



CARING FOR OUR Watersheds California

TURNING *Ideas* INTO ENVIRONMENTAL *Solutions*

Caring for Our Watersheds, a joint program of Agrium and the Center for Land-Based Learning, empowers students to imagine, develop and create solutions in their local watersheds through an environmental proposal writing contest. Up to \$10,000 in cash is available to students so that they can turn their ideas into reality.



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2017 FINALISTS

*These students answered
the question: What can
you do to improve your
watershed?*



The finalists in the 2017 Caring for Our Watersheds competition, which was held at the Crocker Art Museum on April 22.
Photo by Melissa Uroff

OUT OF 395 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: SECRET RAVINE EROSION CONTROL

Team Members: Jake Mann
School: Del Oro High School

Description: Restore native vegetation on a heavily eroded section of stream bank along Secret Ravine, a creek that is still host to spawning populations of Chinook Salmon and Steelhead. The plantings would help to stabilize the bank and reduce sediment delivery to the creek. Excess sediment can degrade aquatic habitat.



Project: PARKING LOT BIOSWALES

Team Members: Jacy Uhler
School: Del Oro High School

Description: Install bioswales in school parking lot to capture storm water runoff. Design would include the use of gravel as well as a variety of native plants. By slowing surface runoff and holding it in a shallow depression, bioswales aid in the trapping of sediment and pollutants.



Project: ESTABLISHING BEE HABITATS

Team Members: Adrianna Abele
School: Colusa High School
Description: Enhance habitat for pollinators by planting native plants in areas on local farms. Habitat areas would benefit both honeybees, which have suffered declines from colony collapse disorder, and native bees. A diverse bee community can improve crop pollination services.



Project: KEEP THE WATER IN THE BANK

Team Members: Jennifer Su, Elie Wu, Grady Flamm

School: Rio Americano High School

Description: Introduce a simple water-saving device to homeowners. With low cost and easy installation, the toilet tank bank could save 0.8 gallons of water per flush and potentially thousands per household per year. Distribution of the banks would be paired with education on other water conservation practices.

Project: PROTECTING PURPLE MARTINS

Team Members: Sai Kambampati

School: Mira Loma High School

Description: Build and install nest boxes for Purple Martins, a bird species of special concern in California. Sacramento's breeding population is the last remnant of the Central Valley population. Providing suitable nesting sites could help stabilize and increase numbers.

Project: DOWN THE DRAIN

Team Members: Fox Del Papa, Bridget Pelzman, Brandon Stellina, Madelyn Wordelman

School: Foresthill High School

Description: Repair an eroding hillside that delivers excess sediment directly to a storm drain on campus. Stabilize soil on hill by installing jute netting and planting native species. This highly visible project site will be used as a demonstration/education station for students learning about storm water issues.

Project: GLOBAL WORMING

Team Members: Mia Belluomini

School: Sierra Academy of Expeditionary Learning

Description: Construct and maintain five vermicomposting (worm) bins on campus. By composting organic waste, the school will reduce its contribution to greenhouse gasses, particularly methane, which is produced by anaerobic decomposition of organic matter in landfills.

Project: BATTERY RECYCLING

Team Members: Reese Farrell

School: Mira Loma High School

Description: Start a battery recycling program on campus. Recycling not only allows the recovery of important resources from the battery, but also keeps more batteries out of landfills, where heavy metals may leak into the ground causing soil and water pollution.

Project: STOP THE BARK BEETLE INFESTATION!

Team Members: Grace Sanders, Jenna Freeland, Luke Godon, Maya Hope

School: Foresthill High School

Description: Address the bark beetle infestation in trees surrounding school grounds. After tree removal, students will replant the area with several different species of native trees to increase biodiversity, improve wildlife habitat, and decrease the chance of reinfestation.

Project: NATIVE PLANT AND RAIN GARDEN

Team Members: Yeimi Navas and Madelyn Wagner

School: Pioneer High School

Description: Plant a bare area on campus with a variety of California native species that will provide habitat for native birds and pollinators, stabilize eroding soil, and slow down and filter storm water, allowing for more groundwater recharge.

HONORABLE MENTION

AN EDUCATIONAL ADVENTURE

Rebecca Nick
(Sierra Academy of Expeditionary Learning)

PROTECTING A LOCAL VERNAL POOL

Lindsey Nava, Brycelyn Hendrix,
Tianna Wilson (River City High School)

MASON BEE HOUSES

Noah Crockette (The MET Sacramento)

TRASH TRAIL

Tiffany Maninang, Hannah Choi, Tiffany Lopez, Sydney Parsons
(Franklin High School)

CALIFORNIA NATIVE SCHOOL GARDEN

Jade Thomas, Julie Lam
(George Washington Carver High School)

VODY'S ADVENTURE

Shilea O'Brien, Katrina Bol
(George Washington Carver High School)

THOUGHTFUL FLUSHING

Cade Johnson, Keith Herron,
Matthew Dixon, Logan Wheeler
(Rio Americano High School)

SUCCULENTS

Da Vinci Environmental Science Class
(Da Vinci High School)

Turning Ideas INTO ACTION

A sampling of some implemented projects



Photo by Alessandro Rossi

TREE PLANTING AT DAVID LUBIN ELEMENTARY

Project Leader:
Sandra Longfellow

School: Met Sacramento High School

Description: After the removal of a hazardous tree from the playground, kindergartners and sixth graders worked together to replant the bare area with a new tree and other vegetation that will provide shade, stabilize soil and reduce sediment pollution in nearby waterways.

"Having to take charge of the project with setting up work days and guiding the students with the planting, gave me a better chance to take on a leadership role. While it was challenging to manage the students and make sure everything went smoothly, the most meaningful part for me was having them contribute to the project ... and knowing that the project would improve both the environment and the students' learning experience." ~ Sandra Longfellow



FAUCET AERATORS

Project Leader: Brian Shan

School: Mira Loma High School

Description: By installing aerators on 18 bathroom sinks across campus, this project has the potential to reduce water use from hand washing by 40 percent. Brian Shan gave a remarkable presentation to take first place in the 2015 Caring for Our Watersheds contest and followed through to complete the project last year.



INVASIVE SPECIES REMOVAL

Project Leader: Nāah Lifland

School: Sierra Academy of Expeditionary Learning

Description: With funding from the Caring for Our Watersheds program, students at the Sierra Academy of Expeditionary Learning purchased tools to remove invasive blackberry bushes at Mathis Pond Preserve, enabling native plant and animal species to flourish.



SOUTHSIDE PARK CLEANUP

Project Leaders: Molly Crofoot and Miana Muscat

School: Met Sacramento High School

Description: Building on the success of their past clean-up efforts, Molly and Miana recruited and organized 30 volunteers to remove trash and invasive species throughout the park and pond area. The goal for students is to make the project an annual stewardship tradition.



From left, Phil Mullins (Agrium), Jake Mann (first place winner), Mary Kimball (Center for Land-Based Learning), Katie Cantrell (Jake's teacher at Del Oro High School).
Photo by Melissa Uroff

CREATING TOMORROW'S ENVIRONMENTAL LEADERS

What is a watershed and why should we care about them?

A watershed is an area of land that drains to a central water body such as a river or lake. Watersheds supply our drinking water, provide water for agriculture, recreation, and habitat for native plants and animals.

What is the Caring for Our Watersheds program?

Caring for Our Watersheds is an education program that engages students in preserving and improving their local watersheds.

How does it work?

Students submit proposals that answer the question: What can you do to improve your watershed? The program rewards the students and the schools who submit the most innovative and well-planned

project ideas. Proposals are scored by judges and the top 10 projects are selected to compete in the final competition.

Who can compete?

All high school students that live in the Sacramento-San Joaquin watershed can compete.

What can you win?

All finalists will win cash prizes up to \$1,000 and a matching cash award for the school. In addition, \$10,000 is available for project implementation. In total, \$27,000 is available to students and schools.

How can I get involved?

Teachers can bring Caring for Our Watersheds into their classroom or club, environmental professionals can score proposals, community members can mentor students implementing projects.

Who organizes the contest?

The Center for Land-Based Learning, whose mission is to inspire, educate and cultivate future generations of farmers, agricultural leaders, and natural resource stewards, organizes the contest in California. The Center for Land-Based Learning runs programs in 27 California counties that connect youth and adults to agriculture and environmental science careers.

Who started Caring for our Watersheds?

Agrium sponsors the program with support from other local and national conservation partners. The Center for Land-Based Learning is Agrium's California conservation partner.

For more information email beth@landbasedlearning.org or call 530-795-1544

TEACHERS AND SCHOOLS

Aart Dewaard — George Washington Carver High School
Brian Frishman — Sacramento Country Day School
Chris Chu — The MET Sacramento
Colleen Kelly — Mira Loma High School
Becka Robertson — Colusa High School
Dana Chu — Florin High School
Danny Delgado — Christian Brothers High School
Jeremy Heavlin-Martinez — River City High School
John Grima Jr. — Da Vinci High School
Joyce Dibble — Rio Americano High School
Kathryn Sleeper — Florin High School
Katie Cantrell — Foresthill and Del Oro High School
Kimberly Banta — Pioneer High School
Leigh Sumers — Rio Americano High School
Michelle O'Shea — Sierra Academy of Expeditionary Learning
Mitchell Nail — Colusa High School
Renee Link — Franklin High School
Rochelle Jacks — Mira Loma High School
Toby Spencer — Rio Americano High School

JUDGES AND VOLUNTEERS

Al Colombano — Retired Secondary Science Teacher
Alex Webster — UCD Graduate Student, Ecology
Amy Talbot — Regional Water Authority
Brian Brown — Project WET, Water Education Foundation
Charmaine Boulmay — Sacramento Splash
Elisabeth Johnson — Staff Professional, Carollo Engineers
Gina Radieve — CA Department of Water Resources
Hannah Ritchie — Western Placer USD
Hunter Merritt — U.S. Army Corps of Engineers
Janice Kelly — Education Consultant/Writer
Jill Dunphy — Project Manager, CH2M
John Killey — Retired Environmental Specialist
John Kucharski — U.S. Army Corps of Engineers
Joshua McCabe — Utility Forester, ACRT
Kathryn Schulz — Water Education Specialist, DWR
Laura McGowan — UCD Graduate Student/Atmospheric Sciences
Meghan Amos — Sacramento Splash
Mike Dunphy — U.S. Fish and Wildlife Service
Nina Fontana — UCD Graduate Student/Ecology
Phil Mullins — Crop Production Services
Roland Brady — Brady and Assoc. Geological Services
Stefanie Scott — UCD Environmental Science graduate
Stephen Krebs — UCD Ecology Ph.D./Viticulturnist
Trina Camping — UCD Soil and Water Science graduate



Special thanks to SMUD for sponsorship of our final competition and awards banquet.