

Spring, 2006

Capital CREEC: Region 3

Serving Yolo, Sutter, Colusa, Yuba, Sacramento, Sierra, Nevada, Placer, El Dorado, and Alpine Counties

California Regional Environmental Education Community (CREEC) Mission: To develop a communication network which provides educators with access to "high quality" environmental education resources to enhance the environmental literacy of California students.

The CREEC Network is the best source for Environmental Education resources in California. For local EE assistance, contact your Region 3 coordinator.

Sacramento Valley Counties: Deborah Bruns, Yolo County Office of Education (530)668-3781 bruns@ycoe.org

Foothill Counties: Leslie Smith, Nevada County Superintendent of Schools (530) 478-6400, x 211 lsmith@nuhsd.k12.ca.us

Get to Know Your Watershed!

May is Watershed Awareness Month

Californians are celebrating their watersheds during the month of May with festivals, river clean-ups, and other activities in various locations throughout the state. The theme of this year's celebration is "Get to Know Your Watershed."

In 2005, the California Watershed Network (CWN) launched California's first annual Watershed Awareness Month. Governor Schwarzenegger supported the efforts of CWN

by making a proclamation stating that the, "maintenance and improvement of watersheds is essential to protect public health, fisheries, wildlife, agriculture, economic development, and recreational activities in the Golden State...With a steadfast commitment to the environment, Californians recognize Watershed Awareness Month to help sustain our natural resources for future generations." CWN and the CREEC Network encourage organizations and educators to promote the importance of watersheds through local activities.

What is a watershed?

The conceptual definition of a watershed is "any sloping surface that sheds water". A more practical definition would be "the land area that is drained by a particular river, stream, or creek". A large stream like the Sacramento River can drain a huge land area and encompass a watershed of thousands of square miles. Most large watersheds are made up of several smaller watersheds associated with tributary rivers, creeks, and drainages that contribute flow from areas known as sub-basins.

Watersheds are ultimately defined by gravity. When you want to define a watershed you begin by selecting the stream or river that is of interest;

the drainage area is then defined by a boundary of ridge tops. A drop of water falling on the top of that ridge will flow by gravity into your watershed or to the other side into an adjacent watershed depending on the topography or lay of the land. For most of us, watersheds are more than just drainage areas. They are the place where we live, work, and recreate. Watersheds provide habitat for wild creatures and biological diversity in the midst of otherwise human sameness. In urban areas many streams have been "undergrounded" or culverted so that it is hard to place where local creeks once flowed. You are part of a watershed nonetheless. (Excerpted from Watershed Restoration — A Guide for Citizen Involvement in California, NOAA, 1995:

New Water Curriculum from California Water Boards



*Collecting
Macroinvertebrates*

Students create water maps of their schoolyards during the introduction of student-centered investigations in lessons for 4th, 5th, and 6th grade students. The lessons, designed and offered free of charge by the agencies that protect and manage California's waterways, help teach state content standards within the context of the Principles and Concepts of the new Environmental Education Initiative for California students.

Training videos for teachers, lesson plan builders, and complete lesson plans are available online at the Water Boards website: www.waterlessons.org. Student materials are available in Spanish and English. Also available on the website is a downloadable version of the after-school Water Quality Detectives Program. (For more information on the Environmental Education Initiative, see the CalEPA website at www.calepa.ca.gov/education/EEI)

Sacramento River Watershed Programs for Educators

As residents in the Sacramento River Watershed, which covers 27,000 square miles from the northern California border to the Delta, we all have a responsibility as stewards of the land and water. The Sacramento River Watershed Program (SWRP) is a non-profit organization whose mission is to assure that the watershed's resources are sustained, restored, and enhanced. The program supports educational efforts that raise awareness of our youth about the importance of watersheds. They particularly support the work of other organizations that offer access to the River of Words and GLOBE programs.

River of Words is an international poetry and art contest for children in kindergarten through twelfth grade that invites students to explore their own

watershed, discover its importance in their lives, and express in words and images what they have learned, felt, and observed.

GLOBE is a worldwide hands-on, primary and secondary school-based education and science program where students learn by taking scientifically valid field measurements, reporting their data through the Internet, creating maps and graphs to analyze data sets, and collaborating with scientists and other *GLOBE* students around the world.

Visit: www.sacriver.org/education for more information. Also available on this website are maps, monitoring data, and lists of watershed organizations in your area. This is a great website for students researching their watersheds.

CREEC Website a Great Resource for Educators

Did you know that the CREEC Network has a Resource Directory? Simply log onto www.creec.org/region3 and click on the "Resource Directory" button and a Search page will appear. You will have three different options for your search: a simple keyword search, a more detailed regional search, and an advanced search. When you have selected the criteria which apply to your search, a list of resource providers and the resources they offer will appear on the screen. For example, if you choose to do an

advanced search and select "water" as your topic, "science" as your academic focus, "6th grade" as the audience, and "statewide" as your region, you will end up with 104 results, including not only curriculum, but possible field trips or assembly programs that will relate to that topic. If you are a resource provider that is not listed on the CREEC resource directory, the process for adding a resource or provider is simple. Click on the "Add Resources" button and follow the directions.

"In the end, we
conserve only what
we love,
we will love only
what we
understand,
and we will
understand only
what we are
taught."

Baba Dioum

Places to Take Your Students to Learn About Water and Watersheds

Placer Nature Center (PNC) Auburn Hills, Placer County

Using its 60-acre site as an outdoor classroom, PNC programs promote an understanding and awareness of the natural environment, cultivate scientific literacy and stimulate stewardship. PNC also delivers hands-on interactive science and nature exploration programs to classrooms through its Environmental Science Travels program. All programs are aligned with California State Science Standards. <http://www.placernaturecenter.org>
(530) 878-6053
info@placernaturecenter.org

American River Water Education Center, Folsom

Provided by the U.S. Bureau of Reclamation, the ARWEC offers educational programs for K and up on water uses, water cycle and water conservation. Maximum program size is 35 students and 9 adults. An exhibit hall and drought tolerant garden are also available for viewing. The academic focus of this program is science. <http://mp.usbr.gov/arwec>
(916) 989-7275

Effie Yeaw Nature Center Carmichael, Sacramento County

Programs at Effie Yeaw help bring the fun, involvement, diversity, and richness of the aquatic environment to students through hands-on exploration of living things and ecosystems as profiled in the State Science Standards. The academic focus of programs is on science, including Watershed, Wetlands Ecosystems, Stewardship, and Water. <http://www.effieyeaw.org>
916-489-4918, x 229

Bridgeport Natural Science Center (BNSC); South Yuba River State Park Western Nevada County

Offering a one-day field trip experience for 2nd to 8th grades, BNSC engages students in hands-on activities that tie grade-level appropriate state science standards with the natural world. Depending on grade level, students may search the river for macroinvertebrates to determine water quality, investigate leaf litter to discover decomposers, measure green-up or green-down to learn more about growing seasons and photosynthesis. (530) 478-6400, x211
lsmith@nuhsd.k12.ca.us

American River Conservancy Marshall Gold Discovery State Historic Park, Coloma

The American River Conservancy conducts conservation, education, and stewardship programs to protect and enhance native fisheries, vanishing plant and animal communities, scenic vistas, cultural heritage and recreational lands within the American and Cosumnes River watersheds which lie in the foothills of the eastern Sacramento Valley. ARC offers educational programs both in the classroom and at the nature center. <http://www.arconservancy.org>
530-621-1224

Yolo Basin Foundation Davis, Yolo County

The Yolo Basin Foundation Program offers workshops for educators about wetland ecosystems as well as classroom field trips to the Yolo Wildlife Area and Yolo Demonstration Wetlands. Classroom resource kits and a 100-page teacher workbook are available for check out. <http://www.yolobasin.org>
530-758-1018
cquirk@yolobasin.org

*"If a child is to keep
alive his inborn sense of
wonder . . . he needs the
companionship of at
least one adult who can
share it, rediscovering
with him the joy, the
excitement and
mystery of the world
we live in."
Rachel Carson*



Engaged in Field Studies

***More Water-Related Resources for your
Classroom or School***

**California Regional
Environmental
Education Network
CREEC**

We're on the Web!

See us at:

www.CREEC.org/region3

"The Great Water Mystery"
Science Assembly
South Yuba River Citizen's League
Join Inspector Drizzle as he teaches students about water in a fun, interactive presentation brought to your school or classroom. "The Great Water Mystery" is a 45 minute interactive assembly or classroom presentation that uses an engaging mystery story to teach about water. The program is correlated to California State Science Standards for K,2,5 Earth Science; K,1,3 Physical Science; and 6 Resources (530)-265-5961
Carlyle@syrcl.org

**Healthy Water, Healthy People
Project WET**

An innovative water quality education program sponsored by Project WET offers hands-on activity guides, testing kits, training, and much more. Healthy Water, Healthy People is for anyone interested in learning and teaching about contemporary water quality education topics. Test your water quality knowledge by taking the Healthy Water, Healthy People Water Quality Quiz.

www.healthywater.org

For more resources from Project WET and information on upcoming teacher workshops in our region:

www.projectwet.org

projectwet@watereducation.org

**Water Education Resources from
Department of Water Resources**
DWR now has available FREE resources through the Water Facts & Fun catalog. There is a DVD of the "3 in 1 Children's Video" with corresponding Video Activity Packets and the new Water Supply and Uses poster. All DWR programs can be ordered on-line
www.publicaffairs.water.ca.gov/education/videos/
916-653-9892.

**May 31st Deadline for Wetlands
Illustration Challenge 2006**

Elementary students are invited to submit an original illustration for this year's winning manuscript, "Sammy's Wetland Adventure."

<http://www.wetland.org>

**Project Wild Aquatic
K-12, interdisciplinary, education
curriculum and workshop program
emphasizing aquatic wildlife.**

The Aquatic WILD program focuses on the world of water, the habitat and the wildlife it supports. The influences of the aquatic environment, both fresh and salt, extend to include the total watershed. Almost everything that influences a stream's ecological health occurs on the land.

www.dfg.ca.gov

(916) 653-6132

**Agua Pura: A Multi-Disciplinary
Instructional Unit for 6th Grade
Downloadable curriculum**

Salmon and steelhead are a vital part of our state's ecosystems and are an important indicator of water quality and watershed health.

Through the activities in this unit, participants will explore relationships between the people and the salmon and steelhead that live, or once lived, within their community's watershed.

Adopt-A-Watershed

UC Cooperative Extension 4-H

Youth Development Program

<http://groups.ucanr.org/sns/>

**California Classroom Aquarium
Education Project (CAEP)
(Salmonids in the Classroom)**

Through a classroom experience of hatching fish eggs and coordinated activities, students experience first-hand the value of aquatic environments, the balance that must be met to maintain and preserve California's fisheries and aquatic habitats, and how their personal actions affect these valuable resources.

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