

# Priorities and Challenges

Annual Report to the Central Coast Water Board

October 2013

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## ATTACHMENT 1

The following is a brief update on three of the Water Board's priority programs: the Central Coast Ambient Monitoring Program, the Groundwater Assessment and Protection Program, and the Low Impact Development Initiative.

### Central Coast Ambient Monitoring Program

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For over a year, Central Coast Ambient Monitoring Program staff has been working with Dr. John Hunt of U.C. Davis to organize and evolve a new level of data analysis and assessment for our organization that will measure our tangible progress toward achieving our "Healthy Watersheds" vision and goals. This has been a complex and time-consuming process, but we are beginning to reap the rewards of our efforts. A number of products will come out of this effort. Probably the most important are substantial revisions to our website that provide access to comprehensive trend, change and loading analyses that greatly improve our ability to determine change in water quality, physical, and biological conditions. We are generating automated on-line site reports, directly from our database that provide report card scores, summary tables of status and trends, multiple statistical analyses, and land use information for each site of interest. The site reports also provide for a staff-developed narrative summary that will become the basis for required monitoring reports to the State Board's Surface Ambient Monitoring Program.

A Coastal Confluences assessment report will be submitted for peer review by the end of the year; this report is evaluating the decade-long time series of monitoring data we have collected at our 33 major creek and river mouths and will include information on loading of pollutants and associated risk to sensitive downstream habitat, including coastal lagoons, Marine Protected Areas, and the ocean. Importantly, it will be the first report to employ our new report card scoring tools. We have been working on these tools in coordination with the San Diego Regional Water Board, hopefully as a pilot for the California Water Quality Monitoring Council's water quality web portal. The report card scoring tools are based on an approach developed in Canada and utilized by the United Nations, but are customized for our watershed health project.

After completion of the Coastal Confluences report we plan to use our new evaluation tools to assess sites, land use information, and groundwater wells throughout our watersheds, in order to develop watershed scaled report cards. These will directly address Healthy Watersheds goals of healthy aquatic habitat, clean groundwater and proper land management.

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We have submitted two abstracts to the 2014 National Water Quality Monitoring Conference in Cincinnati this coming May on our work; one is on our innovative approach to report card scoring, and the second is on our change and trend analysis work and associated web display tools. We also are preparing two manuscripts for publication, one on our report card scoring approach and another on our flow and dilution model. We hope to release a new version of our website ([www.ccamp.org](http://www.ccamp.org)) by early next year.

## Groundwater Assessment and Protection Program

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On May 3, 2012, the Central Coast Water Board approved funding for the Groundwater Assessment and Protection Program (GAP). Since then, staff has established the funding management process through the Bay Foundation of Morro Bay (same as CCAMP) and has been developing proposals, work plans, and projects to achieve the long-term goals and objectives for GAP as approved by the Central Coast Water Board:

1. Develop a regional groundwater monitoring program by coordinating with local agencies to report data into a centralized database and build on those programs overtime in a mutual beneficial way.
2. Implement regional domestic well sampling projects.
3. Build on our financial capacity.
4. Provide scientific data to the Central Coast Water Board, our programs, local agencies and the general public that can be used to make informed decisions about protecting and restoring our shared groundwater resources.

The following is a brief summary of work being done under the GAP program.

Domestic Well Project: Central Coast Water Board staff secured the services of the U.S. Geological Survey (USGS) to sample 70 domestic wells within the Pajaro and Salinas Valleys in coordination with the State Water Board's Groundwater Ambient Monitoring and Assessment (GAMA) Program. The CCAMP-GAP domestic well project was funded via a \$50,000 grant from CCAMP-GAP and \$20,000 in federal matching funds provided by USGS. In preparation for the project, staff discussed the pending project with Santa Cruz, Monterey and San Luis Obispo County environmental health department staff and followed up with an informational letter to the County Board of Supervisors describing the project. The USGS also sampled 100 domestic wells for the GAMA portion of the project. The preliminary data indicate that 22 percent of the 170 domestic wells sampled within the entire study area exceeded the Maximum Contaminant Level (MCL) for nitrate, and 8 percent of the wells exceeded concentrations of 2.5 times the MCL. For the Salinas Valley portion of the study area, 38 percent of the domestic wells exceeded the MCL for nitrate, and 17 percent exceeded concentrations of 2.5 times the MCL. The

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maximum nitrate concentration detected was in the Salinas Valley and was over seven times the MCL. We expect similar results throughout the Central Coast Region within areas subject to significant irrigated agricultural land use, such as the Santa Maria, San Luis Obispo, San Antonio Creek, Santa Inez River and Cuyama Valleys, and Gilroy, Hollister and San Juan Bautista areas. Official data and well user reports are still pending from USGS. Central Coast Water Board staff will provide data results and nitrate information to the project participants within about two week of receiving the final data from USGS.

Expanded Domestic Well Project: Central Coast Water Board staff has requested that the State Water Board allocate \$450,000 from the Cleanup and Abatement Account to expand the domestic well sampling project to other high risk areas in the Central Coast Region. The State Water Board is currently considering this request. Staff has also recommended to State Water Board that they consider creating a statewide allocation from the Cleanup and Abatement Account for domestic well sampling.

Mapping Nitrate Exposure Risk Areas: Staff is developing a geospatial analysis of drinking water nitrate exposure risk areas to use in our domestic well project outreach/education and sampling efforts mentioned above. This work also supports our Agricultural Regulatory Program by identifying the location of on-farm and off-farm domestic wells, as well as enable us to eventually evaluate our measurable goal for groundwater by identifying and assessing the municipal water beneficial use throughout the region associated with domestic wells and unregulated water systems (we currently are only able to do this for larger public supply wells and systems). In a parallel and coordinated effort, staff is also participating in a statewide workgroup lead by the State Water Board GAMA Program to develop nitrate high-risk areas maps for the legislature as part of the ongoing SBX2-1 process. Whereas the GAMA Program workgroup will prepare regional-scale statewide maps, staff will be developing local- and parcel-scale regional maps to facilitate more focused analyses in the Central Coast Region.

Small Water System Mapping Project: Staff recently completed a local small water system GIS mapping analysis for Monterey County that will be uploaded on our GAP website in the near future. There are over 100 maps that identify the locations (by parcels served) of local small water systems, which are color coded by nitrate concentration with respect to public water system service areas. The individual focused area maps will be hyperlinked to a master grid map for easy online access. Staff prepared these in coordination with the Monterey County Environmental Health Bureau; they provided the data and authorized us to post the resulting analysis on-line. This type of information is critical to inform us about the location of these small water systems, and the level of health risk facing the users of these systems, and to make more informed and effective decisions with respect to protecting public health as it pertains to unsafe drinking water.

Database Project: One of the most important goals of the GAP program is to create a region wide database of groundwater quality data that is accessible and useable for local agencies, water purveyors,

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and the public. This database is necessary to track groundwater quality and to provide the fundamental data for Regional Water Boards' decisions. Central Coast Water Board staff proposed a database enhancement project to State Water Board executive management, and they approved the proposal. Central Coast Water Board and State Water Board staff is now developing the project details for implementation in 2014. Staff recently completed the Stage 1 Business Analysis for the project. This project lays the data management foundation for our coordinated regional groundwater monitoring approach.

Governor's Drinking Water Stakeholder Group – As part of this workgroup, staff is providing ongoing support for the development of informational reports and recommendations for the legislature regarding the nitrate pollution problem with an emphasis on addressing the drinking water needs of disadvantaged communities. Most recently, staff drafted two informational documents for use in developing a "Data Collection and Management for Private Domestic Wells and State Small Water Systems" report and participated in the development of matrix of existing data sources that will be used as the basis of the workgroup's report to the legislature.

Department of Water Resources 2015 Water Plan Update: Staff is participating in this effort and as a result the Water Plan Update is shaping up to clearly represent our highest water quality priorities and associated goals. Staff has been participating in this effort for years and has helped make the Updates more tangible and goal and action oriented with respect to actual water quality and water supply priorities.

Salt and Nutrient Management Plans: Staff is working with State Water Board legal counsel to draft a salt and nutrient management plan guidance document associated with how to evaluate assimilative capacity and compliance with the Anti-Degradation Policy. This is a highly controversial subject due to the fact that irrigated agriculture is the main source of salts in groundwater and the Ag industry is generally not participating in the State Water Board's salt and nutrient management plan process to a significant degree.

## Low Impact Development Initiative

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The Central Coast Water Board created the Low Impact Development Initiative (LIDI) in 2008. Since then, LIDI continues to provide nuts-and-bolts LID resources to the Central Coast and has brought about \$3 million in LID grant funding to the Central Coast. LIDI's recent work illustrates the technical aspects related to design, construction and maintenance of LID projects. In the past year, examples of direct project design support include the Atascadero Zoo Green Parking Lot; Santa Maria Veteran's Memorial Parking Lot; and continuing work on the Paso Robles 21<sup>st</sup> Street Complete Green Street project.

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Technically detailed and up-to-date design guidance is needed to create successful LID projects. To address this need, LIDI continues to work with regional and national experts to develop and update LID engineering specifications, which are then incorporated into municipal codes and project designs. Specifications completed this year include design layouts for commonly applied bioretention areas. LIDI also developed regionally appropriate plant lists for LID design including options for low-maintenance and drought-friendly design. This year LIDI worked with geotechnical experts and LID stakeholders to provide guidance on cost-effective soil tests to support LID design.

LIDI extended its training activities to include three workshops on bioretention and permeable pavement design for design professionals. Additionally, educating the general public about LID fosters the acceptance and even expectation of environmentally and community friendly design. To that end, LIDI created educational materials, such as the draft signage for the Paso Robles' 21st Complete/Green Street to improve public awareness and understanding.

Continuing its direct assistance to municipalities on LID implementation, LIDI worked with seven municipalities to carry out landscape code updates. From these seven examples, other Central Coast municipalities should be able to find an example that aligns closely with their regulatory structure and assist in their own code updates.

LIDI also strengthened its connections to regional colleges and universities by giving university lectures, directing student projects at Cal State University San Luis Obispo and Monterey Bay, and collaborating with university faculty. One example is the Cal Poly Arboretum Bioretention Demonstration Project; in collaboration with the Department of Horticulture, a series of bioretention cells were constructed at the campus arboretum. The site will showcase different regionally-appropriate LID plant palettes and designs. Constructed by the students, the project truly demonstrates the Cal Poly "Learn by Doing" approach.

Staff will provide a more comprehensive LIDI update and presentation at the December 2013 Central Coast Water Board meeting.