

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF MAY 28-29, 2015

Prepared on April 16, 2015

ITEM NUMBER: 23

SUBJECT: Executive Officer's Report to the Board

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This item presents a brief discussion of issues that may interest the Board. Upon request, staff can provide more detailed information about any particular item.

WATER QUALITY CERTIFICATIONS

[Phil Hammer 805/549-3882]

The tables on the following pages list applications received and certifications issued from February 5, 2015 – April 3, 2015

401 Water Quality Certification Applications Received February 5, 2015 – April 3, 2015

Applicant	Date Received	Project Title	Project Purpose	Location	County	Receiving Water	Proposed Total Impact ¹	Status
City of Santa Cruz - Scott Collins	2/13/15	San Lorenzo River Lagoon Interim Management Program	To prevent localized flooding to public and private properties and infrastructure.	Santa Cruz	Santa Cruz	San Lorenzo River, Pacific Ocean	0.156 acre	Incomplete Application
California Flats Solar, LLC - Scott Dawson	2/18/15	California Solar Flats Project	To increase the availability of electricity generated from renewable energy sources.	Cholame Valley	Monterey /San Luis Obispo	Cholame Creek, Cottonwood Creek	3.97 acres/42,269 linear feet	Under Staff Review
City of Santa Barbara - Sara Iza	2/19/15	Charles Meyer Desalination Facility Repair and Maintenance Activities	To conduct necessary repair and maintenance to reactivate the desalination facility.	Santa Barbara	Santa Barbara	Pacific Ocean (mouth of Mission Creek)	0.0692 acre	Under Staff Review
Santa Cruz Metropolitan Transit District - Frank Cheng	2/20/15	Metrobase Judy K Souza Operations Building	To provide bus parking and offices for bus operators.	Santa Cruz	Santa Cruz	San Lorenzo River	0.018 acre	Under Staff Review
Coastal River Terrace, LLC - Marco Vujicic	2/24/15	River Terrace Rock Riprap Energy Dissipater Project	To dissipate the energy of water exiting from an existing 24-inch culvert.	Lompoc	Santa Barbara	Unnamed tributary to Santa Ynez River	0.01 acre	Under Staff Review
U.S. Coast Guard - Amanda L Velasquez	3/2/15	U.S Coast Guard Station Monterey Waterfront Repairs	To repair and replace facilities that have deteriorated over time to improve and maintain structural integrity of an existing pier, floating docks, and potable water line.	Monterey	Monterey	Monterey Bay	0.0007 acre	Under Staff Review

Applicant	Date Received	Project Title	Project Purpose	Location	County	Receiving Water	Proposed Total Impact¹	Status
Caltrans - Larry Bonner	3/13/15	Route 46 Corridor Improvement Phase 4 Whitley 2B	To minimize fatal accidents, improve safety, and reduce existing and future peak-hour congestion on State Route 46.	Unincorporated San Luis Obispo County	San Luis Obispo	Hopper Canyon Creek, Cholame Creek	1.224 acres	Under Staff Review
City of Santa Maria Utilities Dept. - Shannon Sweeny	3/5/15	City of Santa Maria Drainage Facilities Maintenance Project	To maintain storm water management and flood control facilities within the City for protection of public health and safety, treatment, storage, and discharge of storm water.	Santa Maria	Santa Barbara	Multiple Drainages (312.00)	Variable	Incomplete Application
California Mountain Oaks, LLC, California Mountain Gardens, LLC, California Ocean Oaks, LLC, California Ocean Gardens, LLC, Chase Parcels, LLC, Preston Parcels, LLC, Remington Parcels, LLC - Eric Appel	2/10/15	Stream Monitoring for Jalama Creek and its tributaries	To monitor stream flow along Jalama Creek and its tributaries.	Lompoc	Santa Barbara	Jalama Creek, Espada Creek, Escondido Creek, Gaspar Creek	None listed	Incomplete Application
Land Trust of Santa Cruz County - Bryan Largay	3/16/15	Bryan-Habert Wait Ecological Restoration Project	To create and enhance approximately 20 acres of seasonal wetland and upland habitat distributed across a property that was formerly used for agriculture.	Watsonville	Santa Cruz	Watsonville Slough	20 acres	Under Staff Review
California Military Department, Facilities & Engineering - MAJ Lorren Deakin	3/23/15	Camp Roberts High Water Bridge Repair Project	To permit mechanized land clearing and grading activities previously performed within the banks of the Nacimiento River.	Camp Roberts	Monterey	Nacimiento River	0.513 acre	Incomplete Application
City of Watsonville Department of Public Works - Steve Palmisano	4/3/15	Corralitos Creek Diversion Bank Repair Project	To repair the undermined slope as a result of the previous replacement of a fish ladder for steelhead six years ago.	Corralitos	Santa Cruz	Corralitos Creek	0.036 acre	Incomplete Application

^[1] Total Impact includes both temporary and permanent impacts to waters.

401 Water Quality Certifications Issued February 5, 2015 – April 3, 2015

Applicant	Date Certified	Project Title	Project Purpose	Location	Receiving Water	Includes LID Retention Feature ²	Total Impact ¹
Comstock Homes - Scott Stone	2/9/15	Village at Los Carneros	To construct 465 residential units at Village at Los Carneros.	Goleta	Tecolotito Creek	Y	0.16 acre
Moss Landing Harbor District - Linda G. McIntyre	2/27/15	Moss Landing Tsunami Shore Protection Repair	To repair existing riprap revetments damaged by the tsunami in April 2011.	Moss Landing	Moss Landing Harbor	NA	0.19 acre
County of Santa Barbara Public Works Dept - Morgan Jones	3/5/15	Goleta Beach County Park Bridge 51C-158 Replacement	To improve public safety and reliability for the Goleta Beach Park Bridge crossing the Goleta Slough.	Goleta	Goleta Slough	Y	0.79 acre
City of Monterey - Norman Green	3/6/15	Monterey Wharf II Repairs and Waterfront Maintenance	To keep Monterey's waterfront serviceable for public use over the next 5 years.	Monterey	Monterey Bay	NA	0.0002 acre
Monterey Peninsula Country Club - Michael J. Bowhay	3/17/15	Monterey Peninsula Country Club Dunes Golf Course Renovation	To improve golf course features, address local sedimentation and flooding problems, and remove invasive species.	Unincorporated Monterey County	Sawmill Gulch Creek, Pacific Ocean	NA	0.36 acre

^[1] Total Impact includes both temporary and permanent impacts to waters.

^[2] Low Impact Development (LID) Retention Features are stormwater management structures designed to retain stormwater on-site, such as bioretention cells, infiltration trenches, etc.

Municipal Stormwater Post-Construction Requirements: Implementation Status
[Dominic Roques 805/542-4780]

March 6, 2015 marked the end of the first year of municipal stormwater Permittees' implementation of Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region (Post-Construction Requirements). On July 12, 2013, the Central Coast Water Board adopted Resolution No. R3-2013-0032 approving the Post-Construction Requirements with implementation to commence seven months later on March 6, 2014. Resolution No. R3-2013-0032 implements the Post-Construction Requirements of the State Water Resource Control Board General NPDES Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (General Permit). Under the Post-Construction Requirements, counties, cities, and the two University of California campuses on the Central Coast must regulate development projects to protect watershed processes and support beneficial uses potentially impacted by urban stormwater runoff.

Progress by Municipal Stormwater Permittees in Implementing Post-Construction Requirements

Since Central Coast Water Board approval of the Post-Construction Requirements, Permittees have made efforts to prepare for successful implementation by adopting ordinances to enforce the Post-Construction Requirements, developing implementation guidance for the development community, educating municipal staff, and tracking how the requirements are applied to proposed new and redevelopment projects. As the Great Recession has ended, municipalities are seeing an increase in applications for development permits. Many projects now beginning construction were approved prior to the March 6, 2014 implementation date; however, new

projects being submitted for design approval are subject to the Post-Construction Requirements.

To assist project applicants in understanding and meeting the Post-Construction Requirements, many Central Coast municipalities have adopted technical guidance developed by Santa Barbara County. This guidance, developed with Proposition 84 Stormwater Funding from the State Water Board, provides templates for Stormwater Control Plans, source control recommendations, and a Stormwater Control Measure Sizing Calculator. The Calculator operates in an easy-to-use Microsoft Excel environment and greatly simplifies the approach a typical project applicant must take to calculate runoff volumes and size runoff retention facilities that meet the Post-Construction Requirements. In addition to this guidance, the Sacramento State University, Office of Water Programs recently launched a sizing tool for State-wide use, albeit with limited applicability to the Central Coast.

Central Coast Water Board Staff Activities

To support implementation of the Post-Construction Requirements, Central Coast Water Board staff has continued to conduct outreach to stakeholders and has developed additional implementation guidance for Permittees, at times in coordination with the Central Coast Low Impact Development (LID) Initiative. Implementation guidance and assistance provided to date includes:

- Consultations with all Permittees subject to the Post-Construction Requirements to review implementation milestones related to implementation
- High-resolution isohyet maps (rainfall depths) for the 95th and 85th Percentile 24-hour rain event throughout the Central Coast to support more accurate runoff volume calculations
- Compliance flow chart and narrative for projects subject to runoff retention requirements
- At-a-Glance guidance for Central Coast Post-Construction Requirements
- Consultations with Permittees on determining technical infeasibility and applicability of the Post-Construction Requirements
- Preparation of reporting formats to assist Permittees with Phase II Permit Annual Reporting
- Support to Central Coast LID Initiative in:
 - Researching and developing guidance on Alternative Compliance programs for Permittees to use for off-site compliance in lieu of on-site post-construction requirements
 - Developing a Stormwater Control Plan template for Permittees to provide to development project applicants in early stages of application
 - Preparing a User Guide for Municipalities to prepare for successful implementation of the Post-Construction Requirements
 - Developing specifications for bioretention designs applicable to a variety of design types, e.g., curb bulb extension; sidewalk edge condition; street edge condition
 - Developing Native Soil Assessment for Small Infiltration-Based Stormwater Control Measures
 - Delivering training on design and construction of LID stormwater control measures
 - Providing assistance to Permittees pursuing grant funding for LID projects

Central Coast Water Board staff also continued the Joint Effort Review Team (JERT) process – the successful stakeholder forum used leading up to adoption of the Post-Construction Requirements. JERT meetings were held on a roughly quarterly basis and served to identify potential obstacles to implementation and provide input into development of the above guidance prepared by Central Coast Water Board staff and the Central Coast LID Initiative.

Central Coast Water Board staff also provided compliance assistance to Permittees seeking to exercise options provided in the Post-Construction Requirements. This assistance included: approving three Pre-Existing Programs (Lompoc, Santa Barbara, Santa Cruz County) that provide mitigation comparable to the Post-Construction Requirements; approving Urban Sustainability Areas in the downtown portions of Santa Cruz, San Luis Obispo, and Paso Robles; and approving a Special Circumstance for Historic Lakes and Wetlands in Goleta. Central Coast Water Board staff also filled in gaps in Watershed Management Zone maps and accepted revisions to the maps based on higher resolution local geologic mapping.

Evaluation of Compliance with Post-Construction Stormwater Requirements

In this first year Central Coast Water Board staff has conducted limited evaluation of the progress Permittees have made in implementing the Post-Construction Requirements. Evaluation has included: limited compliance inspections in four municipalities (Goleta, King City, Solvang, San Luis Obispo County); review of Annual Reports submitted for Year 1 of the Phase II Permit; and routine compliance assistance and oversight.

To date, these evaluations indicate the Permittees' ability to track implementation of the Post-Construction Requirements is uneven across the region. However, Central Coast Water Board staff has not determined if problems with tracking implementation necessarily lead to or are associated with failure to implement the Post-Construction Requirements – though in some cases both have occurred. Permittees have also reported that project engineers are finding the availability of material for bioretention facility construction to be more limited than is desirable. Specifically, bioretention soil media, which is comprised of a specific mix of compost and aggregate, is reportedly in short supply on the Central Coast. Additionally, developers are critical of standards requiring additional gravel for runoff storage at the base of infiltration-based Stormwater Control Measures.

Next Steps

Central Coast Water Board staff will continue to provide compliance assistance, identify technical areas for improvement or additional guidance based on outreach and engagement with municipalities and developers, and will review progress and compliance with the PCRs during year two (through March 6, 2016) of the PCRs. Staff believes compliance review during this second year of implementation will be more robust, since municipalities will have conditioned more projects to meet the PCRs, tracked these projects through the development review process, and insured that some projects implemented applicable PCRs.

“Notes from the Field”

[Mary Hamilton 805-542-4768]

Overview

Central Coast Ambient Monitoring Program field staff are currently monitoring in coastal Monterey and San Luis Obispo counties. This report summarizes observations of note from recent data collected from San Luis Obispo and Arroyo Grande Creeks.

Background

The Central Coast Ambient Monitoring Program (CCAMP) is the Central Coast Regional Water Quality Control Board's regionally-scaled water quality monitoring and assessment program. CCAMP is funded by the State Water Board's Surface Water Ambient Monitoring Program and by an endowment administered by the Bay Foundation of Morro Bay, a non-profit 501(c)(3) organization.

CCAMP maintains permanent long term monitoring sites, all located at the lower end of our Region's largest coastal streams (or "coastal confluences") to provide a framework for trend analysis and detection of emerging water quality problems. CCAMP monitors a suite of 33 sites at coastal confluences on an ongoing basis, and rotates through each of five watershed areas with an additional 30 sites annually. The program design includes monthly monitoring for conventional water quality (CWQ) and flow (where accessible) at all coastal confluence and current watershed rotation sites. At a subset of sites, other monitoring approaches are applied. These include sediment and water toxicity, sediment chemistry, tissue chemistry, benthic macroinvertebrate assemblage, algae and habitat assessment.

San Luis Obispo Creek

CCAMP monitoring stations in this watershed include one coastal confluence site, three main stem sites and two tributary sites. On January 28th, 2015, the nitrate concentration from the sample collected at the San Luis Obispo Creek monitoring station below the City of San Luis Obispo's Water Resource Recovery Facility (310SLV located at Los Osos Valley Road) measured 32.0 mg/L NO₃ as N. This is the highest concentration the CCAMP program has ever measured in the creek (since 2001), and is the highest nitrate measurement we have seen below any waste water treatment plant discharge in the Region since initiating our program. However, the measured concentration is below the nitrate limit established in the NPDES permit and Time Schedule Order for the City's upgrade to this facility, which is 42.5 mg/L NO₃ as N. On 2/26/15, nitrate in San Luis Obispo Creek below the facility was similarly elevated, at 29.0 mg/L NO₃ as N. Nitrate concentrations upstream of the discharge were below 0.20 mg/L NO₃ as N in San Luis Obispo Creek on both sampling dates.

Nitrate concentrations remain elevated in the lower reaches of SLO Creek. At the CCAMP coastal confluences site (310SLB located at San Luis Bay Drive), nitrate measured 20.3 mg/L NO₃ as N on 1/28/15 and 22.0 mg/L NO₃ as N on 2/26/15. Long term trend data from the coastal confluence site shows a significant increasing trend in nitrate (Figure 1). Monthly monitoring has occurred at this site since 2001. Concentrations of nitrate have remained above 10.0 mg/L NO₃ as N since January 2014.

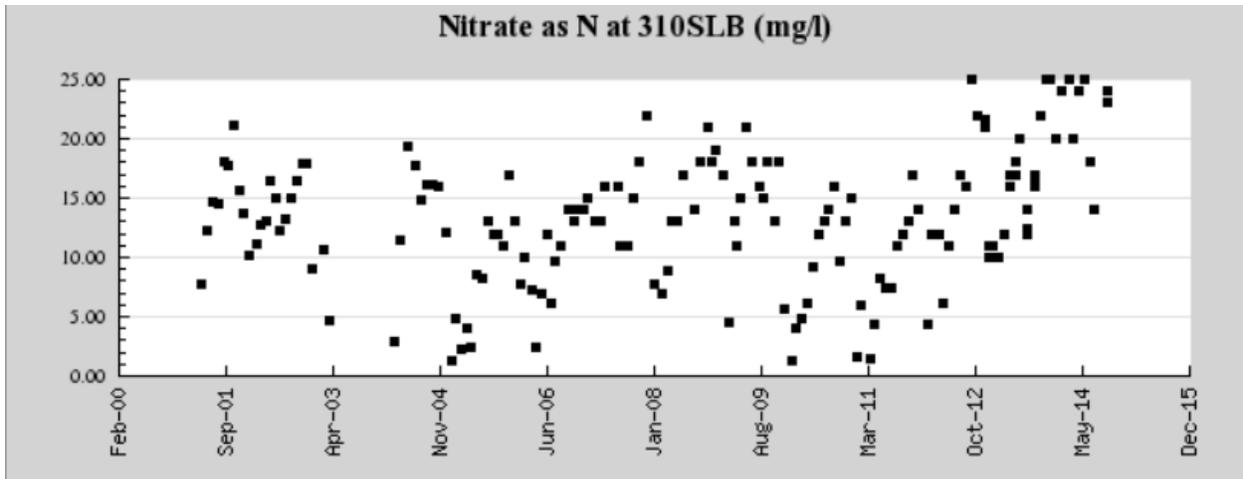


Figure 1. Nitrate concentration data (mg/L NO₃ as N) from the CCAMP coastal confluences monitoring station in San Luis Obispo Creek at San Luis Bay Drive.

Arroyo Grande Creek

CCAMP has five monitoring stations in the Arroyo Grande watershed; four on the main stem of Arroyo Grande Creek and one on Los Berros Creek. Data from the January monitoring event showed that the highest concentration of nitrate on Arroyo Grande Creek was at the site farthest upstream (Site 310AGB at Biddle Regional Park, ½ mile downstream from Lopez Dam), where nitrate was measured at 14.0 milligrams per liter (mg/L) nitrate as N on 1/31/15. See Figure 2. February monitoring results were similar, with nitrate measuring 13.0 mg/L NO₃ as N on 2/26/15. These concentrations are 10 mg/L higher than measurements at the next site downstream (310AGS). Irrigated Lands Program staff followed up on these results by contacting the two upstream ranch owners and requesting information related to potential sources of nitrate to the creek.

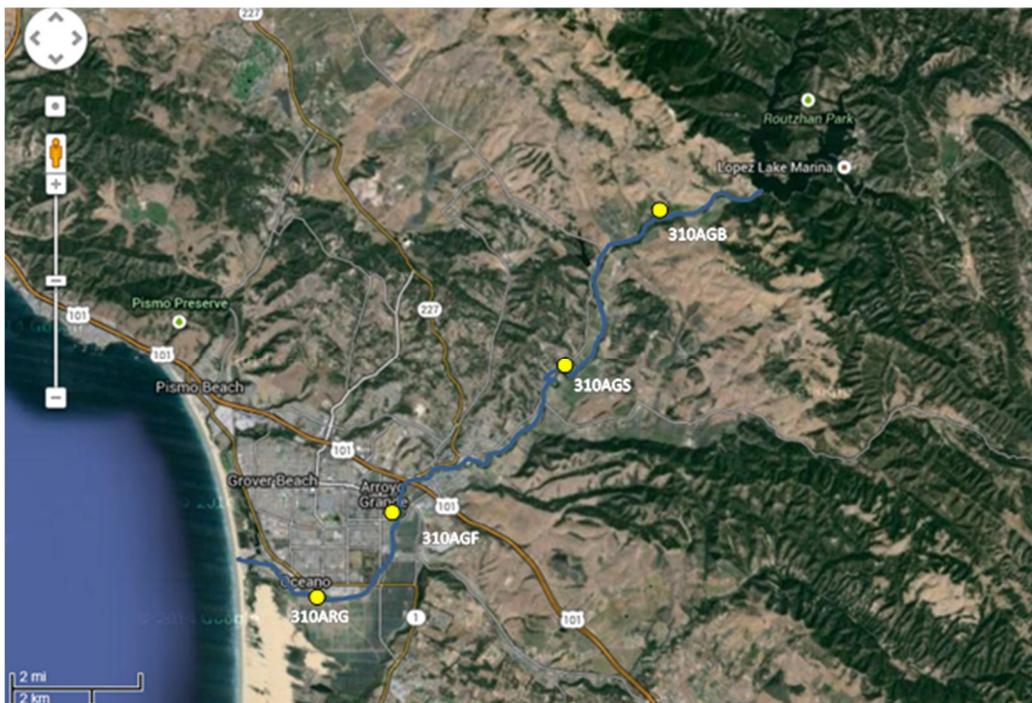


Figure 2: CCAMP Monitoring Sites on Arroyo Grande Creek

Neonicotinoid Pesticides and Toxicity

[Karen Worcester 805-549-3333 and Mary Hamilton 805-542-4768]

Background - Data on current commercial application of pesticides indicates that neonicotinoid pesticide use in the Central Coast Region is increasing in both urban and agricultural settings. There is evidence both statewide and locally of widespread neonicotinoid contamination in both agricultural and urban areas. This class of pesticides is known to be persistent in the environment, has high leaching and runoff potential and is highly toxic to a wide range of invertebrates. Imidicloprid in particular has been detected with increasing frequencies in the Central Coast Region. Both the Environmental Protection Agency and the California Department of Pesticide Regulation are reevaluating registration of neonicotinoid pesticides, particularly because of their known impacts to honey bees and other pollinators.

Monitoring Plans - Both the CCAMP and the Surface Water Ambient Monitoring Program's Stream Pollution Trend (SPoT) monitoring programs are adding neonicotinoid pesticides to chemistry analysis and are including additional toxicity tests to evaluate risk and effects locally. CCAMP monitoring in the 2015 calendar year will include both direct measurement of neonicotinoid concentrations in surface waters as well as toxicity tests using test organisms that are sensitive to neonicotinoid pesticides. We plan to increase our standard suite of toxicity test organisms to include *Chironomus* sp., known to be sensitive to this class of chemicals. This year, CCAMP will conduct toxicity and pesticide monitoring at six sites in the Santa Barbara coastal area and eight sites in the San Luis Obispo coastal watersheds. The SPoT program will be conducting monitoring at sixteen of the CCAMP coastal confluence monitoring stations in 2015 for sediment chemistry and toxicity, including these more sensitive test organisms.

Outreach – Karen Worcester contributed an article on status of pesticide toxicity and the emerging problems associated with pyrethroid and neonicotinoid pesticides in agricultural waters to the California Association of Pest Control Advisers February 2015 newsletter. The newsletter is available here: <http://capca.com/assets/magazine/February2015/index.html#/19/>

Research – CCAMP contributed funding to a research project conducted by the Department of Pesticide Regulation and the Granite Canyon Marine Pollution Studies Laboratory. This study has evaluated agricultural sites in the Central Coast and Colorado River Regions for a broad suite of pesticides and two different toxicity test organisms. The study sampled sites in the Central Coast that are also used by the Cooperative Monitoring Program for Agriculture.

The study data showed frequent detections of imidicloprid and pyrethroid pesticides in agricultural sites in both Regions, with toxicity commonly found using *Hyalella* (an amphipod sensitive to pyrethroids) and *Chironomus* (a fly larvae sensitive to neonicotinoids). In Figure 3 below, chemical concentrations are expressed as “toxic units”, derived by dividing the actual concentration by the “LC50” – the concentration that is expected to be lethal to approximately 50% of the test organisms. This provides a unitless expression of toxicity, where a combined value of 1 or greater is expected to be toxic. The table shows toxic units for pyrethroids (PYR), imidicloprid (IMIDA) and chlorpyrifos (CHLOR), as well as percent survival for *Hyalella* and *Chironomus* (with values greater than approximately 80% considered non-toxic). All but one Region 3 site were toxic to one or both test species, in some cases even when less than one toxic unit of the measured pesticides were present.

Regions 3 and 7 Water Toxicity and Pesticides								
REGION 3	<i>Hyalella</i>				<i>Chironomus</i>			
	Percent Survival	PYR	Toxic Units		Percent Survival	PYR	Toxic Units	
			IMIDA	CHLOR			IMIDA	CHLOR
Alisal Slough	38	0.52	0.020		0	0.14	0.399	
Chular Creek	0	2.29	0.027		73	0.67	0.523	
Main St. Ditch	94				92			
Orcutt Creek	50				48			
Oso Flaco Ck	0	4.50			42	0.96	0.003	
Quail Creek	0	5.99	0.014		2	0.97	0.277	
Rec Ditch III	30	2.48	0.031		4	0.07	0.604	
Solomon Creek	98				0			
Tembladero Slough	59	0.42	0.003		83	0.14	0.052	
REGION 7								
Alamo River	0		0.005	2.58	69		0.106	1.59
Alamo River	0		0.006	1.44	79		0.123	0.89
Holtville Main Drain	0	0.33	0.003	0.99	82	0.1	0.055	0.61
Malva Drain	0			14.19	0			8.71
New River	78	0.96	0.001	0.41	96		0.020	0.25
Rice Drain III	40	1.54	0.003	0.57	88		0.063	0.35
Vail Drain	96	0.11	0.014	0.33	86	0.02	0.271	0.20
Verde Drain	22	2.12	0.002		96	0.04	0.030	

Figure 3: Water Toxicity and Pesticide Toxic Units

The Cooperative Monitoring Program for Agriculture monitored in August, 2014, using the traditional toxicity test species required by their permit - *Ceriodaphnia* (waterflea), *Selenastrum* (algae), and *Pimephales* (fat-head minnow). No toxicity was found at any of the sites, as indicated by "NT" in the fourth column in Figure 4 below. One month later, in September, 2014, the DPR/Granite Canyon research team monitored in the same locations using *Hyalella* and *Chironomus*, which are sensitive to pyrethroids and neonicotinoids, respectively. All but one of the sites (Main St. Ditch entering the Santa Maria River) were toxic to one or both test organisms, as shown by "T" in the second and third columns in Figure 4.

These findings demonstrate the importance of selecting test organisms that are sensitive to the chemicals found at the site and also suggest that monitoring requirements for the Cooperative Monitoring Program should be evaluated in light of this new information.

FALL 2014: DPR/SWAMP/CMP Region 3			
Salinas and Santa Maria Valley Sites	<i>Hyalella</i> 10d water	<i>Chironomus</i> 10d water	EPA 3 species chronic
Water Sample	SWAMP		CMP
Alisal Slough @ Hartnell Rd	T	T	-
Chular Creek @ Chular River Road*	T	NT	NT
Main St. Ditch @ Main St.	NT	NT	NT
Orcutt Creek @ West Main	T	T	NT
Oso Flaco Creek @ OF Lake Rd	T	T	NT
Quail Creek @ SR-101	T	T	NT
Rec Ditch III (Near Airport Blvd)	T	T	NT
Solomon Creek @ SR-1	NT	T	NT
Tembladero Slough @ Haro	T	NT	NT
Percent Toxic	78%	67%	0%
Combined Percent Toxic	89%		

Figure 4: Toxicity results using sensitive species versus traditional species

The Central Coast Region collaborated with the Los Angeles Regional Water Quality Control Board to submit a proposal for State Water Resources Control Board discretionary contract funding related to toxicity methods development for newer pesticides of concern, such as imidicloprid. This project will determine the most effective approach to water column toxicity testing associated with fipronil, neonicotinoids including imidicloprid and pyrethroids, and will determine how presence of these pesticides can be isolated using toxicity identification evaluations. We are still waiting to hear if funding has been approved for this project.

Other programs – The City of Santa Barbara has tested urban storm water for neonicotinoid pesticides and has found imidicloprid to be pervasive in runoff. Concentrations remained below acute and chronic toxicity thresholds, but still were high enough to potentially cause ecotoxicological effects. They summarize their findings in a short report available here:

[NEONICOTINOID PESTICIDES: NOT JUST A BEE PROBLEM](#)

Toxic Algae Bloom Legislation and Monitoring Program Development [Karen Worcester 805-549-3333]

Background

Cyanobacteria (also known as blue-green algae) are photosynthetic bacteria found naturally in fresh water systems that can produce toxins. Under certain conditions, blooms occur, particularly in systems over-enriched by nutrients with elevated temperature, sufficient light intensity, and decreased water flow. Cyanobacteria blooms are not a recent phenomenon, but the frequency and geographic distribution have dramatically increased in the United States and around the world and are expected to continue increasing due to climate change. Exposure to cyanobacteria toxins can cause symptoms that range widely and include rashes, allergic reaction, blistering of the mouth, headache, gastrointestinal distress, vomiting, pneumonia, diarrhea, liver damage, and death.

Water supplies in California can be threatened by toxic blooms. For example, samples taken near the Delta pumping stations have been found at times exceeding State health limits. Multiple water supply systems are threatened by blooms in the Klamath River watershed. Recently, three dog deaths were reported associated with a cyanotoxin bloom in Lake Chabot in the San Francisco Region. In the Central Coast Region, blooms at Pinto Lake near Watsonville have created cause for concern, both for humans and animals recreating at the lake, but also for wildlife. Many birds have died following contact with the lake during a bloom event. Over thirty sea otter deaths have been attributed to liver damage associated with cyanotoxin poisoning. These problems and others elsewhere in the State and Nation have generated much public concern, and new monitoring activities, as well as state and federal legislation have been proposed this year to help address the problem.

Legislation

State – State Assembly Member Luis Alejo (D-Salinas) introduced the Safe Water and Wildlife Protection Act of 2015 (AB 300) to the State Assembly in February. The bill is sponsored by the City of Watsonville and coauthored by Senate Majority Leader Bill Monning (D-Carmel) and Assembly Member Mark Stone (D-Monterey Bay). The Bill proposes a “One-Health” approach that will consider the impacts of toxic blooms on humans, animals, the ecosystem, and water

quality. It will create a multi-agency task force to find solutions to mitigate or prevent toxic algal blooms in freshwater and estuarine systems throughout California. The bill will also fund new research on how best to mitigate or prevent blooms. The Task Force will solicit, review and direct funding towards proposals for applied research, programs and projects addressing prevention strategies or mitigation activities to address cyanotoxin pollution. The Task Force will also prepare recommendations for long-term mitigation and prevention in a report to the Secretary of the Natural Resources Agency by January 1, 2017.

The text of AB 300 can be found at the following website:

http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160AB300

National – The “Drinking Water Protection Act”, sponsored by Rep. Bob Latta (R-Ohio), was recently approved by the House Energy and Commerce Subcommittee on the Environment and the Economy. This bill directs the U.S. Environmental Protection Agency to develop a plan to assess and manage risk associated with cyanotoxins in public drinking water systems, and to submit the plan to Congress within 90 days of bill enactment. EPA will evaluate drinking water from public water systems for risk to human health and will publish a list of cyanotoxins determined to be harmful. EPA will also summarize known adverse health effects of cyanotoxins on the list and publish health advisories for all the identified cyanotoxins associated with this form of harmful blue-green algae.

The language of H.R. 212 is available at: <https://www.govtrack.us/congress/bills/114/hr212/text>.

Monitoring

Surface Water Ambient Monitoring Program (SWAMP) Cyanotoxin Monitoring Project - Since 2011, SWAMP coordinators from the San Francisco Bay, Central Coast and San Diego Regional Water Boards have been developing and implementing projects to address the need for a cyanobacteria monitoring program in California. These projects included a national workshop on monitoring cyanobacteria, projects with the National Oceanic and Atmospheric Administration (NOAA) to use satellite imagery to monitor cyanobacteria blooms, and development of a cyanobacteria monitoring strategy. In 2014, SWAMP set aside funding to develop a cyanobacteria monitoring program for the State of California. The program has several components:

- Satellite imagery analysis to track blooms on larger water bodies (Pinto Lake is unfortunately too small for the scale of this analysis)
- Website to access data, hot spot locations, and biweekly bulletin on the status of blooms, any reports of human or animal illness, and other news
- Trainings for local health agencies and other responsible parties on how to identify blooms, how to handle samples, health and safety considerations, identification of toxin producing organisms, analyzing toxins, monitoring guidance and follow-up management options. Trainings will provide a forum for coordination of monitoring and management of blooms throughout the State.
- Laboratory contract to allow local agencies to submit suspect samples for laboratory confirmation.
- NOAA training on how to analyze imagery for blooms. Regional Board GIS staff is encouraged to participate.

Central Coast Ambient Monitoring Program Fact Sheet – In Fall, 2011, Central Coast Ambient Monitoring Program staff screened for presence of microcystin (a cyanotoxin) at long-term trend stream monitoring sites near the mouths of our coastal watersheds. Solid Phase Adsorption Toxin Tracking (SPATT) samplers were deployed and left for a month at a time. These devices, developed and analyzed at Dr. Raphe Kudela's UC Santa Cruz laboratory, adsorb toxins present in the water column over time and allow for low-level detections of the multiple

microcystin variants. The concentrations found in the SPATT resins are not directly translatable to water concentrations, but are useful to assess relative concentrations.

Four different toxin variants were found in our Region. At least one microcystin variant was detected at 20 of the 31 sites sampled, with eight sites having more than one variant. Highest SPATT concentrations were found at the Old Salinas River station. Surprisingly, toxins were present in a number of watersheds with relatively good water quality, including the Big Sur River and Willow Creek, Carmel River, and Arroyo de la Cruz. It is clear from the findings of this relatively small-scale study that cyanobacteria are widespread in waters of the Region and it is important that conditions which can exacerbate blooms (increased nutrients, high temperatures, lack of shading, quiescent water) be avoided wherever possible.

The CCAMP fact sheet on cyanotoxin stream monitoring can be found at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reglrpts/rb3_bcalgae_report.pdf

Attachments

1. Table 3 - Groundwater Section, Case Closure Performance Scoreboard
2. Table 4 - Groundwater Case Closures
3. Table 5 – Enrollments in General Orders/Wavers