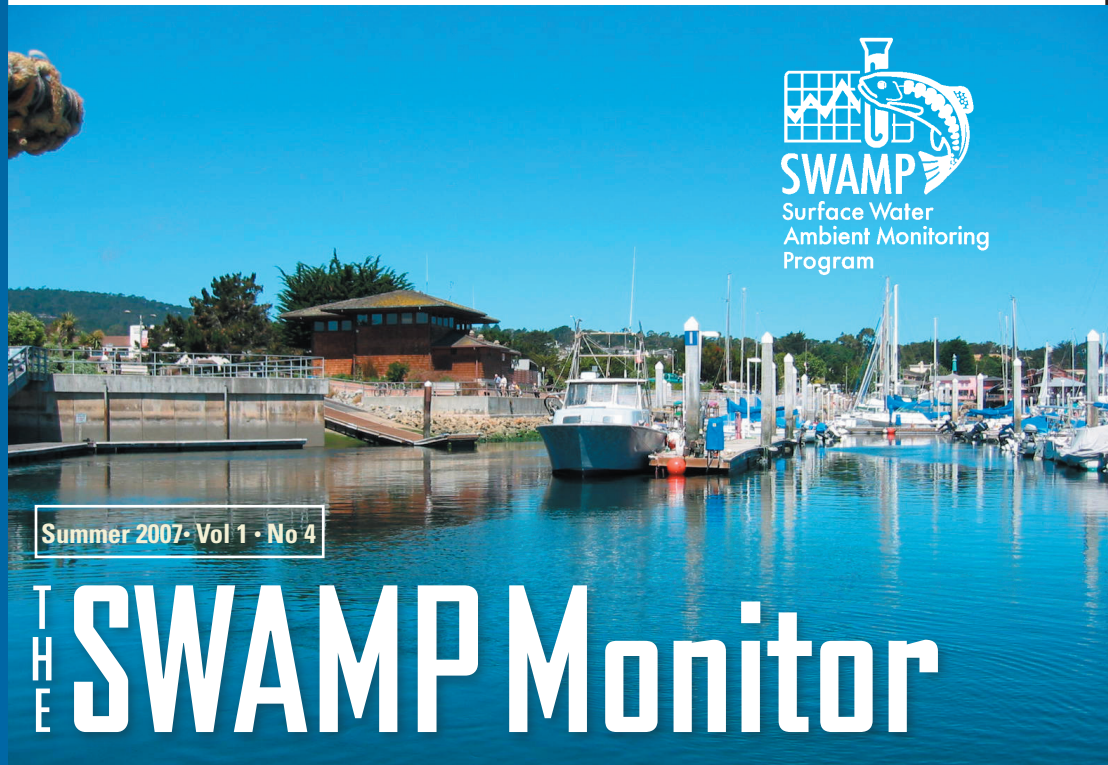
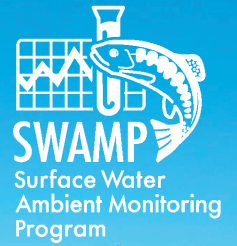


SWAMP Audits

SWAMP makes data available to the public in the California Environmental Data Exchange Network (CEDEN). The database is available at < mpsl.mlml.calstate.edu/swdata.htm>, a Web site maintained for SWAMP by the Marine Pollution Studies Laboratory at Moss Landing Marine Lab. All nine Regional Water Boards are represented in projects from fiscal years 1999–2002, which include over 31,000 field, 250,000 chemistry and 45,000 toxicity results. These data have undergone the program’s standard operating procedures for data verification to document data quality. A partnership with the State Water Board, Department of Water Resources and Moss Landing Marine Laboratories made the data available.



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# THE SWAMP Monitor



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SWAMP on the Web

For more information regarding the SWAMP program, see: [www.waterboards.ca.gov/swamp/](http://www.waterboards.ca.gov/swamp/). To subscribe to The SWAMP Monitor, see [www.waterboards.ca.gov/lyrisforms/swrcb\\_subscribe.html](http://www.waterboards.ca.gov/lyrisforms/swrcb_subscribe.html).



## New Monitoring Program for Bioaccumulation to Fill an Information Gap

### Focus on Sport Fish

For the past two years, SWAMP partners have been working to establish a new statewide bioaccumulation monitoring program. The effort began with a review of statewide data from past monitoring under the Toxic Substances Monitoring Program, State Mussel Watch, Coastal Fish Contamination Program and other programs in the 1970s, 1980s and 1990s. The review documented significant reductions in concentrations of organic contaminants in fish tissue across the state, but found that concentrations of mercury persist above the thresholds for concern in many water bodies. The report highlighted the lack of bioaccumulation monitoring in California’s lakes and reservoirs as a significant data gap.

In response, SWAMP has begun a statewide screening survey of bioaccumulation in California lakes and reservoirs. The two-year study focuses specifically on bioaccumulation in sport fish and will include both a randomized sampling of 50 lakes across the state and a targeted sampling of the 200 most popular fishing lakes. The first year will include sampling of the 50 random lakes and 80 of the popular lakes, with



Robert Holmes performs an urban creeks study at Pleasant Grove Creek in Roseville. (Donald Weston, UC Berkeley, photographer)

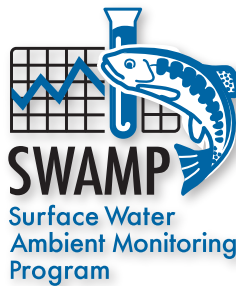
the remaining 120 popular lakes sampled the second year. Information obtained from this study will facilitate a general assessment of bioaccumulation impacts in California lakes and reservoirs, enable determination of the lakes that should be on the 303(d) list of impaired water bodies and create a foundation for developing safe fish eating guidelines for lakes with fish tissue concentrations above thresholds for concern. A report on results from the first year of the study is targeted for the summer of 2008.

## Changing Faces and Places at SWAMP

The SWAMP Unit at the State Water Board offices experienced some recent personnel changes:

- > **Val Connor** was promoted to the Regulatory Section as Chief. Many thanks to Val for her endless energy, ideas, enthusiasm and just plain hard work!
- > **Emilie Reyes** was also promoted and is now SWAMP Unit Chief. Emilie has been involved in SWAMP's development over the past five years and looks forward to continuing that work in her new capacity. We look forward to good things ahead!
- > **Vera Williams**, most recently on loan to Iowa, has moved back west to become SWAMP Communications Coordinator. She will also be part of the Clean Water Team. With her varied background in water quality, watershed work and public outreach, Vera is a welcome addition to the SWAMP team.

## Study Investigates Role of Pyrethroid Pesticides in Sediment Toxicity in State's Urban Waterways



Pyrethroid pesticide usage now dominates urban insecticide uses in California. To address growing concerns about its role in urban creek sediment toxicity, SWAMP conducted a statewide screening-level monitoring study. The screening for pyrethroids and sediment toxicity covered 90 locations, all within 50 meters of residential storm water outfalls. The sampling covered eight regions: North Coast, San Francisco Bay, Central Coast, Los Angeles, Central Valley, Lahontan, Santa Ana and San Diego. Site selection criteria included land use, known pyrethroid pesticide use and past evidence of sediment toxicity and/or evidence of organophosphate pesticide contamination.

Results from the screening identified 30 core sites for this investigation. Investigators assessed toxicity using U.S. Environmental Protection Agency standard 10-day sediment toxicity tests with the resident amphipod (*Hyaella azteca*) and conducted the study tests at two temperatures to provide additional lines of evidence of the cause of toxicity. Greater toxicity at colder temperatures is characteristic of pyrethroids and provides a line of evidence that was used to assess pyrethroid-linked toxicity. Chemical analyses included pyrethroid pesticides, piperonyl butoxide, chlorpyrifos (an organophosphate pesticide) and a scan of legacy organochlorine pesticides. Four of the samples will have Toxicity Identification Evaluations (TIEs) analysis. A final report is expected in winter 2007-2008.

If the data indicate a statewide issue, a SWAMP goal is to provide follow-up assistance and coordination with the Storm Water Management Coalition, the California Storm Water Quality Association (CASQA), the State Water Board Storm Water Program and the Department of Pesticide Regulation. Activities may include determining watershed and stream conditions with greatest impact, evaluating extent and significance of toxicity and mitigation measures to prevent surface water runoff.

In 2003 and 2004, SWAMP studied the ambient condition of harbors in the Central Coast Region, including Santa Cruz, Moss Landing, Monterey, Morro Bay, Port San Luis and Santa Barbara. SWAMP field staff selected sites at random, with 30 located in Morro Bay as part of a study of national estuaries and 30 more in the remaining five harbors. Staff collected samples for water chemistry, sediment chemistry and sediment toxicity at each site, as well as targeted samples for mussel and fish tissue chemistry in each harbor.

Staff used national indices to rate sediment and water quality conditions. Water quality in 85% of all harbor areas was rated "good." Only less than 2% was rated "poor," mostly due to elevated nitrogen and poor water clarity. Of all sediments sampled, 63% were rated "good," and 16% were rated "poor," with at least one poor quality station in each harbor. Dichlorodiphenyltrichloroethane (DDT), chromium, arsenic and copper most commonly contributed to "poor" scores. Twenty-five percent of all fish samples were rated "poor" due to chemical concentrations exceeding human health criteria, particularly for arsenic, polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons. Of mussel samples, 31% were rated "poor" due to these same chemicals and DDT. Other data evaluated included toxicity, benthic invertebrate and fish assemblages.

A final report on the harbor study is available at the Web site below. The report includes findings on individual harbors and on Central Coast harbors as a whole. Central Coast Regional Board staff is evaluating data to determine whether any harbors should be listed as "impaired" and therefore require further action to address problems.



[www.waterboards.ca.gov/swamp/docs/reglrpts/rb3\\_harborreport.pdf](http://www.waterboards.ca.gov/swamp/docs/reglrpts/rb3_harborreport.pdf)