

STATE OF CALIFORNIA

**REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

MEETING DATE: May 11, 2016

ITEM: **4**

SUBJECT: **EXECUTIVE OFFICER'S REPORT**

EXECUTIVE OFFICER'S REPORT: *May 2016*

A Monthly Report to the Board and Public

NEXT MEETING: May 11, 2016

WEBSITE: <http://www.waterboards.ca.gov/sanfranciscobay/>

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Monterey Bay National Marine Sanctuary (Naomi Feger)

The Monterey Bay National Marine Sanctuary (Sanctuary) was designated in September 1992 and is the largest in a system of 13 marine sanctuaries administered by the National Oceanic Atmospheric Administration (NOAA). The primary purpose of the Sanctuary is resource protection using an ecosystem-based approach to management. The Sanctuary extends from Monterey Bay to San Francisco and out into the Pacific Ocean (See Figure 1).

The San Francisco Bay and Central Coast Water Boards and the State Water Board, along with a number of other local, State, and federal entities, recently signed an updated Memorandum of Agreement (MOA), agreeing to work together to improve water quality in the watersheds adjacent to the Sanctuary and the marine environment. The MOA recognizes that water quality protection requires strategies that build on existing federal, State and local management programs. By signing the MOA, we agreed to coordinate with NOAA in a number of areas including: permitting, enforcement, and nonpoint source program implementation. In addition, we agreed to have staff participate in committee meetings on Sanctuary protection. Planning Division staff Setenay Frucht, who is working on sediment TMDLs in Coastal San Mateo County watersheds, will serve as our liaison.

Watersheds flowing into the Monterey Bay National Marine Sanctuary



Figure 1. Map of Monterey Bay Sanctuary.

Marshall Wastewater Treatment System Completed (Farhad Ghodrati)

On April 20, public health officials in Marin County (County) celebrated the successful completion of the Marshall Community Wastewater Treatment System, a \$3.2 million project that serves about 50 properties on the eastern shore of Tomales Bay. Board Staff (Leslie Ferguson, Blair Allen, and Farhad Ghodrati) played important roles in the design, upgrade, and

oversight of State Board assistance grants for this community wastewater system.

The impetus for the project was the Tomales Bay Pathogen TMDL, adopted by the Board in 2005, that called for actions to address onsite wastewater treatment systems (septic systems). At that time, inspections of the individual septic systems serving the properties along the Tomales Bay shoreline had revealed that 40% of the septic systems were failing or only functioning marginally.

The County initiated Phase 1 of the Marshall Community Wastewater Treatment Project, which included a plan to construct a new community-scale and publicly-owned wastewater collection, treatment, and land-discharge system. In 2007, the property owners in the northern part of Marshall voted to form a special assessment district to help pay for Phase 1 of the project, which addressed 30 parcels. With additional funding from the State Board, U.S. EPA, and the County, construction began shortly thereafter. The project entailed the replacement or upgrade of septic tanks and the installation of pumping and control equipment on each property, construction of a new mile-long pressure sewer line, and installation of a common leachfield on a 6-acre site purchased by the County.

Phase 2 of the project began in June 2013, when the State Board awarded a \$750,000 section 319(h) grant to the County, with matching funds provided by the County and the property owners, to design and construct additional wastewater facility improvements for approximately 20 residences and businesses located along the southern shoreline of Marshall. The celebration this past month marked the completion of both phases of the project.

Workshop on Proposed Permit for Confined Animal Facilities (Laurie Taul)

A Tentative Order for General Waste Discharge Requirements (WDRs) for Confined Animal Facilities was circulated for a 45-day public review and comment period that closed on April 29. During the comment period, Board staff conducted a public workshop in Petaluma to explain and answer questions about the proposed general WDRs. The workshop was well-attended and included representatives of local agencies, resource conservation districts, and interested parties from the ranching and equestrian communities.

The WDRs would regulate all types of confined animal facilities, including dairies, and implement federal and State regulations and Total Maximum Daily Loads for locally-impaired watersheds. It would replace the Board's existing general WDRs for confined animal facilities adopted in 2003. The proposed WDRs would establish three regulatory tiers based on facility type and threat to water quality. Tier I facilities are those that do not utilize liquid waste retention ponds to manage animal waste, such as horse-boarding facilities or small-scale sheep dairies. Tier II facilities include those that utilize waste retention ponds, such as cow dairies or large scale poultry operations. To qualify for Tier I or II, owners/operators must be able to demonstrate compliance with the discharge prohibitions of the WDRs. Tier III is reserved for any facility that, due to its inherent complexity or threat to water quality, cannot meet the discharge prohibitions and should be regulated under an accelerated implementation schedule.

The WDRs anticipate the 2020 expiration of the conditional waiver of WDRs for existing cow dairies that the Board renewed in June 2015 (2015 Dairy Waiver). Dairies that are in compliance with the requirements of the 2015 Dairy Waiver will not be required to complete any additional

paperwork or plans or undertake any new actions beyond the submittal of an updated notice of intent to enroll under the proposed WDRs in Tier II.

These WDRs represent the first time we would be actively enrolling equestrian facilities or poultry operations under a general permit. The attendees at the workshop asked a number of questions about how the WDRs would be implemented, who would need to enroll, and what type of actions may be needed to comply. We emphasized that we intend to work cooperatively with local resource conservation districts and county programs to provide technical assistance for planning, implementation of best management practices, and monitoring. At the meeting we received positive feedback from the Marin County Storm Water Program and North Marin Water District staff. The proposed WDRs are scheduled to be presented for the Board's consideration at the June 8 Board Meeting.

Nonpoint Source Section 319(h) Grants Awarded (Leslie Ferguson)

The 2016 round of State Board's 319(h) grant awards was completed last month. These U.S. EPA-funded grants are intended to address nonpoint sources of pollution under Clean Water Act section 319(h) and are coordinated with the Board's nonpoint source program priorities. Staff in the Planning and TMDL Division manages about 12 to 15 319(h) grants on an ongoing basis and is actively involved in the grant review process.

Of the eight projects statewide that were awarded grants this year, two are in our Region. Napa County was awarded \$750,000 to implement the Napa River Oakville to Oak Knoll Restoration Project. This project is just downstream of the successful Rutherford Reach project that has restored 5 miles of the Napa River. This new grant would support a portion of the project to further restore and enhance long-term river and floodplain function, improve the quality and resilience of aquatic and terrestrial riparian habitat, and reduce property damage and sediment delivery associated with ongoing bank erosion processes. The second award is a \$663,850 grant to the Sonoma County Resource Conservation District (RCD) to implement complex management practices to improve water quality at vineyards within the Sonoma Creek watershed through its LandSmart Planning program. These funds are an addition to existing 319 (h) grants received by the RCD to develop farm planning tools and templates for vineyards. The overall goal of both of these grants is to support implementation of TMDLs.

Albany Landfill Upgrades (Lindsay Whalin)

Board staff have been coordinating with the East Bay Regional Park District and several environmental regulatory agencies to complete a levee repair project at the closed Albany Landfill, a man-made peninsula in the Bay, where erosion of a large section of the landfill levee had occurred. The levee contains construction debris that was eroding into the Bay. The repair was part of a larger improvement project to improve the Bay Trail, create ADA access, construct rocky intertidal habitat and oyster reefs, and to mitigate future erosion with more natural, energy-dissipating features. The project was completed late last year. Photos 1-4 illustrate some of the completed improvements.



Photo 1. Landfill shoreline before repair work.



Photo 2. Landfill shoreline after construction.



Photo 3. Rocky intertidal habitat created.



Photo 4. Oyster reef created.

Petroleum Metabolites in Groundwater (Ross Steenson)

Subsurface petroleum releases can cause significant long-term groundwater pollution due to gradual dissolution of breakdown products. These breakdown products, known as petroleum metabolites, can impact drinking water wells or migrate to surface water causing ecological damage. Limited research is available on the proper detection and evaluation of petroleum metabolites.

Board Engineering Geologist Ross Steenson has co-authored a research paper with the U.S. Geological Survey (USGS) on the fate and transport of highly water-soluble petroleum metabolites in groundwater. The publication focuses on the proper detection of petroleum

metabolites using data from a USGS research site near Bemidji, Minnesota. The paper was published in the National Ground Water Association's March *Groundwater Journal*.

Study Findings

In 1979, a ruptured pipeline released an estimated 440,000 gallons of light crude oil into the environment near Bemidji, Minnesota. About 75% of the oil was recovered during emergency response actions, but the remainder seeped into the soil. Partial biodegradation of the hydrocarbons led to the formation of a large groundwater plume consisting primarily of water-soluble petroleum metabolites. The groundwater plume continued to expand toward a small lake until it finally stabilized in 2010, about 450 meters downgradient from the spill.

The study helps to refute the widespread myth that all petroleum hydrocarbon releases rapidly break down into carbon dioxide and water. If they did, there would not be any large hydrocarbon groundwater plumes; yet, many such plumes exist around the country. At some sites in our region, these plumes have persisted for up to 80 years. Furthermore, metabolite mixtures associated with weathered petroleum spills and releases can potentially cause adverse effects to both humans and ecological receptors. A number of aquatic toxicity studies associated with petroleum spills (e.g., the 2007 Cosco Busan spill) have inferred or directly implicated the petroleum-derived polar metabolites (or photo-degradation products) as significant contributors to overall toxicity.

Next Steps

Currently, many State regulatory programs allow petroleum metabolites to be removed from a groundwater sample prior to analysis, using a process known as *silica gel cleanup*, in the belief that they are naturally-occurring, non-toxic compounds. Since 2013, our in-house Environmental Screening Level (ESL) team has provided interim guidance for evaluation of the metabolites at petroleum spill sites. Based on the Bemidji findings and other research, Ross is preparing an update to our guidance for later this year. The primary message is that petroleum plumes in groundwater should be evaluated to their fullest extent (i.e., without the routine use of silica gel cleanup) so that risks to human and aquatic receptors and threats to water quality can be comprehensively assessed.

Hamilton Square Remediation and Redevelopment Project (Maggie Beth)

A soil remediation project will be implemented this summer at the 2.7-acre Hamilton Square site located at the corner of Main Gate Road and C Street, at the former Hamilton Army Airfield in Novato. The site is currently owned by Hamilton Square, LLC, and, once the soil remediation project is complete, will be redeveloped by Thompson Development, Inc. The soil remediation project will include excavating petroleum-contaminated soil and replacing it with clean fill to prepare the site for residential use.

The site is located directly across the street from the Novato Charter School. Due to the school's proximity to the project, school parents have been very concerned about potential exposures to their children. Specifically, they have expressed concerns related to 1) potential residual soil contamination; 2) residual lead and asbestos contamination after demolition of the site's service station building; and 3) airborne contamination during construction activities. Board staff, as well as staff from the State's Department of Toxic Substance Control (DTSC), have worked diligently with the parents, Thompson Development and its consultant, and the City of

Novato to address these concerns.

We participated in a public meeting last fall and received comments from eight members of the public and the Novato Unified School District on a proposed Remedial Action Plan (RAP) for the site. In February, we issued a RAP conditional concurrence letter that requires implementation of protective measures to address potential exposure to the community. In addition, to meet the needs of the community, the City has volunteered to fund a third party inspector to verify that safeguards and best management practices are effective throughout the entire remediation and construction of the project, augmenting the standard periodic regulatory inspections planned to be completed by staff and the City.

The Hamilton Square site currently has a land use control restricting residential use, groundwater use, and soil disturbance without approval from the Board and DTSC. When the soil remediation project is successfully completed, the land use control will be removed to allow for residential development. The remediation phase of the project is expected to be completed by the end of summer.

In-house Training

Our April training was on team building, to improve the way we use teams in our regulatory programs. Our May training will be offsite and will look at our water quality activities at the Presidio in San Francisco.

Staff Presentations

In March, members of our staff Environmental Screening Level (ESL) team (Nicole Fry and Ross Steenson) attended the 26th Annual International Conference on Soil, Water, Energy, and Air. Ross and former Board toxicologist Uta Hellmann-Blumberg (now at DTSC in Sacramento) also presented at the conference. Cheryl Prowell and former ESL team member/Board staff Roger Brewer (now at the State of Hawai'i) collaborated on the presentations.

This conference is one of the few important "regulatory" venues for cleanup topics. There were over 100 presentations on technical and policy issues related to the investigation, environmental fate, risk assessment and remediation of chlorinated solvents, petroleum hydrocarbons, metals, and chemicals of emerging concern.

Mr. Steenson presented "Hybrid Approach to Groundwater Screening Levels for Vapor Intrusion Investigations." The talk provided an introduction to our ESLs and the ESL team, while describing: 1) our overall vapor intrusion evaluation approach based on multiple lines of evidence; 2) a description of the unique, combined empirical data and modeling approach used to develop groundwater vapor intrusion ESLs that we have been using for over a decade; and 3) our plans to compile more recent data and revisit that scenario and update it, if necessary.

Dr. Hellmann-Blumberg presented "Petroleum-Derived Chemicals in Groundwater – How Big is the Threat?" Her talk focused on petroleum degradation products frequently detected in groundwater, the misconception that petroleum in the subsurface degrades rapidly to carbon dioxide and water, and the challenges with laboratory testing for detection and toxicity. Mr. Steenson is working closely with Dr. Hellmann-Blumberg to draft a technical memo later this

year that provides our agency's guidelines for when to evaluate the petroleum degradation products at release sites. The memo, based on extensive literature review, will also provide a response to recent publications claiming that petroleum degradation products are a non-concern.

On April 14, Assistant Executive Officer Dyan Whyte gave her annual lecture to UC Berkeley's Water Planet class. Her lecture consisted of an overview of water quality regulation in California, the health of San Francisco Bay, and evolving efforts to address contaminants of emerging concern.

401 Water Quality Certification Applications Received (Keith Lichten)

The table below lists those applications received for Clean Water Act section 401 water quality certification from March 19 through April 22. A check mark in the right-hand column indicates a project with work that may be in BCDC's jurisdiction.

Project Name	City/Location	County	May have BCDC Jurisdiction
Seaplane Lagoon Ferry terminal geotechnical borings	Alameda	Alameda	✓
PG&E emergency leak repair Gas Line L-107, Dixon Landing	Fremont	Alameda	
PG&E gas line investigative dig project line L-131, MP 54.71 lii	Fremont	Alameda	
Briones Abrigo Valley Trail culvert repairs	Martinez	Contra Costa	
Ridgewood Rd. creek restoration	Kentfield	Marin	
Green Island Road warehouse project	American Canyon	Napa	
Napa Oaks subdivision project	Napa	Napa	
Crane Cove Park Phase I, Pier 70	San Francisco	San Francisco	✓
Dredging at the lagoon intake structure	Foster City	San Mateo	✓
Mirada Road emergency slope protection project	Half Moon Bay	San Mateo	
Alpine Road trail improvements project	Menlo Park	San Mateo	
Spring Down Pond restoration project	Portola Valley	San Mateo	
Penitencia Creek erosion repair project	Milpitas	Santa Clara	
Monte Vista-Coyote Crossings improvement project	Saratoga	Santa Clara	
Adobe spur extension for rail access to Lagunitas Brewing Co.	Petaluma	Sonoma	
Adobe Creek outlet repair	Petaluma	Sonoma	

Penalty Enforcement Actions Proposed and Final (Lila Tang)

The following tables show recent proposed settlements and final actions. There are also two complaints on which Board staff and the dischargers are in settlement discussions. All complaints and proposed settlements are available at

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

Proposed Settlements			
The following are noticed for public comment. If no significant comment is received by the deadline, the Executive Officer will sign an order implementing the settlement.			
Discharger	Violation(s)	Penalty Proposed	Comment Deadline
City of Richmond, Groundwater Treatment System at Point Molate, in Richmond	Discharge limit exceedances.	\$15,000 ¹	May 9, 2016
Vallejo Sanitation and Flood Control District, Wastewater Treatment Plant, in Vallejo	Discharge limit exceedance.	\$3,000 ¹	May 9, 2016

¹ Includes 50 percent to supplement RMP² studies.

Final Actions			
On behalf of the Board, the Executive Officer approved the following.			
Discharger	Violation(s)	Penalty Imposed	Supplemental Environmental Project
Lehigh Hanson West Region, in Oakland	Discharge limit exceedances.	\$3,000	None
SMI Holding LLC, Groundwater Treatment System, in Mountain View	Bypass of treatment and late discharge report.	\$15,000	\$7,500 to RMP ²
City of Palo Alto, Regional Water Quality Control Plant, in Palo Alto	Discharge limit exceedances.	\$3,000	\$1,500 to RMP ²

² RMP is the San Francisco Bay Regional Monitoring Program managed by the San Francisco Estuary Institute to collect water quality information in support of management decisions to restore and protect beneficial uses of the region's waters.

The State Board's Office of Enforcement includes a statewide summary of penalty enforcement in its Executive Director Report at http://www.waterboards.ca.gov/board_info/eo_rpts.shtml.