

CURRENTS

Citizen Monitoring Program Newsletter of the California State Water Resources Control Board

Summer 2006



World Water Monitoring Day: October 18, 2006

www.worldwatermonitoringday.org

On October 18, citizens in the global community will join in World Water Monitoring Day (WWMD), an opportunity to positively impact the health of rivers, lakes, estuaries and other water bodies. Volunteer monitoring groups, water quality agencies, students and the general public are invited to test four key indicators of water quality: temperature pH, dissolved oxygen, and turbidity.

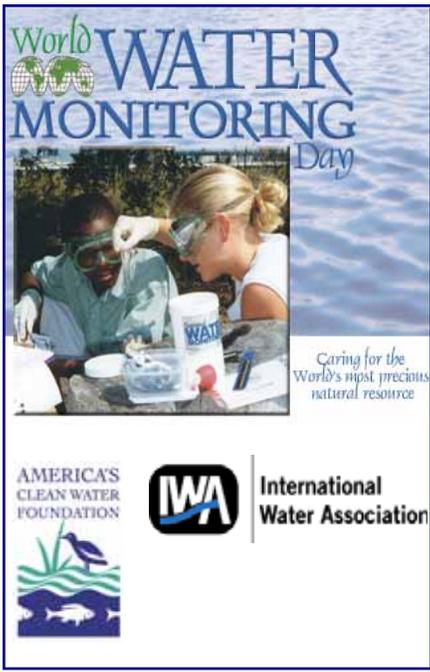
Join the State Water Resources Control Board's Clean Water Team and participate in the WWMD. Training and a limited amount of equipment are available. Monitoring data collected from **Sept. 18 through Oct. 18** will be accepted. To keep up with developments or to order monitoring kits and other materials please check out the WWMD Web site: www.worldwatermonitoringday.org

For questions, please contact the Clean Water Team at CWTmail@waterboards.ca.gov

Save the Date

October 18, 2006

Take part in World Water Monitoring Day!



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California Snapshot Day 2006



Snapshot Days are designed to increase public awareness of water quality issues, gain information on the health of local streams and demonstrate the value and importance of volunteer collected data. It's a great opportunity to get people outside and visiting local streams while learning about non-point source pollution and other water quality issues in their area. Citizen monitors throughout California have volunteered their time to monitor various water bodies for basic water quality conditions.

There is only a modest time commitment from participants: Volunteers attend a training in their region and then conduct water quality monitoring on their local streams. Volunteers typically monitor air and water temperature, turbidity, pH, conductivity/salinity and dissolved oxygen. When possible, samples are collected for bacteria and nutrient testing.

This past May watershed snapshot events took place in San Diego, Santa Ana River/Coastal Orange County, Central California/Monterey Bay Sanctuary, Lake Tahoe and Humboldt Bay.

Central Coast Snapshot Day

This article was taken from www.coastal-watershed.org



In the central coast region, Saturday May 6th 2006 was the annual one-day water quality monitoring event in the Monterey Bay National Marine Sanctuary.

Committed to the preservation and protection of coastal watersheds through education and community outreach, the Coastal Watershed Council (CWC) and the Monterey Bay Sanctuary Citizen Watershed Monitoring Network serve as watershed advocates, promoting the health of the ecosystems through research, stewardship, advocacy and proper management practices.

Spanning more than 300 miles of coast from Pacifica in the north to Morro Bay in the south, Snapshot Day volunteers monitored water quality and collected samples to assess the health of as many streams as possible.

It was a beautiful sunny day on the central coast, though fog was persistent in the San Mateo area.

Volunteers met at the following hubs; the San

Gregorio General Store in San Mateo, rear entrance of Natural Bridges State Park in Santa Cruz, Watershed Institute in Monterey and the Vets Hall in Cambria in San Luis Obispo County.

Honored guests were Santa Cruz Mayor, Cynthia Matthews, CWC's Board Chair Josh Fodor and the Monterey Bay National Marine Sanctuary's Chris Coburn, who addressed the volunteers at the Santa Cruz County HUB. Approximately 165 volunteers monitored 197 creeks and rivers from Pacifica to Morro Bay.

The Snapshot Day events are providing valuable water quality information. For the last 3 years around 52 percent of the sites had no exceedences of the water quality objectives for cold water fish.

The data gathered will be synthesized into a summary report and when completed will be available on the Web site: www.coastal-watershed.org. Past Snapshot Day reports can also be downloaded from the Website.

Orange County Snapshot Day

Story and Photos by Ray Hiemstra, Orange County Coastkeepers



On May 20th, 2006, citizens from Orange County and the Inland Empire banded together to collect water samples to create a “snapshot” of water quality in their watershed. During the twenty four hours allotted for monitoring and sample collection, samples were collected from twenty four sites on sixteen streams plus three ocean sites. All of the monitors were trained in collecting samples to ensure data accuracy. Some of the tests were conducted



on site, with the rest done at the OC Coastkeeper laboratory in Costa Mesa. The May event featured a hub location at the Muth Interpretative Center on Upper Newport Bay in Newport Beach. At the hub, volunteers could pick up testing equipment, receive training, and see displays on water quality issues at booths set up by Citizen Monitors of Orange County member organizations. Their featured guest speaker, Steve Creech, is the

co-author of Wyland’s new book *Hold Your Water! 68 Things You Need to Know to Keep Our Planet Blue*.

After the event, data was assessed and analyzed. As expected, water quality in the county’s streams was poor. All streams monitored had an excess of nutrients and high bacteria counts were common. While the poor water quality of our streams was no surprise to water quality experts, the fact that it has not improved means that we need to continue efforts for water quality improvement in our county’s streams by raising public awareness and increasing personal involvement by citizens.



Volunteers who participated in this event were from non-profit environmental organizations, along with those hoping to promote citizen monitoring in the Santa Ana River Watershed and Orange County water bodies. Areas of interest included wetlands, rivers, streams, and the ocean.

For more information on water monitoring in Orange County see the Citizen Monitors of Orange County Web site at www.cwmoc.org



Make Your Own Incubator Bath for IDEXX Bacteria Tests

Article and Photos by J. Carlos Carreon, Beachkeeper Program Assistant, Santa Monica Baykeeper

IDEXX's Colilert® and Enterolert® are commonly used analytical tests for indicator bacteria (coliform bacteria, e. coli, enterococcus). These bacteria might be in drinking water or in waters used for recreation. Testing for these bacteria allows agencies and citizen monitoring groups to determine potential health risks. Many citizen monitors use these tests because they are quick, scientifically valid and affordable. Constructing your own incubator can provide additional savings.

Items You Will Need:

1-Ice Chest (cooler) dimensions (inside): 20" x 10" x 10"

Water: Fill the cooler with 5 gallons of water leaving about 3" of clearance at the top to account for the trays.

2- Submersible thermometers (for redundancy), that have been checked against a National Institute of Standard Technology (NIST) certified thermometer.

1- 100W submersible aquarium heater – be sure to buy the type that does NOT have the auto temp shut-off. We are using a Hagen 100W Thermal Compact Submersible Aquarium

Heater (\$20 at your local fish store). Most of the new heaters will shut off automatically at 84 F. A temperature of 106.7 F (41.5 C) is required for incubating enterococcus.

1- Weight or tie-down set up. The IDEXX trays will tend to float. The pictures below show an old nylon diving belt with some weights attached.

Procedure:

You want to initially fill the cooler with hot water, insert your thermometers and wait until the temp comes down to 41.5 C. Turn the heater's thermostat up until the pilot light turns on and then turn it back down slightly. Check the temperature after about 30 minutes to see if your heater needs adjustment.

How does this incubator compare to the traditional metal (and dry) incubators? So far, the ice-chest incubator has netted similar results for samples from the same storm drain and processed within the traditional metal incubator, so it seems to be working very well.

Additional note: The IDEXX trays were placed within closed plastic



Initial Set-Up



Incubator with IDEXX Trays



Conference Date: **September 17 - 20, 2006** :: Conference Location: **Long Beach California**

Co-chairs Secretary for Resources Mike Chrisman, State Controller Steve Westly, and Secretary for Environmental Protection Linda Adams invite you to join us for *California and the World Ocean '06* (CWO '06)! For the fourth time in our state's history, California plans to convene the international conference called *California and the World Ocean*. The conference will take place September 17-20, in Long Beach, California. With this event, California will bring together representatives from all states, including 35 coastal states, academia, government, industry, and the public to positively influence the course of ocean and coastal protection.

The U.S. Commission on Ocean Policy and the Pew Oceans Commission have documented that our nation's oceans and coastlines are in trouble. They have developed hundreds of recommendations for improvement. In response, Governor Arnold Schwarzenegger released one of the most forward-looking state ocean action plans in the nation, *Protecting Our Ocean: California's Action Strategy*. The California Ocean Protection Council has made substantial advancements in implementing that plan. New state ocean strategies and management councils are being formed around the nation to respond. This conference will emphasize the need for California, other states, and even other countries to move from *planning* for future action, to *taking action*. The conference will emphasize the connection between land and sea and will identify actions from our watersheds to the deep ocean waters off our coast.

The California Ocean Protection Council will open this conference with a new vision for action to protect and manage our ocean and coastal resources. The conference will focus on evaluating our achievements since the release of the U.S. Ocean Commission report, and on the necessary steps for moving forward. Although the call for papers is focused on California, much of this input will also apply to state, regional, national, and international levels. Past conferences have attracted participants from throughout California, the United States, and as many as seven other nations. We anticipate as many as 1,000 participants.



This conference is the continuation of a state-sponsored conference of the same name first held more than 40 years ago and again in 1997 and 2002. Since the 1964 conference, California's population has grown from 18 million to more than 35 million. By 2025, 75 percent of California's population is projected to live in coastal counties. These population trends are similar to those occurring throughout the United States and in other coastal locations throughout the world. Our growing population is bringing about additional pressures on resources that will require new and innovative approaches for management. This conference will help us take the next steps.

We invite you to join us for this event in Long Beach. CWO '06 will include plenary sessions, panels, and paper presentations. Poster sessions, workshops, exhibits, field trips, and social gatherings will also help foster a fruitful exchange of information and ideas.

http://resources.ca.gov/ocean/cwo06/print_inv.htm

Cruising for Citizen Monitors

By Lisa Gilbane, Monitoring Coordinator, Southern California Marine Institute

Los Angeles and Orange Counties have concerned citizens to thank for cleaner water. Citizen action, for example, has improved the ocean waters in Santa Monica Bay and in Laguna Beach. More recently, city and state agencies have relied on volunteer-generated flow and bacterial data to create Total Maximum Daily Load limits for the Los Angeles River. To thank the many volunteers that have participated in water quality monitoring studies throughout Los Angeles and Orange Counties, a cruise was organized by the Southern California Marine Institute (SCMI). The event was



Photo by Lisa Gilbane

funded through a grant from the Altria Foundation.

SCMI has been working with citizen monitors since 1998. The idea for the cruise was conceived by Kerry Flaherty, who worked as the previous Monitoring Coordinator for SCMI. She realized that many of the people she worked with had been volunteering for many years. For instance, Martin Carreon from D.I.V.E.R.S (Divers Involved Voluntarily in Environmental Rehabilitation & Safety) and Don Shultz from Surfrider have been collecting data for more than seven years. As a way to say thank you, she thought up and found funding to support a sunset cruise.



Photo by Erick Burres

Participants departed at 4:00 p.m. aboard the research vessel Yellowfin, and toured the Long Beach and Los Angeles Harbor complex. Thirty nine people attended and represented seven organizations that have active water quality monitoring programs. On the first stop of the cruise, water was tested and then plankton and fish were collected. After putting the science away the boat exited the harbor complex briefly to look for dolphins.

The cruise visited two more locations, a buoy one mile offshore and another at the mouth of the Los Angeles River. At these locations, SCMI and California State University Long Beach have recently installed water quality monitoring equipment that transmits data every six minutes onto the internet. Along the way we made sure to visit hauled-out California sea lions. The Bolsa Chica Conservancy members constantly surveyed the birds.



Aside from enjoying a beautiful day and having Erick Burres of the Clean Water Team giving away prizes, I wanted to let people see some of the more technical methods for

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Citizens Monitoring Cruise

Continued from Page 6

measuring water quality, and make sure they saw how the water measurements related to the birds, fish, and plankton living at that location. Most of these groups use different water monitoring methods that range from simple color comparators to expensive electronic equipment. Many participants enjoyed seeing instruments that can measure pH, temperature, oxygen, chlorophyll *a*, turbidity, and conductivity all at once. Often when people are measuring water quality parameters, they record numbers but do not get to see first hand how those numbers actually describe a place in which animals live and people use for recreation. Collecting plankton and fish immediately after the water measurements helped to make



that connection. The Harbor Complex is an amazingly unnatural landscape and it also receives water from the Dominguez Channel and the Los Angeles River, both of which drain large urban watersheds. People were surprised with the variety and sizes of fish that we found. One of the many highlights was the catch of the large midshipman fish (see picture on this page). Bob

Adams from SCMI did a great job explaining the fishes' adaptations and diets.

Unfortunately we don't have funding to repeat the trip.



Photo by Lisa Gilbane

Coastal Clean-Up Events

California's shorelines collect millions of pounds of debris throughout the year— debris that can endanger marine animals and humans alike. You can help reduce this problem by participating in one of the world's largest volunteer events. Please join us for the California Coastal Commission's 22nd Annual California Coastal Cleanup Day on Saturday, September 16, 2006 from 9 a.m. to noon.

COASTWEEKS is an international celebration of our coastal and water resources. The celebration is kicked off by Coastal Cleanup Day on September 16 and continues through October 8th with fun events for both youth and adults.

For more information, please contact:

www.coastforyou.org
(800) Coast-4U
Coast4u@coastal.ca.gov

The Trouble with Nerdles

Adapted from the article Children Gather Pellets for Science, by Kevin Butler, Press Telegram; published on February 17, 2006, Long Beach Press Telegram.

Photos by Michelle Lynch



In Long Beach, students from Lowell Elementary were surprised to learn that the tiny, circular pebbles that they regularly collect at the beach really aren't pebbles at all. They're man-made. The hundreds of tiny pebble-looking objects that spot the beach, known as "nerdles" to many children are actually beached plastic resin pellets. The students were assembled to collect these plastic pellets by the Geography Student



These nerdles were not included in the final sample.

Association and Dr. Paul Laris in the Geography Department at CSULB as part of the International Pellet Watch, the global monitoring of Persistent Organic Pollutants (POPs) in beached plastic resins. This monitoring is based on a finding that marine plastic resin pellets, or nerdles, adsorb hydrophobic organic pollutants with concentration factors up to one million. The purpose of International Pellet Watch is to understand the current status of global POPs.

Organic micro-pollutants, poly-chlorinated biphenols (PCBs) and organochlorine

pesticides, in the nerdles will be analyzed Dr. Hideshige Takada's Laboratory of Organic Geochemistry at the Tokyo University of Agriculture and Technology.

Pellets usually can be found along the high-tide line. This usually can be detected as the wrack of ocean debris seen along the beach. Even if the beach has been groomed, nerdles can be found.

The children spent an hour on a sunny Friday afternoon at the Belmont Shore Beach using metal tweezers to collect the nerdles. Metal tweezers are used so they will not contaminate the sample. The pellets were then sealed in aluminum foil to be mailed later. Beached plastic resin pellets collected by Citizen Monitors in California can be sent to the Clean Water Team who will forward them to Dr. Takada. The goal is to receive samples from 10 beaches located throughout California, seven beach samples are still needed. The children collected more than two hundred pellets that were varied in "yellowing" color indicating age which



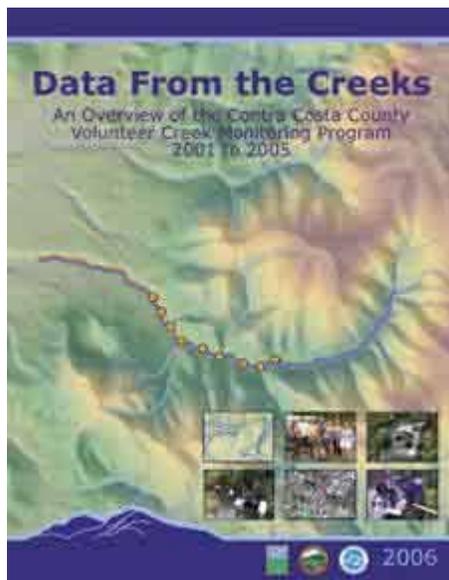
potentially means more adsorbed pollutants. All involved were very satisfied and thrilled to be a part of a global experiment that will help better understand the world's POPs pollution.

If your citizen monitoring group is interested in collecting samples from one of the remaining beaches please contact the Clean Water Team.

The sampling protocol is available from the Clean Water Team.

Data From the Creeks

www.co.contra-costa.ca.us



Data from the Creeks is a full color, 8.5 x 11, 61-page book of maps, data and preliminary analysis of data collected by volunteers in Contra Costa County. This book is an introduction to the monitoring data collected by volunteers and provides a glimpse of its possible uses.

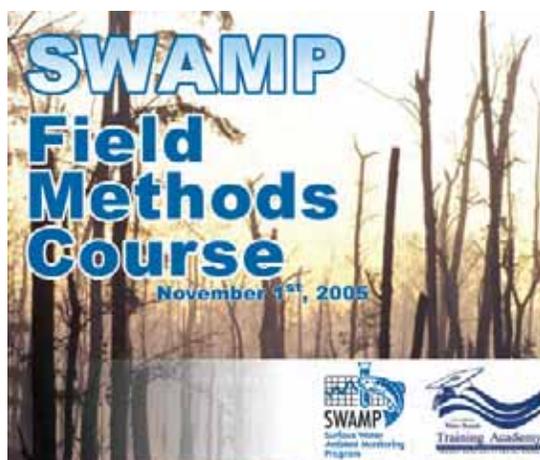
For the past five years, dedicated Contra Costa County residents who care about their local

creeks collectively spent thousands of hours “locked” in the classroom learning monitoring techniques or “knee-deep” in the creeks collecting insects or mapping creek features with GPS (Global Positioning System) units. It is a partial summary of their work in progress, and it is intended to show what has been accomplished already, to provide a glimpse of what the completed monitoring can tell us, and to inspire volunteers to keep up the good work. An overview of the GPS Survey and bioassessment data is provided for each watershed where sufficient data has been collected.

To be included in a chapter, at least four bioassessment sites must have been sampled within a watershed or GPS data must have been collected over contiguous reach of creek long enough to be the basis for an interesting query.

An electronic version (Free-PDF) can be downloaded from the following Web site:
http://www.co.contra-costa.ca.us/depart/cd/water/Watershed%20Forum/databook/databook_index.htm

Swamp Field Methods CD



Free CD

The SWAMP Field Methods Course on CD is available for free.

If you would like a copy please contact:
George Nichol
Phone: (916) 341-5504
Email: gnichol@waterboards.ca.gov

River of Life Conference; Santa Ana River Watershed Alliance

Story and Photos by Melanie Schlotterbeck

Edited by Michelle Lynch

On May 19th, the Santa Ana River Watershed Alliance (SARWA), a project of the Costa Mesa based non-profit Earth Resource Foundation, hosted the River of Life Conference. The conference brought together participants from non-profits



Participants enjoy a wonderful lunch at the River of Life Conference.

to agencies to consulting firms to local government. Attendees included California Assemblyman Tom Harman, Orange County Supervisor Lou Correa, city representatives and council members from Redlands, Huntington Beach, Santa Ana, and San Bernardino.



Supervisor Lou Correa with the lunch time award winners

Through nine panels and two keynote speakers more than 100 participants were provided with current and significant discussions on water conservation, water

supply, regional water resource issues, habitat and restoration, recreation and master planned rivers, among other topics. Both keynotes, Executive Director Gary Patton of the Planning and Conservation League, and



Former Assemblyman Fred Keeley

former California Assemblyman Fred Keeley, were highlights of the event. They inspired the audience, offered information on the current state of our watersheds and facts about California's environment.

SARWA also held a lunch reception to recognize three individuals and a project for their contributions to promoting a healthier Santa Ana River Watershed. The honorees were Nicole Schager, Loren Hays, Ray Halowski and the Orange Coast River Park. SARWA was also able to offer several scholarships to students from local universities to participate.

SARWA works to support important projects which will help to establish a river-long park while restoring and enhancing the river and its watershed, providing greatly needed community facilities and opportunities to learn about our region's rich history, encouraging stewardship of the riparian environment, and improving the lives of those that live, work and play in the area. SARWA meets the second Thursday of the month from 10 a.m. to noon. For more information see: www.SantaAnaRiverWatershed.org.

National Water Quality Monitoring Conference May 7-11

By Erick Burres

The National Water Quality Monitoring Council and its co-sponsors hosted the Fifth National Monitoring Conference at the San Jose McEnery Convention Center on May 7-11. It was a great success. Nearly 900 attended and about 10 percent represented citizen monitoring.



Many of the Citizen Monitoring Groups were represented

This year's theme was **Monitoring Networks: Connecting for Clean Water**; focusing on the human, technological, and programmatic networks that connect all of us working for clean water. This conference was an outstanding opportunity to share successes, strategies, and lessons learned with a diverse group of monitoring practitioners representing community-based, state, tribal, large-scale national and international monitoring programs. The agenda features over 300 oral presentations, 17 workshops and short courses, plenary and discussion sessions, posters, and exhibits designed to promote networking and enhance technical knowledge. Some of the events included discussions and presentations focused on large-scale collaborative monitoring networks, such as the proposed "National Water Quality Monitoring Network for Highlighted U.S. Coastal Waters and their Tributaries". Other highlights include sessions and informal meetings encouraging volunteer monitoring program coordinators to exchange information, develop new skills, and build better networks and sessions showcasing the USGS National Water-Quality Assessment Program's new findings on the quality of the Nation's streams and groundwater.



Co-Facilitator Eleanor Ely, the Volunteer Monitor

California was represented by the Clean Water Team, Erick Burres presented a poster featuring the Clean Water Team and conducted a workshop on training; and former citizen monitoring coordinator Revital Katznelson also gave presentations.

Below is a sample of the great presentation given by people involved in Citizen Monitoring throughout California.

Words and Water Quality: Effective Communication through Better Publications Co-Facilitator: **Eleanor Ely**, *The Volunteer Monitor*



The Nuts and Bolts of a Volunteer Monitoring Day

Diane Cross, *South Yuba River Citizens League*

Capture, Care and Feeding of Volunteers

Dwight Holford, *Upper Putah Creek Stewardship*

What is Representativeness, and Why are We Confused?

Revital Katznelson, *Sate Water Resource Control Board (former staff)*

Experiences in Monitoring

Eric Russell, *Surfrider Foundation-Santa Cruz Chapter*

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National Water Quality Monitoring Conference May 7-11

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First Flush Volunteers Do It in the Dark

Bridget Hoover, Monterey Bay National Marine Sanctuary

Improving Watershed Health using Citizen Monitoring Bioassessment And Water Quality Data in Collaboration with State, County and Local Governments

Joanne Sterling Hild, Friends of Deer Creek

The Importance of Professionally Training Citizen Monitors in Building, Promoting and Implementing a State-Wide Bioassessment Program in California

James M. Harrington, DFG/Sustainable Land Stewardship Institute

Watershed Stewardship: GPS Habitat and Bioassessment Surveys

Aspen Madrone and Abigail Fateman

Contra Costa County Community Development Department

Contra Costa Clean Water Program Contra Costa Watershed Forum



The JA JAN Coalition a Binational Collaborative Network for Water Quality Monitoring in the U.S.-Mexico Border Region

Hiram Sarabia, University of California, San Diego

Volunteer Monitoring for Bacteria in San Francisco Bay Area Creeks

Amy Wagner and Andy Lincoff, U.S.EPA Region 9

Controlling Cumulative Impacts from Impervious Surfaces: Relationship Between California State Law and NPDES Requirements

Brian Schmidt, Committee for Green Foothills

The Clean Water Team
Helping California's
Citizens Monitor
Our Surface Waters.

Mission & Values

The Clean Water Team's mission is:
• to build and support the State's watershed stewardship through Total Maximum Daily Load reduction by citizen monitors
• to reduce and prevent water pollution and recover lost beneficial uses.
• to engage citizens receiving and/or being funded through State Water Resources Control Board awarded grants.

Citizen monitoring offers California an opportunity to realize significant positive impacts in their watersheds and give back to their communities.

Clean Water Team Conventions

- Schedule to become a member to learn about workshops and games, and to receive other information for citizen monitors. On-line information is available at www.waterboards.ca.gov/cleanwater.
- Visit the Clean Water Team website: www.waterboards.ca.gov/cleanwater.
- For more information, contact:
Citizens Monitoring Coordinator
Email: education@waterboards.ca.gov
Phone: (916) 436-4701
Call phone: (916) 212-4882

Tools for Other Monitors

- Clean Water Team citizen monitoring guidelines are available online at www.waterboards.ca.gov/cleanwater.
- Clean Water Team Training: Comprehensive Watershed Monitoring and Assessment.
- Field kits (free) and equipment training: secondary pollution detection.

Clean Water Team Training

- Train the Trainers: Workshops provide the methodology to train citizen monitors to become water monitoring stations.
- Training materials for one field monitor.
- Train monitoring in assessments and physical habitat.

Clean Water Teams in Collaboration with SWAMP

- Quality assessment program guidelines are available online at www.waterboards.ca.gov/cleanwater.
- SWAMP Field Methods: Citizen Learning course (CD available).
- SWAMP Citizen Impact Studies for Building Citizen Assessment Project Plans (available December 2004).

Technical Assistance

- The Clean Water Team will assist with monitoring plans and quality assurance program plans, when possible.
- Call to read a Clean Water Team monitoring plan or water monitoring guidelines.

Equipment Loans

- Tools — The Clean Water Team can provide equipment for you to monitor.
- Events — Equipment can be provided for special events like splash or beach monitoring.
- The Clean Water Team will make a loan of monitoring equipment if the required supplies are in the inventory.

BA/BC Support

- The Clean Water Team has been able to assist citizen monitors by:
• Making available various cell phones (satellite and cellular), for example, and computer tools as NIST created the assessment.
- Providing access to water testing laboratories.

Training in Collaboration with SWAMP

- Two classes are available: "Monitoring Design and Project Planning Monitoring Design" and "Quality Assurance for Project Compliance with the Surface Water Ambient Monitoring Program (SWAMP)".
- These classes are open to members of the public for a small fee. For more information and availability, visit the Watershed Analysis at www.waterboards.ca.gov/analysis/.

The CWT Poster is Available in PDF at the CWT Web site <http://www.waterboards.ca.gov/nps/volunteer.html>

New Zealand Mud Snail Watch

California Department of Fish and Game

Why control New Zealand Mud Snails?



Adult snail

NZMS disrupt the food chain by consuming algae in the stream and competing with native bottom-dwelling invertebrates.

A population crash of invertebrates (small aquatic organisms) can follow the introduction of NZMS, which reduces fish forage. With a decrease in food availability, fish populations may decline as well.

You can learn more about New Zealand Mud snails at http://www.dfg.ca.gov/fishing/html/Administration/MudSnail/Mudsnail_0.htm

New Zealand Mud Snail Alert!

New Zealand Mud snails (NZMS) were introduced to North America's Snake and Madison Rivers in the 1980s. This small invasive quickly



Close-up view

moved to Yellowstone National Park and is now found in waters across the West, including many in California (Napa River, Calaveras River, Putah Creek, Mokelumne River, Rush Creek, Owens River, Bishop Creek, Piru Creek, Malibu Creek...). People



Snail colony

usually spread NZMS attached to waders and fishing gear.

How to Identify New Zealand Mud Snails

- Average 1/8 inch long, but young may be as small as a grain of sand. A plate covers the opening of the gray, brown or black cone-shaped shell with five or six whorls
- They live in most types of waters, from

silted river bottoms to clear mountain streams and brackish waters.

- Temperature tolerance 32-77 °F (66 °F optimum)
- Reproduce asexually-only takes one

Densities of over 750,000 per square meter have been found in Yellowstone National Park waters.

- Adults can survive several days out of water on moist gear

Prevent the spread of New Zealand Mud Snails

- Freeze waders six to eight hours. It is best to leave them in the freezer overnight to ensure complete mortality.
- Use a separate set of waders for infested streams.
- Spray gear with Clorox or Formula 409, and then scrub with stiff-bristled brush to remove all visible snails. Carefully inspect waders and gear to ensure the removal of all adults. Finish with a tap water rinse. Snails collect between laces, tongue, and felt soles of wading boots.
- Dry gear in air temperature of 112 °F for 24 hours. Or, place gear in 130 °F water for five minutes. Mortality of snails varies by exposure to heat and humidity.
- Brush coats of dogs after wading to remove snails.
- Many aquatic invasive species are spread by anglers and boaters. Live bait and packaging for live bait can spread other invaders. Invasive aquatic plants and animals hitchhike on boats, propellers, live wells, and fishing gear. Clean all boating equipment to prevent the introduction of non-native invasive species.

Water Monitors should read the *Administrative Report 2005-2 Controlling the Spread of NZMS on Waders* at <http://www.dfg.ca.gov/fishing/assets/publications/NZMS%20Final%20Report%2003.pdf>

The 2006 Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC) Conference was held May 12-13 at the Seaver undergraduate campus of Pepperdine University in Malibu, California. The meeting is held in conjunction with Southern California Academy of Sciences. SETAC is a non-profit worldwide professional society comprised of individuals and institutions engaged in environmental education, research and development, the management and regulation of natural resources and the study, analysis and solution of environmental problems. The session events were Sediment Quality Objectives, atmospheric deposition and volunteer monitoring. The Volunteer Monitoring session included the following topics and



Speaker and Poster Presenter Erick Burres, Citizen Monitoring Coordinator, Clean Water Team, State Water Resources Control Board

presenters:

Citizen Monitoring Status and Trends
Erick Burres, State Water Resources Control Board

Citizen Volunteer Based Benthic Macroinvertebrate Water Quality Sampling

Rob Roy, Coordinator San Diego Stream Team

Recovery of the Western Snowy Plover

at Sand's Beach, Coal Oil Point Reserve, Santa Barbara, CA

Jennifer Stroh, Santa Barbara Audubon Society & University of California Natural Reserve System

Rapid Acquisition of Citizen Scientist Data Across Large Distance: Grunion Greeters and the Internet Along the California Coast

K.L. Martin, B Cupp, C. Stivers, M. Studer, Pepperdine University, Natural Resources Division

A Three Year Study of Seasonal Bacterial Concentrations using Volunteer Assistance

L. Gilbane, K.A. Snow, S. Aizawa, KE Flaherty, YJ Ralph, CV Wolfe, K Kull, RE Pieper, Southern California Marine Institute

TOP TEN WATER-WISE TIPS

www.santaanariverwatershed.org

1. Install a low-flow showerhead and take only a 5-minute shower or a three inch bath.
2. Catch all water in a bucket or watering can while waiting for the water to get hot.
3. Put a water displacement bag or plastic bottle in each toilet tank.
4. Fix all leaky toilets, faucets, and pipes.
5. Flush toilets and use garbage disposer only when necessary.
6. Turn off the water while shaving, brushing your teeth, and lathering in the shower.
7. Run only full loads in dishwashers and washing machines.
8. Water your lawn no more than once a week and operate automatic sprinklers manually.
9. Use a bucket of water and one short rinse to wash your car.
10. Sweep (never hose) driveway, patio and sidewalk.

Let's make water conservation a way of life!

Upcoming Conferences 2006

SEPTEMBER

5th-9th

Floodplain Management Association 2006 Annual Conference
Coronado, CA
www.floodplain.org

10th-13th

21st Annual WateReuse Symposium, Hollywood, CA
www.WateReuse.org/2006Symposium/index.html

17th-20th

California and the World Ocean
Long Beach, CA
<http://resources.ca.gov/ocean/cwo06/>

25th-27th

The California Stormwater Quality Association
Radisson Hotel in Sacramento, CA
www.stormwaterconference.com

27th- 30th

53rd annual Eastern Pacific Ocean Conference
Timberline Lodge, Oregon
<http://damp.coas.oregonstate.edu/epoc2006/>

OCTOBER

2nd- 6th

Association of California Water Agencies
Long Beach, CA
www.ca-nv-awwa.org/CA-NV/conferences/fall/

23rd-25th

4th Biennial CALFED Science Conference 2006
Making Sense of Complexity: Science for a Changing Environment
Sacramento Convention Center
1400 J Street, Sacramento, CA
www.science.calwater.ca.gov/conferences/sciconf_index.shtml

NOVEMBER

7th-9th

Klamath Basin Watershed Conference
Sustainable Watersheds Bring Sustainable Communities
Holiday Inn -Redding, CA
<http://www.klamathbasincrisis.org/>

DECEMBER

5th-8th

Association of California Water Agencies
Fall Conference & Exhibition
Anaheim, CA www.acwa.com



Submit your event for inclusion in
the

CALIFORNIA WATER EVENTS CALENDAR

[http://www.waterboards.ca.gov/events/
events_form.html](http://www.waterboards.ca.gov/events/events_form.html)



Share Your Citizen Monitoring Articles
and Pictures in the next issue of Currents.
Just email eburres@waterboards.ca.gov

Departments' Water Event Calendars & Announcements

1. The State Water Resources Control Board's Water Events Calendar:

<http://www.waterboards.ca.gov/events/eventscalendar.html#calendar>

2. The Department of Fish and Game's Calendar of Events:

<http://www.dfg.ca.gov/html/events.html>

3. Association of California Water Agencies Calendar of Events:

<http://www.acwanet.com/events/ontap.asp>

NOTE: The views expressed within the articles have not been endorsed specifically nor generally by the State Water Resources Control Board, the Surface Water Ambient Monitoring Program, or the Clean Water Team.

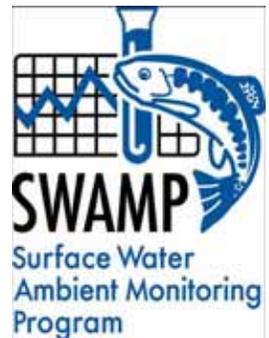


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