving-water monitoring and limit changes under discussion, with increased monitoring and bacteria becoming a more prominent issue for ocean discharges.

Sarah noted that temperature was also receiving attention and that temperature and color were particular challenges for inland discharges.

For CAWD, Sarah cited an April target and recommended contacting Drew for the current schedule. She clarified that Scotts Valley was also moving forward and that Watsonville would follow. No firm permit-issuance date was established during the meeting.

Decision:

None.

Action Item:

CAWD may contact Drew for confirmation of the permit-development schedule.

J. General Announcements**Discussion:**

Soquel Creek Water District anniversary. Cameron invited participants to the District's 65th anniversary celebration on October 16 at a brewery in Capitola, with music and food. The invitation was made immediately after the membership discussion.

Use and accuracy of publicly available monitoring data. Sarah reported seeing CIWQS, GeoTracker, and related Water Board datasets used in multiple presentations and publications at the WaterReuse conference. She noted that errors can arise when datasets are grouped or interpreted and that third parties increasingly offer analyses of public data through subscription services. Jennie recalled CASA's recommendation that agencies download and review their own CIWQS records for errors and apparent exceedances.

Patrick raised reports of inaccurate transfers between CIWQS and EPA's reporting system that could create a misleading appearance of pollution events. Sarah said she had not heard of that specific issue. She stated that EPA Region 9 reporting was working again and referred to an email describing voluntary entry of earlier missing data; she did not provide additional instructions during the meeting.

Olivia relayed a report from a Bay Area agency about numerous public-records requests from AI-development companies. Monterey One Water and Soquel Creek Water District had not identified similar requests directed to them. No action was taken on this topic.

Fall and holiday meeting schedule. The next regular meeting was confirmed for October 28. Members noted that the usual November meeting would fall immediately before Thanksgiving and the December meeting during Christmas week. Aroon said he would be unavailable for the

November date. Patrick suggested combining the November and December meetings into one meeting in early December. Jennie and Patrick agreed to discuss options and potentially circulate a scheduling poll; no replacement date was selected.

Decision:

No change to the November or December meeting dates was finalized.

Action Item:

Jennie and Patrick will coordinate possible holiday meeting dates and consider a scheduling poll for the Committee.

Agencies were encouraged to review their publicly available monitoring records for accuracy.

K. Financial Report, Report by CAWD

Discussion:

Patrick reviewed the Quarter 1 financial information and noted that a separate prior-year closeout was not apparent in the materials. Aroon confirmed that the most recent AMS invoice was approximately \$21,000 for the current program year and that AMS had submitted its remaining prior-program-year billings. Olivia reported that an outstanding payment check was scheduled to be issued the following day.

Aroon reported that AMS had finished the prior program year under budget, preliminarily estimating the difference at approximately \$10,000-\$20,000, subject to checking the actual amount. Participants discussed whether the unused amount would remain as reserve cash or be treated as contingency, but Patrick said he needed to ask CAWD's accountant. No accounting treatment was confirmed.

Aroon also noted that compiling data for Martha Sutula had required substantial work that was not anticipated when the budget was developed. He flagged the potential need to address that effort through contingency or another funding approach later. The Committee did not authorize a transfer or additional expenditure during this discussion.

Decision:

The report was reviewed without a financial action. Disposition of the prior-year underspend remained to be confirmed.

Action Item:

Patrick will ask CAWD's accountant how the prior-year underspend is reflected and handled in the program accounts.

AMS will confirm the amount of the prior-year underspend and flag any additional funding needs associated with the unanticipated data-compilation work.

4. ADJOURNMENT

Olivia Woolery moved to adjourn the meeting. Patrick Treanor seconded the motion. The motion carried by voice vote, and the meeting adjourned at approximately 2:58 pm. The next regular CCLEAN Committee Meeting is scheduled for October 28th, 2026, via Zoom.