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Photo by Laura Anthony



CARING FOR OUR Watersheds California

Caring for Our Watersheds is a program that empowers students to imagine, develop and create solutions in their local watersheds. The program promotes watershed awareness and stewardship, values student ideas and offers support when turning theoretical ideas into action. Judges in the environmental field score student entries, and 10 projects are selected for the final competition, held this year on April 18. Students presented their projects and finalists received cash awards and matching awards for their school. In addition, \$10,000 in implementation funding (up to \$1,000 per project) is available to all participants, so any student can see his or her idea turn into a reality.



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*Caring for Our Watersheds is a joint program of the
Center for Land-Based Learning and Agrium.*

The finalists in the 2015 Caring for Our Watersheds competition, which was held at the Crocker Art Museum on April 18.



OUT OF 397 PROPOSALS SUBMITTED THIS YEAR, THESE 10 ADVANCED TO A FINAL COMPETITION WHERE STUDENTS COMPETED FOR \$12,000 IN AWARDS FOR THEMSELVES AND THEIR SCHOOLS.

Project: SAVING THE MONARCH BUTTERFLY

Team Members: Ashley Roman

School: Colusa High School

Description: Plant milkweed in small plots at three school sites and local farms. Milkweed is an essential plant for monarchs, as larvae feed exclusively on this plant. Involve 3rd grade class in a special planting day and teach lesson on the species, its current plight and efforts to restore populations.

Project: FAUCET AERATORS

Team Members: Brian Shan

School: Mira Loma High School

Description: Install aerators on faucets in school. Faucet aerators deliver a mixture of water and air, limiting how much water is released while maintaining pressure and reducing splashing. The aerators, relatively inexpensive and easy to install, help conserve water and reduce energy use and costs.

Project: SEDIMENT BARRIER

Team Members: Marjorie Miller

School: Foresthill High School

Description: Plant native shrubs and grasses on an eroding hillside above the track field on campus in an effort to reduce sediment delivery to adjacent storm drain and creek. The plantings will not only stabilize the soil and reduce erosion, but also will provide habitat for pollinators.

Project: H2O SAVER

Team Members: ElDar Razumeyko,

Samantha Koire, Bryant Johnson

School: Rio Americano High School

Description: Develop an app for a mobile device that will help residents assess, plan and execute an efficient watering plan for their landscaped yards. As over half of the water use at home is used outdoors, efficient irrigation can help reduce water consumption. App will also include other home water-saving tips and resources.

Project: PAPER TOWELS VS. HAND DRYERS

Team Members: Victoria Moore, Annie Vierra,

Fallon McMahon

School: Christian Brothers High School

Description: Replace paper towel dispensers in school's bathrooms with electric hand dryers. This would reduce not only the paper waste produced, but also the energy and resources it takes to procure and maintain the towels and dispensers as well as dispose of the waste. Environmental benefit is paired with cost savings for school.

Project: WATER BOTTLE FILLING STATIONS

Team Members: Amarah Anwar

School: Mira Loma High School

Description: Install water bottle filling stations at school in an effort to reduce plastic bottle use among students. Pair with water bottle giveaways and purchasing options for students to fund stations. Create web page to track reduction of plastic used, as well as to provide project guidelines and information to other schools that want to install units.

Project: BIOSWALES

Team Members: Alexa Bryan

School: Foresthill High School

Description: Install bioswales around storm drains by the school's softball field in an effort to reduce sediment delivery from adjacent bare areas. Bioswale design would include the use of gravel as well as a variety of native plants. By slowing surface run-off and holding it in a shallow depression, bioswales aid in the trapping of sediment and pollutants.



Project: REMOVAL OF INVASIVE PLANT SPECIES

Team Members: Allison Farrar, Gracie Berry,

Peter Carlip

School: DaVinci High School

Description: Initiate a local group to address invasive non-native species issues in the watershed. Group would meet weekly to remove invasives in local natural areas and plant areas with native species. Group could provide much-needed long-term maintenance element to restoration projects.

Project: THE BENEFITS OF VERTICAL GARDENING IN AN URBAN WORLD

Team Members: Alexis McQueary

School: George Washington Carver High School

Description: Create vertical gardens on school campus and at home to demonstrate the benefits of this design. Vertical gardens allow people to utilize the space available in urban environments more efficiently and economically. They can help improve air quality in congested areas, as well as provide food, aesthetic value and energy savings.

Project: OLIVIA THE OTTER TEACHES ABOUT WATER

Team Members: Sophia Cook-Phillips,

Victoria Marsh

School: George Washington Carver High School

Description: Create an educational children's book, with original, endearing illustrations, to raise awareness about issues affecting our watershed. Consult with elementary teachers to ensure content fits with curriculum and plan special class visits and events to promote book and message.

HONORABLE MENTIONS:

DOWN THE DRAIN: AN ENVIRONMENTALLY FRIENDLY STORM DRAIN FILTER

Mia Belluomini, Hannah Babe
(Sierra Academy of Expeditionary Learning)

WATERSHED – FRIENDLY EDIBLE CAMPUS

Rishan Bandari, Marshall Goodell,
Griffin Campbell (Alpha Charter School)

CATCHY CANS – AN ART CONTEST

Brenda Saephan (Hiram Johnson High School)

RAINWATER BARRELS FOR GARDEN AREA

Allison Goi (The MET Sacramento)

ECO-FRIENDLY CLUB

Tajiah Gallegos (Mira Loma High School)

RAINWATER HARVESTING

Sumaid Mahmood, Star Bright Lee,
Mike Saechao (Valley High School)

PROJECTS IMPLEMENTED TO DATE

Antelope High School:

- Recycling Bins on Campus
- Pollinator Garden
- Sierra Creek Oak Planting
- Reusable Bags – distribution and education
- Campus Landscape – replace non-native roses with native plants
- Compost System
- Native Species Planting and Pollinator Info Kiosk

William Daylor High School:

- Building Recycling Bins
- Drip Irrigation/Solar Powered Pump – water catchment system
- Reducing Plastic Packaging in School Meals

Colusa High School:

- Monofilament Recycling Containers – placed at Sacramento river boat landings
- Owl Boxes – built and placed on farms (alternative to rodenticide)
- Landscape for Water Conservation

Da Vinci High School:

- Native Plant Pollinator Garden

Florin High School:

- Water Efficient Landscaping/Planter Boxes

Stockton Collegiate High School:

- Salmonids in the Classroom – raising salmon in class for release to river

Christian Brothers High School:

- Wildlife Habitat Restoration

Valley High School:

- School Composting
- Water Education Booth

Mira Loma High School:

- Himalayan Blackberry Removal/Restoration

The MET Sacramento:

- Garcia Bend Park/River Cleanup
- Vermicomposting
- Water Conservation Class
- Tree Planting at Pony Express Elementary

Trash to TREASURE

Students turn lunchroom waste into compost for garden

by Mike Blount



Members of the Green Club at Valley High School gather compost to use in a student-run garden. The garden was constructed in 2014 after the students won a grant from the Caring for Our Watersheds contest. Photo by Laura Anthony

At Valley High School in the Elk Grove Unified School District, students have found a unique way to give cardboard waste a new life. When members of the Green Club noticed that the disposable lunch trays the school uses were being thrown away day after day, they started thinking about ways to recycle them. Through a grant from the Caring for Our Watersheds competition, the students were able to implement a program to recycle the trays and make compost for their campus garden.

Green Club adviser Ken Steele says the compost program has allowed the school to reduce the amount of waste going into landfills, protect local watersheds and save money for the school district by reducing the amount of waste to collect. The students grow cilantro, lettuce, peppers and more, which they also take home and eat.

Sumaid Mahmoud, a senior at Valley High School and president of the Green Club,

“We always try to live by our motto, ‘Keep calm and stay green.’”

Sumaid Mahmoud
Valley High School senior
and Green Club president

helps collect the trays for the compost bins.

“I really care about the environment and I like being able to do something good for it with other students in the Green Club,” Sumaid says. “We always try to live by our motto, ‘Keep calm and stay green.’”

Members of the Green Club also

developed a gigantic board game to encourage community members to conserve water. Students set up the game during the school health fair. Participants walked on the spaces and earned prizes while learning about the importance of water conservation during the drought.

Steele says they were able to reach 1,000 community members with the effort.

The school has participated in the Caring for Our Watersheds contest for the last three years.

“We’re extremely grateful for the Caring for Our Watersheds contest,” Steele says. “These are things that we can’t implement without their financial support, and we are thankful for the opportunity.”

TAKE ME TO the River

Removing litter and debris helps protect watershed

by Mike Blount

While developing a proposal for the Caring for Our Watersheds contest, The MET Sacramento High School students noticed that South Sacramento’s Garcia Bend Park was in need of some attention. Trash and debris had accumulated along the riverfront, eventually making their way into the river itself and threatening wildlife. To address the problem, students proposed organizing a gathering of volunteers to pick up the waste.

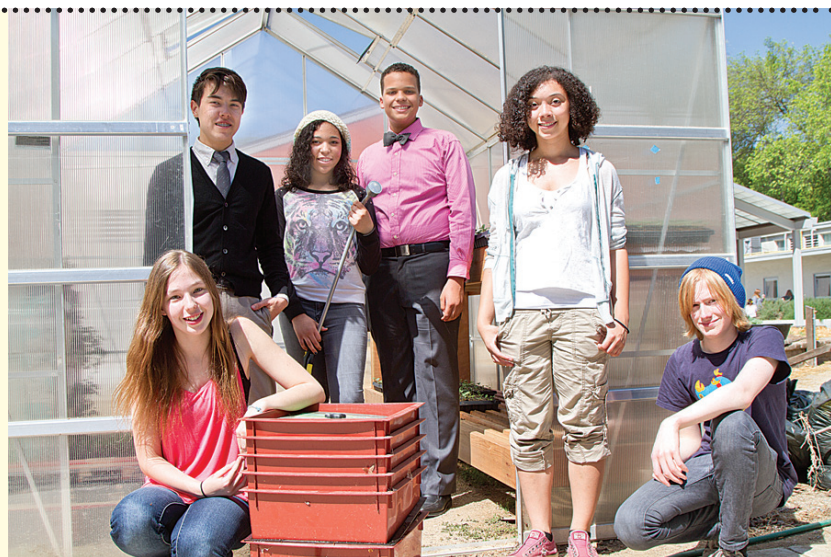
The proposal — submitted for the Caring for Our Watersheds contest — turned into action last year,

when a group of seven students and three adults spent three hours cleaning a one-mile area around the banks of the Sacramento River.

Sophomore Feliceya Torres was one of the students who participated in the cleanup.

“We wanted to do a project that was simple but still effective,” Feliceya says. “Our project helped raise awareness of how much debris is landing in our lakes and rivers, making the water unsafe for the wildlife and people who rely on it.”

The Caring for Our Watersheds competition not only encourages students to identify watershed improvements, but it also provides funding for participants to implement their projects. For this project, it allowed students to purchase large trash bags, gloves and refreshments for the volunteers. Several MET students have used this funding



Students at The MET Sacramento High School have used funding from Caring for Our Watersheds to implement several projects, including a recent cleanup day at Garcia Bend Park. Photo by Louise Mitchell

to implement other Caring for Our Watersheds projects, which have included vermicomposting, water conservation classes and tree planting.

Project leader and sophomore Alexa Smith says she enjoyed the Garcia Bend project.

“I had no idea that places so close to home were in the conditions the river bank was in,” Alexa says. “I would like to do another river cleanup in the same place. I’d like to get more students involved for a better outcome and to raise more awareness.”

“I had no idea that places so close to home were in the conditions the river bank was in.”

Alexa Smith

Photo courtesy of CLBL



PARTNERS IN EDUCATION

Both Agrium and the Center for Land-Based Learning understand the importance of protecting our watersheds and conserving natural resources. But it's equally important to cultivate future land stewards and tomorrow's advocates for the environment. That's why both organizations have partnered together to establish Caring for Our Watersheds: California, a unique program that enhances classroom learning through the practice of environmental research, writing skills, public speaking

and hands-on stewardship. The program, which is funded by Agrium and run by the Center for Land-Based Learning, asks high school students to propose ideas on how to improve local watersheds. Students with strong proposals will then have the opportunity to put those ideas into action. As projects are planned and implemented, students develop valuable leadership skills, learn sustainable practices and contribute to creating a healthier ecosystem. Students

also have opportunities to connect with agricultural and environmental professionals who volunteer and mentor the students as they learn new skills and develop deeper connections with the community they live in.

Caring for Our Watersheds is open to all high school students who live in the Sacramento-San Joaquin watershed in Colusa, El Dorado, Glenn, Placer, Sacramento, San Joaquin, Solano, Sutter, Yolo and Yuba counties.

Center for Land-Based Learning

- Dedicated to creating the next generation of farmers and teaching California's youth about the importance of agriculture and natural resource conservation
- Engages students and community in its programs: SLEWS (Student and Landowner Education and Watershed Stewardship), FARMS Leadership, GreenCorps and California Farm Academy
- Programs emphasize hands-on learning, sustainable practices and leadership
- Creates connections to agricultural and environmental careers



www.LandBasedLearning.org

Agrium

- Provides nutrients, agricultural products and services around the globe
- Believes that helping to increase food production responsibly means doing so in ways that protect the environment, support economic vitality and enhance communities
- Started Caring for Our Watersheds in 2007 by partnering with local organizations that run the program. Locations now include Canada, the U.S., Australia, and Argentina.
- Offers other educational tools, interactive exhibits, and websites including Growing the Next Generation and Seed Survivor



www.Agrium.com/Sustainability

2015 TEACHERS AND SCHOOLS

Aart Dewaard – George Washington Carver High School
Chris Chu – The MET Sacramento
Colleen Kelly – Mira Loma High School
Craig Richards – Colusa High School
Danny Delgado – Christian Brothers High School
Kerin Gould – Alpha Charter School
John Grima – DaVinci High School
Joyce Dibble – Rio Americano High School
Katie Cantrell – Foresthill High School
Ken Steele – Valley High School
Michelle O'Shea – Sierra Academy of Expeditionary Learning
Rochelle Jacks – Mira Loma High School
Sandra Starr – Tokay High School
Victoria Lyon – Hiram Johnson High School

JUDGES AND VOLUNTEERS

Alex Klein – UCD Graduate Student, Ecology
Amy Talbot – Regional Water Authority
Charmaine Boulmay – Sacramento Splash
Gina Radieve – CA Department of Water Resources
Hannah Ritchie – Project Green, SCUSD
Hunter Merritt – U.S. Army Corps of Engineers
John Killey – Retired Environmental Specialist
Joshua McCabe – Utility Forester, ACRT
Julie Fukunaga – 2014 CFW 1st Place Winner
Karleen Vollherbst – U.S. Fish and Wildlife Service
Kate Morejohn – UCD alumni
Kayla Burns – UCD Graduate Student, Soils/Biogeochemistry
Laura McGowan – UCD Graduate Student/Atmospheric Sciences
Meghan Amos – Sacramento Splash
Michael Anderson – Engineer, Agrium
Mike Dunphy – U.S. Fish and Wildlife Service
Nina Fontana – UCD Graduate Student/Ecology
Stephen Krebs – UCD Ecology PhD/Viticulturist
Sue McClurg – Water Education Foundation
Trina Camping – UCD Soil Science graduate
Vicki Sacksteder – San Juan Water District

Get INVOLVED

TEACHERS, ENVIRONMENTAL PROFESSIONALS, COMMUNITY SPONSORS — WE NEED YOU!

- Bring the Caring for Our Watersheds contest to your classroom or club
 - Volunteer as a mentor for student projects
 - Help score written proposals and verbal presentations
 - Provide funding to implement projects and expand the contest.
- E-mail beth@landbasedlearning.org or call (530) 795-1544