

**Minutes of the Regular Commission Meeting of the
Southern California Coastal Water Research Project Authority (SCCWRP)**

**Held at the offices of the Authority:
3535 Harbor Blvd., Costa Mesa, California 92626**

**September 8, 2023
9:00 AM**

COMMISSIONERS PRESENT

Kaitlyn Kalua — *California Ocean Protection Council*
Karen Mogus — *State Water Resources Control Board*
Jenny Newman (Chair) — *Los Angeles Regional Water Quality Control Board*
Jayne Joy — *Santa Ana Regional Water Quality Control Board*
David Gibson — *San Diego Regional Water Quality Control Board*
Jim Marchese — *City of Los Angeles*
Robert Ferrante — *Los Angeles County Sanitation Districts*
Rob Thompson — *Orange County Sanitation District*
Peter Vroom — *City of San Diego*
Arne Anselm — *Ventura County Watershed Protection District*
Mark Lombos — *Los Angeles County Department of Public Works*
Amanda Carr — *County of Orange*
Christine Tolchin — *County of San Diego*

OTHER COMMISSIONERS PRESENT

Grant Sharp — *County of Orange*
Lan Wiborg — *Orange County Sanitation District*

STAFF PRESENT

Stephen Weisberg — *Executive Director*
Bryan Nece — *Administrative Officer*
Wes Beverlin — *Legal Counsel*
Ken Schiff — *Deputy Director*
Eric Stein — *Department Head*
Susanna Theroux — *Principal Scientist*
Jayme Smith — *Senior Scientist*
Christina Frieder — *Senior Scientist*
Elizabeth Fassman-Beck — *Department Head*
Edward Tiernan — *Engineer*
Jerod Gray — *Research Technician*
Amanda Lai — *Engineer*
Danhui Zin — *Scientist*
Janet Walker — *Senior Scientist*
Katie Irving — *Scientist*
Karen McLaughlin — *Principal Scientist*
Martha Sutula — *Department Head*

Emily Lau — *Communications Specialist*
Scott Martindale — *Communications Director*
Kris Taniguchi-Quan — *Senior Scientist*
Leah Thorton Hampton — *Senior Scientist*
Faycal Kessouri — *Senior Scientist*
Raphael Mazor — *Principal Scientist*

The meeting was broadcast on Zoom for audience members. Remote audience members were invited to address the Commission by making a request via the Zoom Q&A box.

Commissioner Newman called the meeting to order at 9:05 AM. It was announced that Jim Marchese would be a one-time replacement for Commissioner Dojiri and Kaitlyn Kalua for Commissioner Eckerle.

CONSENT AGENDA

1. Minutes of Meetings Held June 2, 2023

2. Quarterly Financial Statement for the Period Ended June 30, 2023

3. Quarterly Statement of Investments on June 30, 2023

4. Minutes of CTAG Meetings Held August 10, 2023

Commissioner Carr motioned to approve Consent Items 1-4, and Commissioner Anselm seconded the motion. The Commission approved the motion unanimously with Commissioner Gibson abstaining.

REGULAR AGENDA

5. Personnel and Finance Committee Report

Commissioner Thompson reported that he has been elected Chair of the Personnel and Finance Committee. He stated that SCCWRP's finances remain strong and expects last year's deficit to be recovered over the next few years. Thompson reported that the Committee, ahead of the upcoming strategic planning meeting on October 20, 2023, has begun discussing how to improve SCCWRP's contract approval process. These conversations will continue at the Commission's October 2023 strategic planning meeting.

Thompson said the Committee had planned to hear a presentation about SCCWRP's harassment prevention and training policies, but deferred that item to the December 2023 Commission meeting due to time.

6. Election of Commission Chair and Vice-Chair

Executive Director Weisberg explained that the Commission is required to elect a Chair and Vice Chair annually. While elections occur annually, the Commission Chair and Vice Chair historically have been renewed so as to serve two successive years. The current Chair and Vice Chair have served one term each. Additionally, Weisberg noted that if the Chair comes

from the regulatory sector, the Vice Chair typically comes from the regulated sector, or vice versa.

Commissioner Ferrante nominated Jenny Newman as Commission Chair, and Peter Vroom as Commission Vice Chair. Commissioner Mogus seconded the motion. The Commission approved the motion unanimously.

7. Future Meeting Dates

Executive Director Weisberg proposed holding the 2024 Commission meetings on March 1, June 7, September 6, and December 6. Commissioners expressed support for these dates. Commissioner Kalua motioned to approve the meeting dates for 2024, and Commissioner Thompson seconded the motion. The Commission approved the motion unanimously.

Commissioner Tolchin arrived at 9:37 am.

8. Executive Director's Report

Executive Director Weisberg welcomed Christine Tolchin from the San Diego County Watershed Protection Program as the newest SCCWRP Alternate Commissioner. Tolchin replaced Jo Ann Weber, who retired after serving as a Commissioner and CTAG Representative for nearly two decades. Weisberg introduced SCCWRP's three newest staff members: (1) Jerod Gray, a Research Technician in the Engineering Department who is finishing his undergraduate degree in civil engineering at California State University, Fullerton, (2) Ryan Guillemette, a Postdoctoral Scientist shared between the SCCWRP Biology Department and the University of Southern California who will be investigating marine eDNA degradation rates, and (3) Samuel Lillywhite, a Research Technician in the Biogeochemistry Department who recently completed his undergraduate in biological sciences at the University of California, Irvine. Weisberg said both Gray and Lillywhite are examples of how SCCWRP identifies talented student part-timers to promote to full-time staff.

Weisberg said SCCWRP remains effective at bringing people in the science community together and commented that the number of meetings at SCCWRP is almost back to pre-COVID levels. SCCWRP hosted an average of 14 meetings per month before the pandemic and is now hosting 8 meetings a month. He highlighted three high-profile meetings happening at SCCWRP: (1) the National Oceanic and Atmospheric Administration (NOAA) Science Advisory Board met for its quarterly meeting at SCCWRP in July 2023, the first time in several years that it has been held outside of Washington D.C. – creating an ideal forum for NOAA to discuss how science is being translated at the local management level, (2) the State Water Board will host its annual California Aquatic Bioassessment Workgroup Meeting at SCCWRP from November 6-7, 2023, which will be the first time the meeting has taken place outside of Sacramento, and (3) two groups of scientific experts will meet at SCCWRP in September 2023 to develop consensus on how to assess the state of harmful algal blooms (HABs) and kelp in California and West Coast waters, part of an ongoing effort to develop a multi-indicator report card for tracking coastal ocean health.

Weisberg reported that CTAG has returned to meeting in person for the first time since shifting to remote meetings during the COVID pandemic. He said that the in-person interactions at CTAG's August 2023 meeting were highly effective. Weisberg said CTAG will also be meeting in person at SCCWRP for its next quarterly meeting, as well as for two upcoming intersessional meetings: (1) a November 9, 2023 workshop to discuss potential management concerns associated with incorporating environmental DNA (eDNA) monitoring methods into routine application, and (2) a January 24, 2024 research planning workshop that will consider whether to morph SCCWRP's existing Climate Change research theme to a more narrowly tailored Climate Resiliency research theme.

Weisberg commented that the Southern California Stormwater Monitoring Coalition (SMC), a group that SCCWRP helped establish more than 20 years ago, has agreed to sign a new master agreement that will extend the SMC's existence for another five years. He noted that the Southern California Bight Regional Monitoring Program completed field sampling for its sediment quality assessment in October 2023. Lastly, Weisberg said the steering committee that was convened to help oversee an independent expert review of SCCWRP's ROMS-BEC coastal water-quality modeling work is pleased with the qualifications of the expert panelists that have been selected so far. The six-member panel has almost been finalized and will schedule its first meeting in late 2023.

9. CTAG Report

CTAG Chair David Laak reported that CTAG has returned to pre-COVID operations and had a very productive in-person meeting in August 2023. At its November 2023 meeting, CTAG will discuss whether to meet in person, remotely, or adopt a hybrid attendance model. Laak said CTAG formed a subcommittee to review CTAG's operating procedures and the roles and responsibilities of CTAG Representatives and Alternates and will discuss potential revisions at its November 2023 meeting.

Laak said CTAG will meet at SCCWRP on November 9, 2023 for an intersessional workshop to identify potential end-user concerns associated with incorporating eDNA methods into routine monitoring programs; the goal of the workshop is to develop recommendations that can help inform the ongoing development of a national eDNA strategy. CTAG will also meet for an intersessional research planning workshop on climate resiliency on January 24, 2023. Laak said CTAG and SCCWRP will explore how the Climate Change research theme can be refocused.

Laak said CTAG reviewed two fact sheets on eDNA and regional monitoring and recommends the Commission approval the fact sheets for publication. CTAG also recommends prioritizing harmful algal blooms (HABs) as the topic for the next fact sheet after a large marine mammal stranding event this summer.

Laak said CTAG recommends the approval of the contracts requiring Commission approval (Agenda Item 10).

10. Contract Review

Executive Director Weisberg stated that SCCWRP received a \$315,000 contract from the State Water Resources Control Board (Contract 4) after the September 2023 Commission meeting agenda was finalized and published. Weisberg said Contract 4 is an amendment to an existing project to provide technical support for the Water Boards' ongoing Biostimulation, Cyanotoxins, and Biological Condition Provisions project. Commissioner Anselm motioned to approve adding Contract #4 to the approval list, and Commissioner Ferrante seconded the motion. The Commission approved the motion unanimously.

SCCWRP's Joint Powers Agreement requires Commission approval of contracts of more than \$250,000, and the State of California requests a resolution of acceptance for contracts exceeding \$100,000 offered by the State or Regional Water Boards. Weisberg recommended approval of the following contracts.

- 1) Los Angeles County (\$733,000)
Stormwater BMP Performance Index II
- 2) U.S. EPA (through Los Angeles County) (\$275,539)
Pollutant Migration from BMPs to Groundwater
- 3) City of Los Angeles (\$460,000)
ddPCR Validation
- 4) State Water Resources Control Board (\$315,000)
Statewide Evaluation of Biointegrity in Engineered Channels

Commissioner Ferrante motioned to approve the four contracts, and Commissioner Lombos seconded the motion. The Commission approved the motion unanimously with Commissioner Lombos abstaining on Contracts 1 and 2, Commissioner Marchese abstaining on Contract 3, and Commissioner Mogus abstaining on Contract 4.

After approving the contracts, Commissioners engaged in discussion about the management implications of transitioning from traditional bacteria culturing methods for detecting fecal contamination to a DNA-based method known as ddPCR (droplet digital polymerase chain reaction) (Contract 3). Contract 3 will fund a study that compares results from culturing vs. ddPCR methods side by side at City beaches; the City's goal is to gain regulatory approvals to begin using ddPCR to make decisions to reopen beaches as soon as safely possible following sewage spills. The City is coordinating with local and State public health agencies. Ferrante said the Sanitation Districts of Los Angeles County is interested in using ddPCR to help identify whether sources of fecal contamination at County beaches are human vs. from other animal sources such as birds. Asked by Commissioner Lombos about how immediately transferrable the insights from the City of Los Angeles study will be to other Southern California beaches, Weisberg said managers are still likely to want to do a side-by-side comparison study in every jurisdiction to increase their confidence in using ddPCR. Commissioner Carr commented that as routine use of ddPCR grows, managers will need to understand what are the implications of different municipalities using ddPCR vs. culturing methods for routine beach water-quality testing and/or for sewage spill

responses. Commissioner Thompson commented that a limitation of ddPCR is that it cannot distinguish between viable vs. nonviable sources of human fecal contamination. Commissioner Gibson expressed confidence in San Diego County's 2022 decision to replace bacterial culturing methods with ddPCR for routine beach water-quality testing. He said that beach closures and advisory postings are overall not significantly different than prior to the transition, and that decisions to open, close and post advisories are being made more rapidly. Commissioner Tolchin echoed Gibson's sentiments about the speed at which these decisions are being made. She said the County has revised how it communicates this information to the public, which has helped alleviate confusion and concerns. Commission Chair Newman said the Los Angeles Regional Water Quality Control Board is looking forward to the City of Los Angeles ddPCR study, particularly in light of the Commission's interest in this topic.

Weisberg presented the remaining six contracts, all of which have values of \$250,000 or less and thus do not require Commission approval. The contracts were presented to ensure consistency of the agency's directions with the Commission's intentions.

- 5) NOAA (through UC San Diego) (\$180,000)
DDT in Bottom Waters and Recreational Fish Samples from the Southern California Bight
- 6) Santa Cruz County (\$7,000)
Juvenile Steelhead and Steam Habitat Database
- 7) Woods Hole Oceanographic Institution (\$12,550)
HAB Event Response: SoCal Domoic Acid
- 8) Proctor & Gamble (through Ketchum Limited) (\$2,000)
Webinar
- 9) Calcareia, Inc. (\$50,000)
Numerical Modeling
- 10) Stanford University (\$50,000)
WastewaterSCAN Communications

The Commission did not raise any objections to the contracts.

11. Harmful Algal Blooms

Senior Scientist Smith began the presentation by explaining researchers often have difficulty pinpointing the causes of large stranding events of marine mammals but know that larger events can result from several factors including malnutrition, biotoxins, pathogens and human interactions. A statewide network of coastal marine wildlife centers has been responding to these stranding events by helping to rescue and rehabilitate stranded animals and collect samples from dead animals. This summer, a large stranding event impacted more than 850 marine mammals, primarily sea lions and dolphins. The first

strandings were reported in late May 2023, with the number of strandings peaking from about late June to late July, when marine wildlife centers were reporting an average of more than 25 calls about strandings a day. Researchers linked the cause of the summer stranding event to domoic acid, a toxin produced by a common type of harmful algal bloom (HAB) caused by *Pseudo-nitzschia*. Because domoic acid can bioaccumulate and transfer in the food web, marine mammals like sea lions that depend on a large amount of fish as part of their diet are often adversely affected. A model of the algal bloom suggests that it was widespread across the Southern California Bight and started further offshore, which is unusual for blooms that trigger larger stranding events. SCCWRP helped mobilize and coordinate a rapid-response effort to collect offshore field sampling data to complement data being collected via established nearshore HAB monitoring. Researchers are currently analyzing sample data and expect to see higher domoic acid concentrations in offshore samples. As HABs gain more public attention, there is more interest from the public to understand what is causing the blooms. SCCWRP is working with its partners to expand its ROMS-BEC model to better understand how nutrients and environmental conditions influence the production of HABs.

Asked by Commissioner Thompson about whether the ROMS-BEC model is helpful in quantifying nutrients that arise from coastal upwelling, Department Head Sutula said yes that was a primary tool for making such estimates. Smith added that multiple lines of evidence point to upwelling as a major contributor to the recent blooms, and that the model can account for the influence of coastal upwelling, temperature and salinity. Asked by Commissioner Ferrante if there were any anomalies in the data from the warmer and wetter weather conditions, Smith said there was a late-season upwelling that brought cooler water temperature and nutrients to the Bight.

12. Ceriodaphnia

Deputy Director Schiff began the presentation by reporting that the SCCWRP-facilitated *Ceriodaphnia dubia* toxicity test study to identify sources of variability in test results among labs is nearing completion, and the expert science panel will share its findings and recommendations for minimizing variability of the test results in a final report that will be released on September 30, 2023. SCCWRP began the project by convening a stakeholder advisory committee, as well as an expert science panel with a combined 140 years of toxicology expertise to oversee the study. The expert panel reviewed *Ceriodaphnia* data from 17 accredited labs across California, and conducted a laboratory intercalibration exercise. The study found that no laboratory uses the same exact protocols for conducting this test. After developing standardized methods for the test, the panel then conducted a second intercalibration exercise and found that while standardization helped mitigate variability, it did not completely resolve the problem. In response to the findings, the expert panel developed a series of recommendations around best practices for laboratories, the statewide accreditation process, and training. The recommendations are designed to ensure that: (1) laboratories are clear about what standardized methods that they “must” and “should” implement, (2) California’s accreditation process is optimized to document laboratories’ comparability, and (3) training is improved for all parties, including State assessors, laboratories and regulated agencies. The final report and study data will be

available on September 30, 2023. Schiff said he will also present the study findings to the State Water Board at its October 17 meeting.

Commissioners discussed the study and asked about the identities of the participating laboratories, which were identified only by a code. Schiff said the study was intentionally designed with firewalls in place between the labs and SCCWRP as the study facilitator, but he added that several labs that unblinded themselves reported that variability in the results was caused by making basic mistakes or having problems with *Ceriodaphnia* culturing.

The Commission accepted an online comment from Jared Voskuhl from the California Association of Sanitation Agencies, who expressed concern that less than half of the participating laboratories were able to get consistent, high-quality results, and questioned whether it is premature for California to use the *Ceriodaphnia* test for compliance purposes. Asked by Voskuhl about how much time will be needed for training, Schiff said the time commitment will depend on the desired scope of the training, and that the type of training will vary depending on who is being trained. Asked by Voskuhl about elements of the study that the expert panel would have explored further if given more time, Schiff said the science panel might have focused on developing more specific recommendations if given an additional six months.

Commissioner Mogus pointed out that although the *Ceriodaphnia* toxicity provisions will go into full effect on January 1, 2024, individual regulated parties will not be required to comply with the requirements until the permits come up for renewal. She encouraged all regulated parties to carefully review the laboratories they are using, especially in light of the findings of the *Ceriodaphnia* study.

13. Marine Carbon Dioxide Removal

Senior Scientist Frieder began the presentation by explaining there have been increasing conversations around the idea of using the ocean to help capture and remove carbon dioxide from the atmosphere. Marine carbon dioxide removal (mCDR) has quickly been gaining attention as federal agencies such as NOAA and the Department of Energy have been investing resources to advance and validate the technology. mCDR technology consists of five groups of methods for enhancing the carbon capture capability of the ocean. The first three groups of methods (ocean iron fertilization, artificial upwelling, and seaweed cultivation) are focused on altering the biology of the ocean by adding nutrients to support phytoplankton and seaweed production. The idea is for the increased phytoplankton and seaweed to pull carbon from the atmosphere and redistribute that carbon in the deep ocean. Because of the eutrophic nature of the Southern California Bight, methods that add nutrients to the ocean are currently not being considered as options there. The other two groups of methods (alkalinity enhancement and electrochemistry) manipulate seawater chemistry to increase the capacity to pull more carbon from the atmosphere. Startup companies are pilot-testing their mCDR technology in Southern California using these electrochemical approaches. SCCWRP is working with one of the companies, Captura, to apply its ROMS-BEC modeling tools to evaluate how effective Captura's mCDR technology is. SCCWRP is also expanding the model to explore other mCDR

methods. There is currently no framework that evaluates the environmental risks of mCDR, and SCCWRP is interested hearing from its member agencies about how to develop such a framework for balancing the pros and cons of mCDR technology.

Asked by Commission Chair Newman if SCCWRP is studying the unintended environmental consequences of mCDR, Frieder said SCCWRP is developing funding proposals to do this work.

Asked by Commissioner Kalua about the potential timeline for the pilot-scale mCDR projects, Frieder said pilot-scale projects in California already are getting underway, but that commercial-scale projects – such as the scale of a desalination plant – are not expected to take place in California in the near future, with several being planned for other countries first.

14. Strategic Planning Meeting Committee Report

Executive Director Weisberg reminded the Commission about the upcoming strategic planning meeting on October 20, 2023 and explained that the Commission periodically holds strategic planning meetings every five to seven years to assess SCCWRP's organizational direction, ensure SCCWRP's alignment with its mission, and help shape the future trajectory of the organization. The strategic planning meeting that was originally scheduled for 2020 was delayed to 2023 because of the COVID-19 pandemic.

At its previous quarterly meeting in June 2023, the Commission expressed support of the draft agenda developed by the organizing committee for the strategic planning meeting. Weisberg reminded the Commission that all Commissioners, Alternate Commissioners, and the CTAG executive committee are invited as full meeting participants. The Commission also agreed at its last meeting to invite two representatives from drinking water regulatory agencies, a representative from the California Association of Sanitation Agencies (CASA), and a representative from the California Stormwater Quality Association (CASQA) to the strategic planning meeting to participate during select agenda items.

Commissioners engaged in discussion about potentially inviting additional special guests to the meeting, including representatives from a non-governmental organization, the California Coastal Commission, and the California Department of Fish and Wildlife. Commissioner Wiborg, who is on the organizing committee for the strategic planning meeting, commented that the purpose of the special guests is not to participate in or drive the meeting discussion, but rather to provide information to help inform the Commission's conversations. Commissioner Ferrante echoed this sentiment, noting that all invited guests will participate in specific agenda items only. Commission Chair Newman, who is on the organizing committee, said that the committee will hold another meeting to decide if additional special guests should be invited.

Communications Director Martindale presented the results of a pair of surveys that were administered by the Commission in August 2023 to evaluate SCCWRP's effectiveness. The goal of the surveys was to provide context and insights to help inform the Commission's deliberations during the strategic planning meeting. The first survey was an internal staff

survey that consisted of 24 multiple-choice questions; the average score across the survey was 4.4 out of 5. The second survey went to more than 400 individuals from a range of different entities who interact with SCCWRP. The 46-question survey was divided into nine sections; the average score across all nine sections was 4.1 out of 5. Among the nine sections, the one with the lowest average score was regarding SCCWRP's impartiality (3.9 out of 5).

Executive Director Weisberg said the organizing committee recommends a two-step process for drilling down on SCCWRP's impartiality: (1) The committee will develop and administer a follow-up survey for just the staff of member agencies that will focus on better characterizing member agencies' attitudes about SCCWRP's impartiality, and (2) Commissioners will convene focus groups with their staff to provide further context. Commissioners agreed to the two-step process, including making a concerted effort to have a conversation about SCCWRP's impartiality with their staff before the October 2023 strategic planning meeting.

Asked by Commissioner Tolchin about who within her organization to send the impartiality survey to, Weisberg said Commissioners should send the survey to all staff who interact with SCCWRP. Weisberg said he will email Commissioners a link to the survey within a week.

15. Two Page Fact Sheets

Communications Director Martindale explained that the Commission in 2022 asked SCCWRP to resume production of a series of two-page educational fact sheets that are intended for Commissioners to be able to hand to board members of their agencies and similar audiences. SCCWRP, which has been drafting one fact sheet per quarter, has published three fact sheets so far. Martindale introduced two draft fact sheets on environmental DNA (eDNA) monitoring and regional monitoring, and explained that CTAG completed its review of both fact sheets and is recommending Commission approval for publication. Martindale reminded the Commission that in June 2023 they prioritized a list of topics for future fact sheets. He said that CTAG reviewed the list of topics and is generally supportive, but recommends prioritizing harmful algae blooms (HABs) as the topic of the next fact sheet instead of per- and polyfluorinated substances (PFAS).

Commissioner Anselm said he appreciates the regional monitoring fact sheet's broad overview of monitoring across Southern California.

The Commission unanimously agreed to produce the next fact sheet on HABs and approved both the eDNA monitoring and regional monitoring fact sheets for publication.

16. Other Business and Communications

None

17. Future Meeting Agenda Items

Executive Director Weisberg summarized agenda items the Commission expressed interest in hearing at their December meeting: (1) a briefing on the future of SCCWRP's

Ecohydrology research theme following a recent CTAG intersessional research planning workshop, and (2) a briefing on the outcomes of the upcoming CTAG workshop on November 9, 2023 to identify potential concerns around transitioning eDNA monitoring methods to routine end-user application. There was also a request to hear more about the ddPCR study being planned for Los Angeles and how it built upon a previous study in San Diego.

Commissioner Carr suggested an update on the ongoing San Diego sewer exfiltration study, which is expected to be completed in June 2024. Weisberg said the Commission previously heard the study's preliminary results, and that it will make a great topic once the study is finished.

18. Public Comments

None

19. Adjournment

Commission Chair Newman adjourned the meeting at 12:06 PM until the Commission's Strategic Planning Meeting on October 20, 2023 at 9:00 AM, followed by the Commission's quarterly meeting on December 1, 2023 at 9:00 AM.

Attest:

Bryan Nece
Secretary