

California Regional Water Quality Control Board
San Francisco Bay Region
EXECUTIVE OFFICER'S REPORT
A Monthly Report to the Board and Public

April 2008

The next regular scheduled Board meeting is April 9, 2008.

See <http://www.waterboards.ca.gov/sanfranciscobay/> for latest details and agenda

Items in this Report (Author[s])

Water Board Takes Steps on Sewage Spills (Lila Tang)	Page 1
Safe Disposal of Pharmaceuticals (Heather Ottaway)	Page 2
Update on Gasoline Oxygenate MTBE (Chuck Headlee)	Page 3
EPA Approves TMDLs for Sonoma Creek and the Napa River (Tina Low)	Page 4
Advisory Committee for Selenium TMDL (Barbara Baginska)	Page 5
LTMS Basin Plan Amendment Update (Beth Christian)	Page 5
New Liability-Relief Tool for Brownfield Restoration (Barbara Sieminski)	Page 6
Hayward Brownfield Redevelopment (Max Shahbazian and Roger Papler)	Page 7
Livermore Dry Cleaner Case (Cleet Carlton)	Page 8
UC Berkeley Career Fair Recruitment (Adrienne Miller)	Page 9
In-house Training	Page 9
Staff Presentations	Page 9

Water Board Takes Steps on Sewage Spills (Lila Tang)

As part of the lessons learned from the January sewage spills in Marin County, we are well underway in improving our spill response procedures, and have directed part of our permit reissuance staff to investigate those spills, as well as another significant one in Pacifica during that same time. Also, we are improving our sewage spill report tracking system to better meet the public's and the news media's continued interest on this topic. This enhanced system will also allow us to comprehensively assess the problem regionally. The Marin spills have also attracted the attention of Assemblyman Mark Leno, who recently introduced Assembly Bill 2986. His bill proposes to require performance-based grades for all sewage collection and treatment utilities, and proposes to impose requirements on the Regional and State Water Boards to post on the internet various information about the sewage utilities.

Our improved response protocols will provide clearer guidance to direct sewage utilities and other responsible parties to properly notify appropriate agencies and the public of their spills, and as much as possible contain, cleanup, and monitor these spills. Ensuring that responsible parties take appropriate first response actions is extremely important because Board staff cannot respond to all spills.

In terms of improving our sewage spill report tracking system, we plan to re-launch an enhanced version of a web-based reporting system that was developed by Board staff Johnson Lam in 2004, and disabled when a statewide reporting system went online in May

2007. Our enhancement will accommodate spill reports from both sewage collection pipes as well as from wastewater treatment plants. Spills from treatment plants are currently reported in paper form only and not all in one place. One outcome of re-launching our local reporting system would be that it will be necessary for dual reporting by collection agencies to both our system and the statewide system. This will unfortunately have to be the case until we are able to retrieve information from the statewide system in a more timely fashion. Also, our system is more searchable so it will also allow us to more easily assess the regional problem in the future.

For the Marin spills, on February 8, Assistant Executive Officer Dyan Whyte, issued a Cleanup and Abatement Order against the Sewerage Agency of Southern Marin (SASM) to cleanup and abate the effects of the spills, report on the circumstances of the spills, and develop and implement a work plan to abate the threat of future spills. We have been in close communication with State Board staff and CalEPA on our followup to these spills. We recently sent a completed report of our and State Board staff's preliminary findings to CalEPA. We also provided similar findings in reply to U.S. Congresswoman Lynn Woolsey.

In summary, our findings are that both spills were, directly or indirectly, caused by wet weather inflow and infiltration problems from the collection systems of the six communities served by SASM's treatment plant. In the case of the first spill on January 25, there were no operational errors, but SASM did not properly report the spill. In the case of the spill on January 31, flows entering the plant were also elevated due to inflow and infiltration, but operator error appears to be the primary cause of this spill. We are also coordinating with U.S. EPA staff on its continuing investigation into the adequacy of the six satellite collection systems' programs to control inflow and infiltration. We will continue to work with State Board staff to investigate these spills and determine and take appropriate further enforcement action.

Safe Disposal of Pharmaceuticals (Heather Ottaway)

In the upcoming months, the Bay Area Pollution Prevention Group (BAPPG), along with other sewage agencies throughout California, will assist the State Board and U.S. EPA in creating a statewide coordinated outreach message regarding pharmaceutical waste disposal. This effort is very timely in the wake of a recent Associated Press (AP) article claiming that pharmaceuticals are present in drinking water supplies throughout the United States. According to the AP, excretion from people who take medication is the major source of these compounds to wastewater treatment plants, and ultimately to drinking water supplies. Most wastewater treatment facilities cannot remove these compounds.

However, the AP article failed to mention the other significant source of pharmaceuticals to wastewater treatment facilities: unused or expired medications disposed of in sinks and toilets. So the statewide outreach will help close the loop on this preventable source.

BAPPG is a consortium of sewage treatment agency staff who have been very active in pollution prevention activities. It has been voluntarily working on pharmaceuticals for a number of years. Currently, BAPPG is trying to overcome regulatory hurdles associated with collecting controlled substances. According to Federal Drug Enforcement

Administration rules, collection of controlled substances must be handled by an appropriate law enforcement agency (e.g., sheriff's office, police department). To address this requirement, many cities throughout the Bay Area have established on-going collection programs at local police stations to handle collection of both controlled and uncontrolled substances, while numerous local pharmacies and agencies collect uncontrolled substances. In fact, the Board recognized the County of San Mateo for its innovative program at police stations with an "Honorable Mention" during the 2007 Dr. Teng-chung Wu Pollution Prevention Excellence awards last September. Continued outreach to the public is a critical element of success. BAPPG maintains an up-to-date list of disposal locations throughout the Bay Area on the web at www.baywise.org.

Update on Gasoline Oxygenate MTBE (Chuck Headlee)

We have seen a big improvement in the groundwater MTBE situation in our Region since 2001 as a result of the MTBE ban, our regulatory response to the problem, improvements in cleanup technologies, and favorable geology in our Region. This result is based on an initial comparison of 2001 and current data at the highest-threat MTBE-impacted sites in our Region.

Methyl tert-butyl ether (MTBE) is a fuel oxygenate that was added to gasoline in California in the 1980s and 1990s, mainly to meet federal clean air requirements. When underground fuel storage tanks and piping leaked, MTBE tended to cause more serious water quality problems than other fuel constituents. MTBE is more mobile, more persistent in the subsurface, and harder to treat than other fuel constituents. By the mid-1990s, there were a number of highly-publicized cases where MTBE releases to groundwater had impacted municipal drinking water supply wells, notably in Los Angeles and in South Lake Tahoe. One municipal supply well in our region, in south San Jose, was briefly impacted.

As part of the regulatory response to this problem, the Water Boards in 2001 prioritized all MTBE-impacted sites. Three priority categories were defined, based on maximum MTBE concentration in groundwater and how close the site was to existing supply wells. At that time, our Region had about 1,600 MTBE-impacted sites, including 127 in the high-threat category.

Since 2001, we have seen a substantial threat reduction at the 127 high-threat sites. The average of the maximum site concentrations has dropped 100 fold, from 96,000 ppb to 1,100 ppb. The percentage of the original high-threat sites with more than 1,000 ppb MTBE in groundwater has dropped substantially, from 80% in 2001 to only 5% now. About 25% of the high-threat sites have been cleaned up and closed. Another 50% of them no longer qualify as high threat. About 25% of them remain as high-threat sites but only because they are located close to existing supply wells. There have been no additional impacts to municipal supply wells in our Region.

We can point to several reasons for this good news:

- Fewer releases from underground fuel tanks: State and federal regulations required tank upgrades by 1998, and 2002 state regulations required vapor-tight

tank systems. As a result, we have seen a significant drop in the number of new leaking underground fuel tank cases.

- **MTBE ban:** As a result of the unanticipated water quality impacts of MTBE, California and several other states banned its use in gasoline. A 1999 executive order established the California ban, which took full effect at the end of 2002. The ban had the effect of removing MTBE from the fuel mix and preventing new MTBE releases.
- **Better understanding of MTBE behavior:** Since 2001, regulators have learned that MTBE will bio-degrade (under the right conditions) and can be treated. We better understand the fate and transport of MTBE in the subsurface. Treatment options include chemical oxidation and enhanced bio-degradation; both can be done in the subsurface.
- **Our focused oversight efforts:** We and our local-oversight-agency partners have focused regulatory attention on high-threat MTBE cases, to accelerate their investigation and cleanup.
- **Favorable geology in our region:** Most of the municipal supply wells in our Region draw groundwater from deep aquifers that are overlain by regional aquitards (thick, laterally extensive layers of fine-grain material that dramatically slow the downward migration of contaminants). This has given us a much longer "window" of time to address shallow-groundwater contamination problems - from MTBE and other contaminants.

Federal law still requires fuel oxygenates, in California and elsewhere, and MTBE was replaced by ethanol after the ban took effect. Ethanol is much less toxic and much more bio-degradable than MTBE. At the time, water quality regulators predicted that ethanol would have only minor effects on fuel-leak cleanups. Specifically, we expected that some groundwater plumes would be somewhat larger, as naturally-occurring micro-organisms in the subsurface preferentially consumed ethanol before consuming the other fuel constituents. These predictions have been reasonably accurate, and we conclude that the shift from MTBE to ethanol has had a net benefit for groundwater quality in California.

The above results focus just on the high-threat MTBE sites in our Region. We would like to expand this analysis to all MTBE-impacted sites in our Region, and have suggested a similar analysis state-wide. Doing this will probably have to wait for the State Water Board's pending upgrade of its GeoTracker database and our ability to hire of a staff person with GIS skills.

EPA Approves TMDLs for Sonoma Creek and the Napa River (Tina Low)

On February 28, U.S. EPA approved the Sonoma Creek Pathogens TMDL and the Napa River Pathogens TMDL. In their approval letters, EPA concluded that each TMDL "adequately addresses the pollutants of concern and, upon implementation, will result in attainment of applicable water quality standards." The Sonoma Creek and Napa River

Pathogens TMDLs are officially part of the Basin Plan. We will be working to incorporate them into our on-line Basin Plan. The Basin Plan amendments are posted on our website at: <http://www.waterboards.ca.gov/sanfranciscobay/TMDL/sonomacrkrpathogenstmdl.htm> <http://www.waterboards.ca.gov/sanfranciscobay/TMDL/napariverpathogentmdl.htm>. The Sonoma Creek Pathogens TMDL was adopted by the Board in June 2006. The Napa River Pathogens was adopted in November 2006.

Implementation actions stemming from the TMDL implementation plan are already in progress. For example, Board staff is reviewing a plan, submitted by Napa County, to correct faulty septic systems. In the coming months we will be tracking implementation of all implementation measures outlined in the TMDL.

Advisory Committee for Selenium TMDL (Barbara Baginska)

Since the first TMDL Advisory Committee for Selenium meeting took place on December 12, 2007, two new reports have been completed. These two technical reports are the Source Characterization Report and the Toxicological Assessment Report. They will be used to support technical conclusions in the TMDL staff report that is being developed. U.S. EPA is also actively involved in this project, having arranged for scientific review of drafts of these reports by USGS and USFWS.

An Advisory Committee meeting with these stakeholders is scheduled for April 1. These recently completed reports will be the subject of the meeting. Central Valley Regional Water Board staff have also agreed to attend the meeting and present an update on their efforts to control selenium in Central Valley and the Delta.

LTMS Basin Plan Amendment Update (Beth Christian)

On March 10, the Office of Administrative Law approved a Basin Plan amendment to implement the Long Term Management Strategy for the Disposal of Dredged Material in San Francisco Bay (LTMS). The LTMS combines a phased-in reduction in the volume of dredged material disposal in San Francisco Bay with an increase in the use of dredged material as a resource for wetland habitat restoration such as the Hamilton Wetland Restoration Project and levee maintenance projects.

In the early 1980s, the problems associated with heavy reliance on in-Bay disposal sites became apparent, including navigational problems associated with a mound of dredged material at the Alcatraz disposal site, as well as potential environmental problems associated with disposal and dredging activities. In 1990, the Water Board joined with the US Army Corps of Engineers (Corps), U.S. EPA, Bay Conservation and Development Commission (BCDC), the State Board, and representatives from the dredging and environmental communities to ensure adequate dredged material disposal and reuse capacity and protection of aquatic resources over a 50-year planning period through development of the LTMS. The LTMS was also initiated to maximize beneficial reuse of dredged material, improve coordination of the agencies governing these activities, and ensure a more predictable regulatory framework.

The Basin Plan amendment is consistent with the selected alternative in the LTMS Policy Environmental Impact Statement/Programmatic Environmental Impact Report (PEIR), which was certified by the Corps, U.S. EPA, and the State Board in 1999, and the LTMS Management Plan, approved by the LTMS agencies in 2001. The Management Plan outlines how the selected alternative will be implemented by each of the involved agencies.

This amendment reflects a long-term overall goal for in-Bay disposal of dredged material at designated disposal sites of one million cubic yards (or less) per year to be attained step-wise over a 12-year period. The amendment also establishes a two-phase process of allocating in-Bay disposal volumes, with an initial voluntary phase followed by a second mandatory phase regulated through the issuance of general Waste Discharge Requirements, if the voluntary phase does not attain the overall in-Bay disposal targets. The amendment also provides revised permit conditions to reflect requirements of the resource agencies (California Department of Fish and Game, U.S. Fish and Wildlife Service, and National Marine Fisheries Service).

New Liability-Relief Tool for Brownfield Restoration (Barbara Sieminski)

On March 26, we entered into a liability-relief agreement with a developer for a large Brownfield site in Concord. The agreement was done pursuant to a relatively new state law, the California Land Reuse and Revitalization Act (or CLRRA). This is noteworthy because, although the law has been in effect since January 2005, this is the first CLRRA agreement entered into by any Regional Water Board. By contrast, our sister cleanup agency, the Department of Toxic Substances Control, has been a party to approximately 15 CLRRA agreements. The different results between agencies can be explained in part by a nuance in the law. Properties affected by passive migration of groundwater pollution are generally ineligible for CLRRA liability relief, and the Water Boards have more sites involving off-site groundwater plumes.

CLRRA provides a pathway to liability protection for Brownfield developers, innocent landowners and contiguous property owners, in order to promote the cleanup and redevelopment of blighted, contaminated properties. Liability protection is something most developers seek before purchasing a Brownfield property, as under state law, they risk getting named as a discharger before they fully understand the magnitude of any contamination or the associated cleanup costs. Lenders and equity partners normally refuse to participate in a purchase unless liability protection is spelled out.

To be eligible, an applicant must fit into one of three categories: bona fide purchaser, innocent landowner, or contiguous property owner. Additionally an applicant must meet specific conditions, such as: performing appropriate "due diligence" inspections before property purchase, exercising appropriate care with respect to a release or threatened release, providing full cooperation and site access to others conducting cleanup actions, complying with land use controls, complying with requests for information, providing appropriate notices, and satisfying reporting requirements.

Some of the highlights of this law are:

- Applicants agree to assess and clean up the property as necessary.
- Applicants seeking immunity must enter into an agreement with an oversight agency.
- Immunity begins at the time an agreement is signed.
- Cleanup actions must be as protective of public health, safety, and the environment as actions required under the Health and Safety Code or the Water Code.
- Specific public participation requirements apply.
- Future property owners can qualify for immunity provided they meet all of the qualifying conditions and they comply with the terms of the agreement.

Our March 26 CLRRRA agreement was with Marginal Properties-Concord, LLC, for a property in downtown Concord (2400 Salvio Street and 2401-2471 Willow Pass Road). This 2-acre site is located in a mixed retail and residential area, adjacent to the BART rail line. Historical uses of the property include two gas stations, an automobile repair shop, and a dry cleaner. The developer plans to build retail stores on the ground floor and 200 residential condo units on levels two through four, with a basement parking structure. Limited site investigation has discovered low levels of petroleum and chlorinated solvents in soil and groundwater.

This first CLRRRA agreement was a collaborative effort and the result of a lot of hard work by Board staff, our attorneys, and the project proponent. We expect that now that we have developed a workable template for the CLRRRA agreement, we will be able to more rapidly process any future applications.

The Board already uses a number of other liability-relief tools to encourage Brownfield restoration in our Region. These include: "comfort" letters, "Polanco" letters, and prospective purchaser agreements. The common thread in all these tools is that we offer some assurance to the developer that we will not enforce against him/her in return for his/her commitment to deal appropriately with any site contamination. CLRRRA agreements represent one more tool to encourage Brownfield restoration.

Hayward Brownfield Redevelopment (Max Shahbazian and Roger Papler)

Redevelopment has started at the Hayward "Cannery Row" Brownfield site, where the Board is overseeing investigation and cleanup. Currently, this is the largest residential Brownfield redevelopment project in Hayward. This 53-acre site is located along the Southern Pacific railroad tracks between Winton Avenue and A Street. The site was formerly used by several canneries as well as for a variety of other purposes including battery manufacturing, food processing, dry grocery warehouse, freezer facilities, furniture storage, drum barrel recycling, and truck maintenance. These historic uses impacted the site with various pollutants including petroleum hydrocarbons, volatile organic compounds, and heavy metals such as arsenic. Cleanup at the site consisted of removal of ten underground storage tanks and a waste oil sump and excavation of approximately 40,000 cubic yards of soil impacted with heavy metals and petroleum hydrocarbons. Three different developers are building a total of 740 town homes at the site. The redevelopment will also include a series of public parks and open spaces, a small neighborhood retail

facility and a recreational facility. We have issued regulatory closure letters for some portions of the site and are preparing closure letters for the other portions.

Livermore Dry Cleaner Case (Cleet Carlton)

In mid-March, Board staff issued a directive to a dry-cleaner site in Livermore, requiring the dischargers to further investigate the site's impact on nearby municipal drinking water wells and propose additional actions as needed.

The site consists of two shopping centers near downtown Livermore, the Livermore Arcade Shopping Center and the Miller's Outpost Shopping Center. Groundwater beneath both properties has been impacted by releases of the dry cleaning solvent tetrachloroethene (PCE) from former dry cleaners at each of the shopping centers. From 1994 through 1995, PCE was removed from soil and groundwater at the site by a system that injects air into groundwater and extracts soil vapors above the groundwater. From 1994 to 1996, additional PCE was removed by pumping groundwater through extraction wells and treating it at the site. In 1996, the system was shut down after remaining groundwater contamination was no longer being effectively removed by this method.

In 1996, the Board adopted a final site cleanup order for the site. The order established a non-attainment area in the immediate site vicinity, outside of which typical groundwater cleanup standards were to be met. This non-attainment area was predicated on a stable groundwater plume that was not likely to migrate. The order required continued groundwater monitoring and a contingency plan, to be implemented in the event the groundwater plume began to migrate. Groundwater data obtained over the last year, from both monitoring wells and municipal wells down-gradient of the site, suggest that the plume may not be stable. PCE detected in the water supply wells, although at low concentrations, has raised the level of concern.

On March 17, Board staff issued a directive, pursuant to a task in the final site cleanup order, requiring the dischargers to evaluate this new technical information by June 13. Our letter requires the dischargers to define the nature and extent of PCE contamination in the down-gradient portion of the plume, in the vicinity of the impacted municipal wells. The letter also requires the dischargers to assess the contribution of PCE from the site to the municipal wells and propose response actions, as appropriate.

The "non-attainment area" policy was established by the Board in a 1995 Basin Plan amendment. Its purpose was to cope with groundwater contamination that resisted cleanup, despite reasonable cleanup efforts. The policy was set aside by the State Board in 1996 when it established a "containment zone" policy to take the place of similar efforts by various regions. This non-attainment area predates the State Board policy and is "grandfathered" as a result. As a practical matter, very few VOC-impacted sites make use of non-attainment areas or containment zones, and they have been supplanted by in-place cleanup methods as well as "monitored natural attenuation" approaches.

UC Berkeley Career Fair Recruitment (Adrienne Miller)

On March 12, Board staff Ralph Lambert and Adrienne Miller recruited potential summer interns and full-time staff at the UC Berkeley Environmental Companies and Organizations Career Fair. The two hour event was very successful, as they spoke to more than 50 science and engineering students. Most students submitting resumes were Environmental Science, Engineering, Biology, Chemistry, and Geography majors, ranging from undergraduates to PhDs. Both Ralph Lambert, an Engineering Geologist, and Adrienne Miller, a Water Resources Control Engineer and UC Berkeley alumni, were impressed by the enthusiasm and caliber of the UC Berkeley students.

In-house Training

Our March training was on water recycling and the Board's role in encouraging and regulating water recycling. Our April training will be on negotiation skills. Also, Wil Bruhns will give his annual Introduction to Laws and Regulations for new staff, for at least the twentieth time.

Staff Presentations

On March 18, Gina Kathuria participated on a panel entitled "Career Advancement Strategies for Environmental and Engineering Professionals". Her participation was at the request of the State Board to represent state-employed engineers in Northern California. . The panel discussion was part of a career fair sponsored by "seasonedPRO" and was attended by approximately 200 people. "seasonedPRO" provides a business service that supports recruitment of business and technical professionals.