



CARING FOR OUR Watersheds

California

INSIDE:

2019 finalists
Implemented
projects



Caring for Our Watersheds, a joint program of Nutrien and the Center for Land-Based Learning, empowers students to 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.



Nutrien[™]

COVER PHOTO COURTESY OF CENTER FOR LAND-BASED LEARNING



The finalists in the 2019 Caring for Our Watersheds competition, which was held April 27 at the Crocker Art Museum.
PHOTO BY ANNE STOKES

2019 FINALISTS

OUT OF 550 PROPOSALS

SUBMITTED THIS YEAR, THESE 10 FINALISTS ADVANCED TO A FINAL COMPETITION WHERE STUDENTS COMPETED FOR CASH AWARDS FOR THEMSELVES AND THEIR SCHOOLS.

FAUCET AERATORS AT SCHOOL

Team Members: Kevin Malaekkeh, Jack Galloway, Jake McCullough, Sean Daly
School: Del Oro High School

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

INVASIVE PLANT MANAGEMENT

Team Member: Abel Asrese
School: Rio Americano High School
Organize a volunteer event to remove invasive non-native species in a section of the American River Parkway. Invasive species can outcompete native plants, reduce biodiversity and alter habitat. Event would educate volunteers and target high priority invasives such as Red Sesbania and Spanish Broom.

REDUCING WILDFIRE RISK

Team Member: Cole Moore
School: Foresthill High School
Reduce wildfire risk in forested acreage surrounding school by conducting a forest thinning/fuel reduction project. Students would help to measure and mark trees/vegetation, consult with the Forest Service biologist, and would partner with local tree service company to complete work.

RIPARIAN RE-PLANTING

Team Member: Elena Olvera
School: Pioneer High School
Restore a riparian zone along a section of Cache Creek by removing invasives and planting native species. Plantings will help to stabilize the bank and reduce erosion and sediment delivery to the creek. Excess sediment can degrade aquatic habitat.

POLLINATOR GARDEN

Team Members: Anahi Orozco, Giselle Pantoja, Ryan Mengell
School: G. W. Carver High School
Enhance habitat for bees/pollinators by planting native plants in an area by the school garden. Species planted would be drought-tolerant and provide nectar sources throughout the year. The pollinator garden would also serve as an educational tool for science classes on campus.

REDUCING WASTE AT SCHOOL

Team Members: Rachel Freidberg, Barcelona Boyd
School: G. W. Carver High School
Replace single-use plastic cutlery in school cafeteria with reusable silverware. Initiate a campus volunteer program to sanitize silverware according to public health department guidelines. Students would earn community service hours while reducing the waste stream from their campus.

SOIL MOISTURE SENSORS

Team Members: Erik Wrynski, Trent Giffin, John Boeger, Alex Mercado
School: Colusa High School
Install soil moisture sensors to limit overuse of water on school landscaping. Sensors activate the sprinkler system only when soil moisture falls below a certain level. This reduces water use, but can also contribute to deeper plant root growth, less soil runoff, and reduced chance of insects and fungal diseases.

FABULOUS RECYCLING FAIR

Team Member: Larissa Mayor
School: Mira Loma High School
Create a fun, educational Earth Day event for elementary-age students to raise awareness about recycling. Students would cycle through several game stations that both utilize and teach about recyclable materials. Game activities would be followed by reflection questions to reinforce learning and encourage sustainable practices.

BIOSWALE RESTORATION

Team Members: Talina Fernandez, Chi Vang, Lisa Xiong, Erica Guice
School: Grant Union High School
Improve the condition of bioswales on campus by planting a variety of native grasses, sedges and rushes. Bioswales aid in the trapping of sediment and pollutants by slowing surface run-off and holding it in a shallow depression. Plantings will help restore bioswale function, as well as provide habitat.

DUAL FLUSH HANDLES

Team Member: Bethany Sapigao
School: Mira Loma High School
Install dual-flush handles on toilets at school to improve water efficiency. Toilets would be retrofitted with products that provide two flush options that can reduce water use by 30 percent. Instructional signs would communicate water savings and raise student awareness of water conservation efforts.

HONORABLE MENTIONS

ENVIRONMENTAL FIELD TRIP

Claudia Negrete
(The MET Sacramento High School)

BEACH CLEAN-UP

Tzen Lee, Phan Hien Trang Tran
(Florin High School)

NUTRIENT POLLUTION SOLUTION

Sadie Rutten
(Sierra Acad. of Expeditionary Learning)

RAIN GARDEN AT SCHOOL

Mia Munoz
(Woodland High School)

GO NATIVE!

Marion Williams, Sarah Zanelli
(Winston Churchill Middle School)

MERCURY IN THE WATERSHED

Andrew Knox, Elan Kalman, Nicholas Anglin, Grant Cubberly, Sean Duffy
(DaVinci High School)

Every Little Bit HELPS

Caring for Our Watersheds funding helped a school garden thrive

As Vice President of the Garden Club at The MET Sacramento High School, Isa Sheikh had ideas for making the garden a more water-efficient, sustainable operation. He formulated those ideas into a written project proposal that included a solid plan, budget, and time line for potential implementation. Soon after, Isa turned those ideas into action.

With Caring for Our Watersheds project funding, he installed a drip irrigation system that would allow each plant to be watered directly, reducing moisture loss through evaporation.

“A school garden is a huge resource to tie students to

the growing of food and the environment,” Isa said. “Writing a grant proposal to Caring for our Watersheds allowed me to fulfill real needs in our small community.”

The timer installed with the system allows plants to be watered at the most appropriate times of day (which is not always when the club is meeting on campus), and watering can continue on school breaks and throughout the summer.

This simple upgrade to the school garden is conserving water and helping to grow a thriving garden on campus.



Isa Sheikh and Kevin Alvarez-Vazquez install drip irrigation at The Met Sacramento's school garden.
PHOTO BY WILLIAM PAMULA

WHY DO YOU PARTICIPATE IN CARING FOR OUR WATERSHEDS?



“The CFW competition deepens student understanding of the environmental issues we face and the complexity involved in addressing them. It empowers students to take action in a way that develops engineering, service learning and project management skills. The proposal allows for a large degree of student choice, so they are authentically engaged in the research and planning.”

Rochelle Jacks, Teacher
Mira Loma High School



“The Caring for Our Watersheds contest participants never fail to amaze and impress me. Their creativity and dedication to creating meaningful environmental change and being stewards of their communities leaves me reassured that our future is in good hands.”

Kathy Schulz,
Water Education Specialist
California Department of Water Resources



“I grew up around Cache Creek — I went there a lot for school field trips — and I decided to do a project that combined living near Cache Creek and liking plants. I really enjoyed the creative aspect of being able to design my own presentation and do it the way I wanted — that was great!”

Elena Olvera, Student
Pioneer High School

GET INVOLVED!

.....
Environmental professionals and community sponsors — we need you!

Contact
beth@landbasedlearning.org
or call **530-795-1520** to learn
how you can support this
unique program.



First place winner Cole Moore with Beth Del Real, Caring for Our Watersheds Coordinator.

PHOTO BY ANNE STOKES

CREATING TOMORROW'S 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?

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

For more information email beth@landbasedlearning.org or call 530-795-1520.

TEACHERS AND SCHOOLS

Aart DeWaard — George Washington Carver High School
Alexis Paulus — Rio Americano High School
Ann Marie Kennedy — Grant Union High School
Bruce Hansen — Winston Churchill Middle School
Christopher Chu — The MET Sacramento High School
Colleen Kelly — Mira Loma High School
Dana Chu — Florin High School
Franco Canet — Mira Loma High School
John Grima Jr. — DaVinci High School
John Wirt — Colusa High School
Katie Cantrell — Foresthill High School
Kelsey Riley — John F. Kennedy High School
Kimberly Lumbard — Pioneer High School
Leigh Summers — Rio Americano High School
Marisol Villarreal — Woodland High School
Michelle O'Shea — Sierra Academy of Expeditionary Learning
Nathan Kwan — DaVinci High School
Nicholas Russo — Del Oro High School
Robert Sherriff — Winston Churchill Middle School
Rochelle Jacks — Mira Loma High School
Toby Spencer — Rio Americano High School

JUDGES AND VOLUNTEERS

Al Columbano — Retired Secondary Science Teacher
Allie Igwe — UC Davis PhD student/Microbiology
Amanda Huebner — UC Davis student/Water & Chemistry
Amelia Munson — UC Davis Graduate Student/Animal Behavior
Brian Brown — Project WET, Water Education Foundation
Charmaine Boulmay — Sacramento Splash (retired)
Elisabeth Beckensten — Civil Engineer
Emily Snider — UC Davis Grad Student/Civil & Env. Engineering
Francisco Bellido Leiva — UCD Ph.D. student/Water Resources
Hannah Ritchie — Western Placer USD
Hunter Merritt — US Army Corps of Engineers
John Killey — Environmental Specialist (retired)
Joshua McCabe — Utility Forester, ACRT
Kathryn Schulz — Water Education Specialist, DWR
Laura McGowan — UC Davis Graduate Student/Atmospheric Sciences
Monica Garcia — Regional Water Authority
Nina Fontana — UC Davis Graduate Student/Ecology
Nina Suzuki — UC Davis Arboretum and Public Garden
Jerome Pier — Agronomist, Nutrient Ag Solutions
Roland Brady — Brady and Assoc. Geological Services
Susie Bresney — Staff Scientist, Stockholm Environment Institute
Trina Camping — Literacy & Makerspace, Woodland Library

Nutrien



Big Day of Giving
MAY 2



Produced for Center for Land-Based Learning by N&R Publications, www.nrpubs.com