CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD

EXECUTIVE OFFICER'S REPORT: *December 2013*

A Monthly Report to the Board and Public

NEXT MEETING: December 11, 2013 **WEBSITE:** http://www.waterboards.ca.gov/sanfranciscobay/

Items in this Report (Author[s])

Successful Innovation at Soulajule Reservoir (David Elias)

In October 2010, Water Board enforcement staff followed up on a complaint of a strong rotten egg smell in Arroyo Sausal Creek, located in western Marin County, near the discharge point of Soulajule Reservoir (Photo 1). After some investigative work, we learned that the problem was due to high hydrogen sulfide and low dissolved oxygen concentrations in the creek.

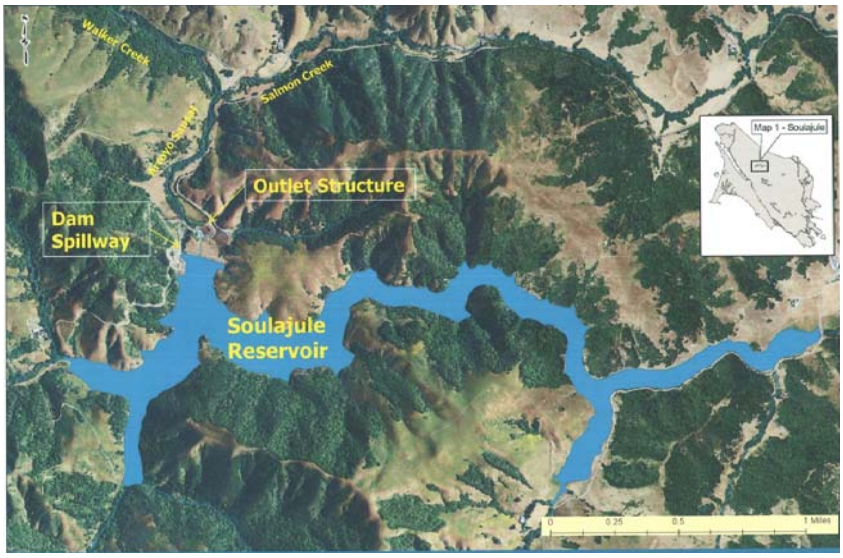

Photo 1. *Map showing the Soulajule Reservoir outlet structure and Arroyo Sausal flowing north to Walker Creek.*

We discovered that depressed oxygen concentrations extended far downstream from Soulajule Reservoir and that the problem only occurred in the warmer late summer months when the reservoir thermally stratified. The water that the reservoir operator and owner, the Marin Municipal Water District (District), is required to release to maintain downstream flows is drawn from the lower depths of the reservoir, and these deep, cold waters become oxygen depleted when the reservoir stratifies. Based on this new information and in coordination with the State Board's Water Rights Unit, we required the District to remedy the problem.

Photo 2. *Water Board staff Habte Kifle monitoring the reservoir discharge for dissolved oxygen in 2010.*

This past summer, the District completed the installation of an innovative engineering solution to oxygenate the reservoir's discharge: a Howell-Bunger valve, which is similar to a fire hose nozzle and does not require the use of electricity. The hydraulic head from the reservoir forces cold water up to the ground surface through piping where it discharges through the valve. As shown in Photo 3, the valve aerates the discharge and raises the discharged water's dissolved oxygen concentration to 8 ppm, which is ideal. Any hydrogen sulfide is dissipated in the presence of oxygen as well. The temperature of the discharge is not increased (a concern due to the downstream cold water fishery), because evaporation keeps the water cool. The District has verified the valve's performance with water quality sampling and laboratory analysis.

Photo 3. *Valve installation with steel cover preventing bank erosion.*

The same week that the District reported the success of the valve installation and operation, an article was released by a local newspaper stating, "The Marin Municipal Water District reports counting 137 juvenile coho salmon in the Walker Creek watershed. This is the first time juveniles have been seen since 2008 in Walker Creek…" The news article is available at: http://www.marinij.com/marinnews/ci_24365554/young-endangered-coho-salmon-seen-walker-creek-first

Although we cannot determine that the water quality improvements in Arroyo Sausal Creek are directly responsible for this fantastic news, the timing coincidence is amazing. Our hypothesis is that coho are able to smell hydrogen sulfide at concentrations well below our laboratory detection limits, and they may have been historically avoiding the area where Arroyo Sausal Creek enters Walker Creek to avoid the smell of hydrogen sulfide during the summer and early fall months. Now, with dissolved oxygen increased and hydrogen sulfide dissipated due to the valve operation, the valve is likely partially responsible for the improvement in Walker Creek coho habitat. We also acknowledge that as an outgrowth of our mercury, pathogen, and sediment TMDLs, there has been a lot of good work performed in the watershed to support and enhance fishery habitat in Walker Creek.

Staff Presentations

On November 1, Carrie Austin made a presentation at a mercury session at the North American Lake Management Society's 33rd International Symposium in San Diego. She spoke about promising innovations in reservoir management practices that have the potential to reduce fish mercury levels. Carrie is working on a statewide project to address mercury listings in reservoirs with other regions and the State Board. A fact sheet about mercury in reservoirs and other information is available at:
http://www.waterboards.ca.gov/water_issues/programs/mercury/

On November 4, Naomi Feger made a presentation at the Coastal and Estuarine Research Federation Conference on the implications of California Current hypoxia for water quality management in San Francisco Bay. The emphasis of the session was on coastal hypoxia and ocean acidification. She highlighted our San Francisco Bay Nutrient Management Strategy and the need for developing models and a better understanding of the impacts of anthropogenic sources of nutrients on coastal ecology in light of the observed increases in coastal upwelling.

On November 4, A.L. Riley made a presentation to the Lafayette Creeks Committee, a committee of the Lafayette City Council established to protect and restore Lafayette Creek. The meeting was well attended and included city planning staff, city commissioners, and the public. The presentation stressed the "do's and don'ts" for managing urban creeks and how to identify options for reducing flooding, while enhancing the creek for water quality and habitat functions. She also provided the Board's "Primer on Stream Protection for the Regulator and Program Managers" to those attending. The City is preparing to develop a stream management plan with the objective to better integrate a healthier creek into its downtown plan.

On November 7, Keith Lichten spoke at the annual conference of the American Public Works Association's Northern California Chapter. He described the evolution of municipal stormwater permitting, current regulations, and expected changes with the planned 2014 reissuance of our

Regional Municipal Stormwater Permit. These changes could potentially include the following: more-detailed focus on TMDL implementation projects to reduce PCBs and mercury in urban stormwater runoff; potential changes to area thresholds for regulated projects; changes to regulated street projects; and increased focus on alternative compliance projects— i.e., completing stormwater treatment at alternative locations, when it is infeasible at an otherwise regulated site.

On November 15, I spoke as part of a panel at the Bay Planning Coalition's workshop entitled, "Dredging and Wetlands Restoration: Who Pays for Beneficial Reuse?" The panel represented the lead agencies that oversee the Long-Term Management Strategy for Dredged Material Placement (LTMS) and that make up the Bay Area's Dredged Material Management Office (DMMO). I discussed ongoing challenges for the LTMS and DMMO and opportunities to more efficiently reuse dredged material for wetland restoration and sea level rise adaptation.

In-house Training

Our November training was on "Communicating with a Non-Technical Audience," something we are called on to do in various public meetings. Our December training will be on the legal underpinnings of the Water Board's regulatory programs ("Water Board 101") and is mandatory for new Board staff. Brownbag seminars included a November 12 session on contaminants of emerging concern, which focused on plasticizers and endocrine disrupters. The seminar was one in a series of webinars offered by the Groundwater Resources Association.

Penalty Enforcement Actions Proposed and Final (Claudia Villacorta)
The following tables show newly issued complaints, recently proposed settlements, and settled actions for assessment of penalties, as of the last report. 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 a 30-day public comment period. If no significant comments are received by the comment deadline, the Executive Officer will sign an order implementing the settlement.

Discharger	Violation	Penalty Proposed	Comment Deadline
Archstone Emeryville Residential, LLC Groundwater Treatment System in Emeryville	Discharge limit exceedances	$6,000	December 16, 2013

Settled Actions
On behalf of the Board, the Executive Officer approved the following:

Discharger	Violation	Penalty Imposed	Supplemental Environmental Project
Allied Defense Recycling Mare Island Ship Yard, In Vallejo	Overdue monitoring fees	$45,531.20	None
West County Agency and City of Richmond, Outfall	Discharge limit exceedances	$3,000	None

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