

Executive Officer’s Report January 15, 2020

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State Water Board's December PFAS Seminar and Datathon (Erica Kalve, Alyx Karpowicz, Kimberlee West, Sarabeth George)

Last month the State Water Board hosted a two-day technical seminar on Per- and Polyfluoroalkyl Substances (PFAS) titled, *PFAS in California: Past, Present & Future*. As discussed in the [September 2019 Executive Officer's Report](#)¹, PFAS are a family of thousands of man-made and mostly unregulated chemicals produced since the 1950s commonly found in stain resistant and waterproof textiles, food contact paper, non-stick cookware, fire-fighting foams, metal plating operations, and many other industrial and commercial products and processes. Seminar recordings are available from the [State Water Board's PFAS website](#)² or directly from the following links: [Day 1](#)³ and [Day 2](#)⁴. Four of our staff attended including Erica Kalve who presented on PFAS toxicology and Sarabeth George who demonstrated data techniques for fingerprinting potential PFAS sources. Biographies and abstracts for all presentations are available [here](#)⁵.

The seminar was organized into five panels:

1. History, use, nomenclature, chemistry, and toxicology;
2. Analysis of Impacts to drinking water and public water systems;
3. Exposure pathways and impacts to humans and aquatic ecosystems;
4. Remediation, treatment, and monitoring approaches; and
5. Approaches to reducing PFAS in consumer products and packaging.

In his keynote address, State Board Chair, E. Joaquin Esquivel, explained the importance of taking a measured approach to addressing PFAS detections in the environment, and the use of State Board's regulatory authority to identify source areas and responsible parties and develop maximum contaminant levels (MCLs) for perfluorooctanoate (PFOA) and perfluorooctane sulfonate (PFOS) in drinking water. Currently, State Board's Division of Drinking Water has adopted notification levels of 5.1 and 6.5 nano-grams per liter (ng/L), respectively, for PFOA and PFOS.

Shahla Farahnak (Assistant Deputy Director, Division of Water Quality) and Dan Newton (Assistant Deputy Director, Division of Drinking Water), provided updates on State Board's PFAS Action Plan, including the statewide investigative orders to identify sources and affected drinking water supply wells. State Board is currently considering developing notification and response levels for other PFAS that appear to be frequently detected and for which there is enough health data available.

Moving forward, the State Water Board's Action Plan includes:

- additional sampling outwards from the identified impacted public water supply wells;
- development of strategies for domestic well sampling in impacted areas;

¹ https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2019/September/5_ssr.pdf

² <https://www.waterboards.ca.gov/pfas/>

³ <https://youtube.com/embed/GBCRYoJbyOU>

⁴ https://youtube.com/embed/6G0hm_US5k4

⁵ https://www.waterboards.ca.gov/pfas/docs/pfas_dec2019_seminar_bios_abstracts.pdf

- focused watershed-based source and public water system investigations;
- sampling at wastewater treatment facilities;
- source investigations at refineries and bulk terminals; and
- integration of data collected from Department of Defense facilities.

Seminar presentations highlighted two key concerns, among others, which will affect our evolving regulatory investigation and cleanup approach. These include:

- How to represent the potential human and ecological toxicity of thousands of PFAS compounds when standards exist for only a few?
- How to remediate highly recalcitrant and persistent PFAS in the environment with affordable treatment technologies?

The two-day event also included a *datathon* to share techniques for using available data to better understand the distribution of PFAS in the environment. The datathon had three primary themes: analysis and intervention; biomonitoring and links to drinking water; and source identification through fingerprinting.

[This article⁶](#) also describes the seminar and the State Board's plans.

Our staff's participation in this seminar contributed to the state-wide effort to determine how best to address PFAS risks to the environment and human health. Their participation also ensures that they are up to date on current science and regulatory approaches. Our staff are currently evaluating the results of monitoring from potential sources/facilities and considering appropriate steps to drive additional investigation and cleanup, where needed. Where supply wells exceed the Division of Drinking Water notification limits, staff are conducting source searches to look for potential PFAS sources and will follow up accordingly. We expect implementation of the State Board Action Plan throughout 2020 will result in additional sites and impacted supply wells needing further investigation and cleanup. As such, staff are developing a region-specific action plan.

⁶ <https://www.natlawreview.com/article/california-holds-technical-pfas-seminar-to-inform-public-state-science-and-possible>

Cleanup Project Status for 411 High Street, Oakland (Katrina Kaiser and Jeff White)

Last September I updated you regarding the ongoing petroleum cleanup activities at the 411 High Street site near the Oakland estuary. At that time, it was too early to report on these activities required by our May 8, 2019 directive letter to Atlantic Richfield Company (Richfield)⁷. The May letter required 1) additions to the *Additional Off-Site Investigation Work Plan 2*) an effectiveness evaluation of the current remediation system's ability to achieve cleanup standards in a reasonable timeframe, and 3) a work plan to assess the vapor intrusion (VI) threat to future occupants of the building at 441/445 High Street. The status of those documents follows.

Additional Offsite Investigation: Richfield submitted the August 30, 2019, *Additional Offsite Investigation Work Plan Addendum* to delineate the extent of offsite contamination and is implementing the additions to the plan. The field work was completed in early December. We met with Arcadis to discuss investigation results, and it was agreed that additional work is needed to delineate the extent of contamination. A work plan for additional step-out sampling will be submitted to us this month.

Remediation Effectiveness: Staff reviewed the August 2019 Remediation System Effectiveness Evaluation report and concluded that the remedy is ineffective and is unlikely to attain the Order-required cleanup standards in most Site areas in a reasonable timeframe. On December 20, 2019, I sent a letter to Richfield stating that the current remedy is ineffective and required the submittal of a Feasibility Study of new remedial alternatives. The letter requires Richfield to submit an acceptable Feasibility Study report, by April 30, 2019, proposing cleanup alternatives to successfully and quickly attain the cleanup standards required by the Order.

Vapor Intrusion Threats: Richfield submitted an acceptable work plan in September for a Vapor Intrusion Threat Assessment of the vacant commercial office building at 441/445 High Street. The work plan proposed indoor air sampling to demonstrate that petroleum VI does not pose unacceptable risks to future building occupants. The field work was completed in December and the report will be submitted to us in February. If unacceptable risks to human health exist, then additional mitigation and/or cleanup at 441/445 High Street will be necessary.

Future Redevelopment Plans: Last September, I stated that we would continue to reach out to the City of Oakland to better understand redevelopment plans for the property and any potential impediments posed by the contamination to the City's plans. Based on our communications with the City, there are no redevelopment plans for 411 High Street or any adjacent property.

⁷ Atlantic Richfield Company (BP) is the discharger; Koch is property owner; and Arcadis (consultant) has environmental liability

Staff Presentations and Publications

On December 10, Ross Steenson, Senior Geologist in the Groundwater Protection Division, presented at the Society of Risk Analysis annual conference in Arlington, Virginia. The Society of Risk Analysis is a multidisciplinary, interdisciplinary, scholarly, international society that provides an open forum for all aspects of risk analysis (e.g., risk assessment, communication, management). During the symposium entitled "Derivation of Human Health Based Water Guidance: Challenges of Assessing Emerging Contaminants and Mixtures," Ross presented "Challenges of Assessing the Full Impacts of Petroleum Mixtures on Drinking Water Resources." Ross' talk provided an overview of the Interstate Technology and Regulatory Council's 2018 guidance "Total Petroleum Hydrocarbons Risk Evaluation at Petroleum-Contaminated Sites" focusing on soluble petroleum hydrocarbons and hydrocarbon biodegradation products (metabolites) that have greater solubility than the parent hydrocarbons. Other talks in the symposium included a novel method for deriving screening levels for pharmaceuticals by State of Minnesota regulators and a comparative potency evaluation for per- and polyfluoroalkyl substances by State of Massachusetts regulators.

Lindsay Whalin, Staff Geologist, and Carrie Austin, Staff Engineer, both in the Planning Division, are two of several co-authors on a recent journal article on mercury, "The assessment and remediation of mercury contaminated sites: A review of current approaches." Mercury is a toxin that bioaccumulates in the food web and can impact birds that feed on fish as well as humans consuming fish. Lindsay authored a section on site assessment (Section 2) and detailed how use of handheld X-ray Fluorescence Spectrometers (XRF) to measure mercury concentrations in solids can improve site characterization and reduce investigation costs. Our agency purchased an XRF to investigate and prioritize mines. Lindsay also contributed to the mercury speciation, fractions, and bioavailability section (2.3) and detailed how chemical extraction methods can be used as proxies for environmental and biological transformations to understand the fraction of mercury in a waste that is potentially harmful (some mercury species are not). We are using these methods to prioritize and target sources (sites and wastes) that are predisposed to impact human and/or wildlife health. Carrie contributed data from a literature review of multiple sites around the world showing that site remediation does reduce fish methylmercury concentrations. However, as shown in other work, remediation alone has not been sufficient to meet California's fish tissue methylmercury water quality objectives in reservoirs. Therefore, additional bioaccumulation controls are needed, such as reducing in-reservoir methylmercury production. Our agency is attacking this mercury problem from both ends; Lindsay is focusing on improving source control (remediation) and Carrie on in-reservoir controls. [The article is available free until February 8⁸](#) from The Science of the Total Environment.

⁸ <https://authors.elsevier.com/c/1aGHQB8cckYiN>

January 2020 Enforcement Actions (Brian Thompson and Jessica Watkins)

The following table shows the proposed enforcement actions since December's report. In addition, enforcement actions are available on our website at [SF Bay Water Board Enforcement Actions](http://www.waterboards.ca.gov/sanfranciscobay/public_notices/pending_enforcement.shtml)⁹.

Proposed Settlements			
The following are noticed for a 30-day public comment period. If no significant comment is received by the deadline, the Executive Officer will sign an order implementing the settlement.			
Discharger	Violation(s)	Proposed Penalty	Comment Deadline
Zeneca, Inc., Campus Bay Habitat Area 2	Discharge limit violations.	\$6,000	January 6, 2020
Valero Refining Company, Valero Benicia Refinery	Discharge limit violations.	\$6,000	January 6, 2020
City of Calistoga	Discharge limit violations.	\$6,000	January 9, 2020
Hanson Aggregates, San Francisco Pier 94 Sand Yard	Discharge limit violations.	\$9,000	January 10, 2020
City of Burlingame and North Bayside System Unit	Discharge limit violations.	\$3,000	January 17, 2020
C&H Sugar Company, Inc. and Crockett Community Services District	Discharge limit violations.	\$12,000	January 20, 2020
Crockett Community Services District	Discharge limit violations.	\$15,000	January 20, 2020
DAmbrosio 8 Acres, Napa	Failure to submit an annual construction stormwater discharge report for 2017/2018 by September 1, 2018.	\$1,000	January 21, 2020
Sewerage Agency of Southern Marin	Discharge limit violations.	\$24,000	January 29, 2020
Sausalito-Marin City Sanitary District	Discharge limit violations.	\$6,000	January 29, 2020
Sonoma Valley County Sanitation District	Discharge limit violations.	\$9,000	January 29, 2020

⁹ http://www.waterboards.ca.gov/sanfranciscobay/public_notices/pending_enforcement.shtml

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Discharger	Violation(s)	Proposed Penalty	Comment Deadline
Vulcan Materials Company, Pilarcitos Quarry	Discharge limit violation.	\$3,000	January 29, 2020
West County Agency	Discharge limit violations.	\$84,000	January 29, 2020
Vishay Intertechnology, Gould Electronics, Inc., Monsanto Company, and GlaxoSmithKline PLC	Discharge limit violations.	\$9,000	February 3, 2020
Las Gallinas Valley Sanitary District	Discharge limit violations.	\$9,000	February 3, 2020
Lehigh Southwest Cement Company and Hanson Permanente Cement, Inc.	Discharge limit violations.	\$6,000	February 3, 2020
Burlingame Point, LLC	Discharge limit violation.	\$3,000	February 6, 2020
City of St. Helena	Discharge limit violations.	\$57,000	February 6, 2020
Alameda Housing Associates, LP, Marea Alta	Discharge limit violations.	\$12,000	February 7, 2020

401 Water Quality Certification Applications Received (Abigail Smith)

The table below lists those applications received for Clean Water Act section 401 water quality certification from November 18 through December 11, 2019. A check mark in the right-hand column indicates a project with work that may be in BCDC jurisdiction.

Project Name	City/Location	County	May have BCDC Jurisdiction
Alameda Marina Shoreline Improvement	Alameda	Alameda	✓
Cavallo Highlands	Hayward	Alameda	
Wes McClure Boat Launch Dock Replacement	San Leandro	Alameda	✓
Duffel Photovoltaic Renewable Energy	Orinda	Contra Costa	
Port Eliseo HOA Floating Dock Replacement	Greenbrae	Marin	✓
Culvert Installation at 431 Montford Avenue	Mill Valley	Marin	
Retaining Wall Installation at 18 Lower Drive in Mill Valley	Mill Valley	Marin	
Leveroni Creek Bank and Culvert Stabilization	Novato	Marin	
San Mateo Tank Water Transmission Main Reliability Improvement	Novato	Marin	
Clipper Yacht Harbor Basin 3 and 4 Redevelopment	Sausalito	Marin	✓
Spaulding Marine Center Boat Docks	Sausalito	Marin	✓
US National Park Service Geotechnical Borings in Aquatic Park	San Francisco	San Francisco	✓
House Renovation at 1809 Ralston Ave	Belmont	San Mateo	

Project Name	City/Location	County	May have BCDC Jurisdiction
Coyote Ridge Lower Road Culvert Replacement	Coyote	Santa Clara	

Workforce Planning (Mike Montgomery, Lisa Horowitz McCann)

At our last in-house leadership training, the Executive Team and all managers and supervisors reviewed and recorded the activities we currently do for recruitment, retention and development of staff, and additional activities we could do to expand and improve our workforce planning. During the training, we began a discussion about integrating diversity and inclusion into these important processes. We seek to create and maintain a diverse, motivated and productive workforce, focused on our mission of water quality protection.

This month, we reconvened to prioritize areas to expand and improve our recruitment, retention and development and identify specific tasks to improve in these areas. For example, as directed by our Division of Administrative Services, we will now routinely include questions about experience with diversity in interviews, make our hiring interview panels more diverse, and include at least one individual who has taken diversity and inclusion training on the hiring interview panels.

We have timed our hands-on efforts to build an internal workforce plan to run in parallel with the CalEPA workforce planning effort. This provides us the opportunity to take advantage of the results of an employee engagement survey rolled out by the CalEPA human resources consultants facilitating the agency-level process. The survey results have all been collected and we will see results in the next couple of months. We intend to discuss the results of the survey with our staff and will identify concrete steps we can take to address weaknesses we find regarding employee engagement. We expect to make some changes at the organization level and will also determine needs at the division or unit level as needed.