



# Creek Currents

Sacramento Area  
Creeks Council

www.saccreeks.org

Fall/Winter 2011

## Scent Sent

*Many animals communicate volumes just through smells!*

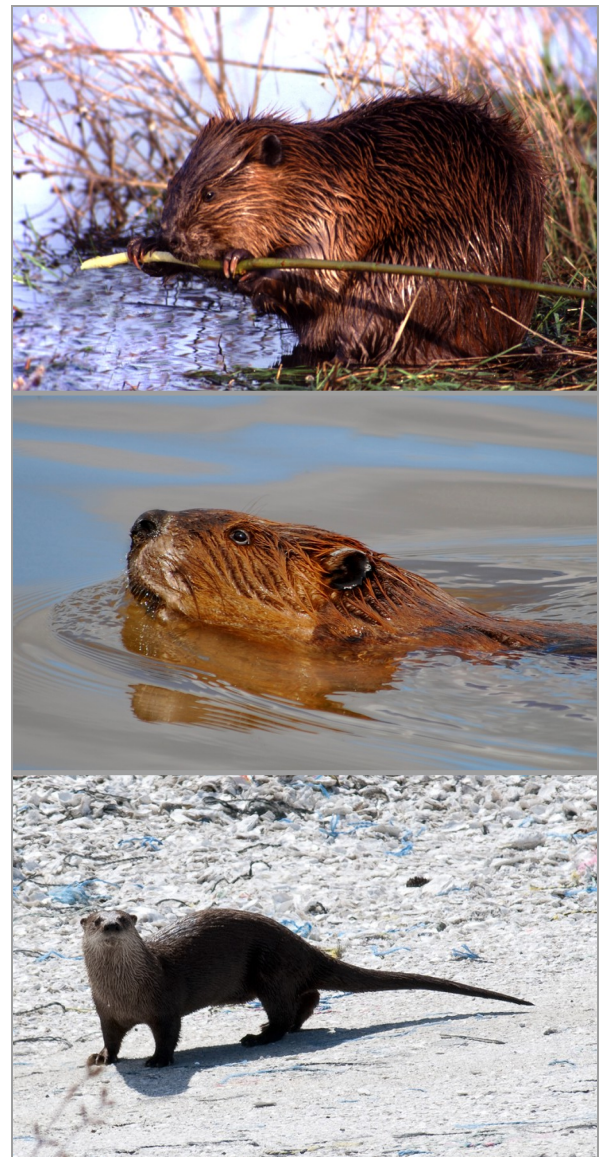
It is hard for humans to even partially realize how much information animals are capable of detecting through their noses. An old Californian mountain man once wrote about the grizzly bear, "Give a griz' one upwind sniff and he can tell you your grandma's maiden name". The old pioneer probably wasn't too far from the truth. We have all heard of dogs tracking animals by following the faint and invisible scent trails left behind, but many animals take this concept even further. Some animals can communicate by both sending and receiving scents. Some of these scents are subtle and undetectable by the human nose, while others are much stronger.

While walking along a creek bank, you may have noticed the musky-sweet scent left by beavers to communicate their presence to other beavers in the area. Other times you may have been suddenly repulsed by a foul stench lifting from a greasy black pile on the ground. These piles are left by river otters to communicate with their neighbors.

Otters are members of the mustelidae family that includes skunks, weasels, and minks. Although the scent-producing glands found in members of this family are most developed in the skunks, all members can produce secretions to be used for various purposes. Skunks use it for defense, but other species use it for communication.

Otters, whether solitary or living in social groups, will viciously defend their territory. They mark their territory with spraints (scented poop) much the same as we mark the corners of our property with no-trespassing signs. The information contained in these scent stations tells other otters about the individual's sex, age, and other key information. If the individual happens to be a female, the same pile may serve as an advertisement for a potential mate. This is important. Without the means to send an aromatic invitation over a distance, males may be hesitant to enter the area and risk being torn to shreds by the territorial female. In this case, the equivalent of months of hu-

*see "Scent," page 3*



**Top:** A beaver demonstrating the use of its strong front teeth. **Middle:** Though they leave many scents on land, beavers spend much of their time in the water. **Bottom:** A river otter shows its characteristically curious nature.



## Sacramento Area Creeks Council

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The Sacramento Area Creeks Council provides information, educational resources, and stewardship opportunities that encourage the protection, restoration, and maintenance of natural streams in Sacramento County. Its goals are to educate the general public on the aesthetic, recreational, and ecological values of natural streams.

The Sacramento Area Creeks Council holds regular meetings, develops educational materials, and participates in neighborhood fairs and public events. It works with schools, neighborhoods, and youth groups to encourage creek cleanups and streambank restoration. It cooperates with city and county efforts to reduce pollution from stormwater runoff. It cooperates with other organizations to monitor developments along stream corridors. Membership is open to anyone who wishes to share in these activities.

Creeks Council meetings are generally held the third Monday of each month at the Arcade Creek Recreation and Park District office. Please call (916) 454-4544 for specific meeting dates.



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## Grant Helps Kingswood Students Learn

*Mini-grants enable local Outdoor Science Education*



**Students learn how to find critters living in Arcade Creek.**

Creeks naturally attract children of all ages. They are just about the right size body of water for easy exploration. With flowing water, wooded banks, a variety of wildlife—combined with a ready-made fascination—local creeks are an ideal resource for teaching science concepts. For the fourth year, the generosity of Creek Week sponsors made funds available for the mini-grant program which empowers teachers to teach students about their local creeks and the many benefits they provide. Grants of up to \$500 help pay for field-trip buses and programs and materials to give students an outdoors, hands-on experience that takes their learning to a more concrete and meaningful level. The Creeks Council is pleased to support creek and wetland education programs in Sacramento County schools.

Kingswood School is an excellent example of these grants at work. During the 2010-2011 school year, many of Kingswood's 7<sup>th</sup> graders participated in an elective class called Outdoor Science Education. There was an emphasis on riparian habitats. On June 6, the class was culminated by a field trip to Arcade Creek in Citrus Heights. Students rotated through stations where they tested water quality and temperature, learned about invasive weed species, and found and identified a variety of critters living in the water and the native vegetation.

Creeks Council board members Frank Wallace and Alta Tura joined the group to add their expertise. Frank pointed out some plant species that are invading and replacing native plants. He also showed the students how to remove one of these invasive species, French broom. The students willingly set to work removing this plant in order to improve the wildlife habitat along Arcade Creek. Alta watched as students worked together to collect water samples and record their data and observations. She was impressed by their curiosity, cooperation, and how skillfully they applied their classroom learning to the field.

The trip will be repeated during the 2011-2012 school year once there is plenty of water in the creek again. ■



**Frank Wallace explains how to remove French broom, a common invasive plant.**

## A Special Relationship

*Pipevine swallowtail butterflies and Dutchman's pipevine plants are connected in important ways.*

This is the first of the 2011/2012 series of articles on insects that inhabit the waters and edges of the creeks, streams, and rivers in the greater Sacramento area. Our subject is the amazing pipevine plant and the pipevine swallowtail butterflies that depend on it. The pipevine swallowtail is mostly black with bright blue spots lining the edges of the smaller pairs of wings.

Like all butterflies, it has a complete metamorphosis. All stages—the egg, the larva (caterpillar), the pupa, and the adult (butterfly)—are visible to the aware viewer. The adult female



**Pipevine swallowtail butterfly.**

lays her eggs on the new leaves of the pipe vine. The eggs are small, about one milliliter, and bright orange. When the larvae hatch, they are about as long as a ladybug and all black. Surprisingly, the hatchlings line up side by side and move down the new leaves chewing as they go. Growing quickly, they shed their skins often, and begin to show bright orange, thorn-like protuberances along their backs. These cause potential predators to avoid them and they are, in fact, toxic. The caterpillars focus on the new leaves as they do not concentrate alkaloids produced by the plant in older leaves as a deterrent to more herbivory.

When the caterpillar is almost completely grown, it begins to chew on the large seed cases, releasing the seeds as the case is opened up. Thus the caterpillar spreads the seeds and the plant nourishes the insect in this symbiotic relationship. Once fully grown the caterpillar prepares a pupal case around itself and is protected all winter. In the spring when new leaves appear, the butterfly



**The Pipevine swallowtail caterpillar eats only Dutchman's pipevine.**

emerges to once again start the life cycle of both plant and insect.

85 percent of all animals in California inhabit riparian corridors at some time during the year. As creek and stream habitats disappear with new development, the future of all riparian species is in danger. It is up to us to continue protecting the little amount of habitat that is left. ■

### *"Scent," from Page 1*

man courtship has been replaced by a few faint odors detected in the breeze. These types of communication are extremely important for animals with short life spans, brief mating seasons, and solitary lifestyles.

We should all admire an animal's ability to communicate through their olfactory senses. So, remember on your next creek visit, that stinky pile on the ground may contain an encyclopedia volume of information.

*Roger Jones, the Senior Natural Resource Specialist at the SRWTP Bufferlands, leads the popular Birds & Blooms tour of the Bufferlands Fishhead Lake mitigation area during Creek Week. He can be counted on to share his breadth of knowledge about the plants, animals and history of the area in an entertaining and informative way.* ■

## A Big Thank You To Our Recent Donors!

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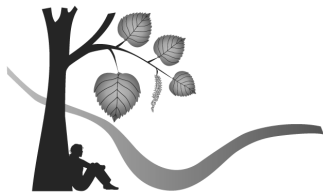
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**Mark Your Calendars for  
CREEK WEEK 2012  
CLEANUP SATURDAY, April 14**



The Sacramento Area Creeks Council is dedicated to protecting and sharing the abundant natural treasures that make up the extensive creek systems of our region. As a member, you will receive many benefits, including our newsletter *Creek Currents*. To become a member or renew your membership, please fill out and mail the form below to: Sacramento Area Creeks Council, P.O. Box 162774 Street, Sacramento, CA, 95816.

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