



Pesticides in Creeks: The Argentine Connection

by Dave Tamayo,
Sacramento County Stormwater Program

A favorite activity of my childhood was collecting big "red ants" (*Pogonomyrmex* sp. harvester ants) and creating ant habitats in a jar so I could watch them forage and dig. Even better, a friend of mine had his very own red ant colony just outside his kitchen door. Every afternoon, as the fence's shadow fell across the colony entrance, the red ants would plug the hole, and a few colony members would be left outside. That's when a swarm of small "black ants" would come in and attack the stragglers.

Years later, I learned that the black ants (really a dark brown) are Argentine ants, officially known as *Linepithema humile*. I'm writing about them in *Creek Watch* because they are linked to one of the most significant pollution problems in urban creeks.



Argentine ants attacking a much larger native harvester ant. (c) Alex Wild

It turns out that efforts to control Argentine ants with pesticide sprays have resulted in toxic amounts of pesticides in urban creeks all over California. Until a few years ago, the pesticides diazinon and chlorpyrifos were used extensively for ants around homes, and were found at toxic levels in creeks almost every time water quality agencies looked for them. Now that these pesticides have been phased out, we are finding their replacements, pyrethroid pesticides, at toxic levels in sediments in many urban creeks.

Stormwater agencies are working hard to let people know about effective alternative methods for controlling Argentine ants in and around their homes.

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Creek Week 2006 Accomplishments



Creek cleaners arrive at the Discovery Science Center celebration site with their "haul" for the Junk and Gunk contest.

This year's Creek Week clean-up took place on Saturday, April 29, and 1,200 volunteers turned out to clean creeks. They removed over 20 tons of trash, improving creek health and stormwater conveyance. Recyclable garbage was recycled. The invasive plants giant reed and red sesbania were removed to reduce flood and erosion problems.

HOW DID IT GET IN THE CREEK?

Here is this year's list of the 10 most interesting items removed by Creek Week volunteers. There is a story behind each one. The story might be one of crime or just a thoughtless act of carelessness. The happy ending is provided by the volunteer who pulled it out of the creek. Thank you to all who helped with Creek Week!

This year's top 10: Bowling ball, cash register, whiskey barrel, socks with plants growing in them, unopened bag of bacon, vintage soda can, boomerang, rabbit cages, opened safe, garage door opener.



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The purpose of the Urban Creeks Council of California is to encourage the preservation, protection, restoration, and maintenance of natural streams in urban environments. The goals are to educate the general public on the aesthetic, recreational, and ecological values of natural streams.

As a chapter of the statewide organization, Sacramento UCC assumes the same purpose and goals. The chapter holds regular meetings, develops educational materials, participates in neighborhood fairs and public events. It works with schools, neighborhoods, and youth groups to encourage creek clean ups 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.

Chapter meetings are generally held the fourth Monday of each month at the Arcade Creek Recreation and Park District office.

Please call (916) 482-8377 for specific meeting dates and times.

Adventures of a Creek Week Site Leader

by Kris Olsen

Leading a site? Sound unappealing? Not at all. I mean, if you are bringing your own crew, you need to juggle maps, e-mails about parking, and possible hazards; but on the upside, you get to boss people around for half a day and they actually listen to you.

This year's adventures began with excellent weather, a beautiful backdrop, plenty of tools and hands to wield them. Our site was Hansen Ranch in Rio Linda.

Being at the bottom of the watershed, where most flotsam goes to die, the area was definitely in need of our attention! As a result, we collected quite an array of interesting "junk & gunk." That would include a giant coke bottle, more than ten tires with rims (who loses a tire with the rim still on it, I ask you?), a huge water heater, a couple of tubes of lip balm, balls of all sizes and states of inflation, a wounded Barbie, your usual helping of recyclables, and an infinite number of styrofoam chunks from those disposable coolers. Not that it means they ever really go away after you "dispose" of them, as I have discovered, they just get smaller. I recommend an immediate intervention for anyone who is seen buying one of those evil things.

In addition to lots of trash, our crew removed a large patch of non-native invasive plants, red sesbania, leaving the area open for native vegetation to flourish in addition to protecting the resident cows from eating the poisonous seed pods.

All in all, this was one Saturday morning where you can tell your friends that you did more before 11:00 a.m. than they did all day. I felt that I had really earned my t-shirt and hot dog by the end! I hope that next year you can join us for another rewarding Saturday morning of community service. Who can turn down a free hot dog & commemorative t-shirt? Sign me up!

Creek Week 2006 Committee



Top row, L - R: Janet Parris, Stan Foey, Rick Bettis, Peter Tucker, Beth Etgen, Jim Merk, Randy Will. Middle row L - R: Julie Mier, Alta Tura, Carolyn Tucker, Jane Steele, Donna Potter, Sarah Ross, Amy van Riessen. Bottom row, L - R: Frank Wallace, LeeAnn Salerno, Sarah Levenson-Palmer, Bill Templin. Not pictured: Jamie Cameron-Harley, Barbara Eggleston, Linda Maurer, Kris Olsen, Bonnie Ross, Patrick Sanger, Cindra Smith, Jeanette Watson.

Cliff Swallows

by Bruce Swinehart

No story of Spring would be complete without mention of the return of the swallows. This romanticized event is familiar to almost everyone. The swallow most often referred to is the cliff swallow, *Petrochelidon pyrrhonota*.

This sparrow-sized bird has the characteristically pointed wings of the swallow but is the only swallow with a square tail. The creamy-white forehead, blackish back and light brown-rump spot make identification positive. The gourd-shaped mud nests are built in colonies under eaves, bridges, etc. Where these places are not available to them, they nest on rough cliffs or almost any other place they can attach their nests to. The availability of mud is an important factor. The fact that the nests are closed on top gives them greater versatility in nesting than the barn swallow whose nest is an open cup.



Brian Gilmore took these photos of cliff swallows gathering mud for their nests in the Yolo Wildlife Area.

Food of this fascinating summer visitor is evidently 100 percent insects. The quantity consumed by a breeding colony is tremendous. Nestlings are fed almost their own weight every day while adults will eat nearly half their weight. Insects are generally caught while on the wing. The beneficial aspect of this species should not be underestimated, and they should be protected at all costs. Large-scale insect spraying can have a disastrous effect on them. They are, of course, protected by state and federal law. The nests also come under legal protection as soon as an egg is laid in them.

The cliff swallows start arriving in central California in February. The peak of the migration is in early May. We find them along our creeks where there are nesting places like culverts, bridges and buildings with eaves. I have not noticed as many birds this year as I have in the past.

The birds spend their spring and summer in nest building, incubation, and preparing the young birds for the long migration to the remote parts of Brazil. The young must be ready for the long migration so the birds are on a narrow time frame. They all leave the area by the end of September.

At Mission San Juan Capistrano, legend has it that they always arrive on March 19th, St Joseph's Day. There are several different legends as to why the birds come on this particular day. Birds that arrive early are either ignored or called "scouts." Natives, however, were hard pressed to define the purpose of the scouts since they certainly did not fly back to South America to warn the other birds. According to the legend, they leave Capistrano on October 23rd, San Juan's Day. This migration was made famous by the song "When the Swallows Come Back to Capistrano." The swallows there are no different than the ones I used to band under the culverts of Highway 50. No one has immortalized them, however, by a song titled "When the Swallows Come Back to the Culverts of Highway 50." Too bad!

We found after years of banding that the birds do come back to nest in large numbers in the place they were hatched. Many even return to the same area on the walls of the culvert or bridge. These are fascinating little birds, and I am pleased our creek preservation policies encourage them.



And the Award Goes to...Calvine High School

Calvine High School received the Creek Steward award for their study of Strawberry Creek in south Sacramento County and Elk Grove. They have conducted water quality tests, surveyed plants and animals and compared the results on two different creek stretches. One section of creek has been straightened and lined with concrete to allow development to come close to the creek. The other section of creek, just downstream, has been given more room and is more natural. The students' field experiences, observations and data are used in various areas of the school curriculum. Two Calvine students, inspired by the school's creek studies, read their essays at the Creek Week Splash Off event. We would like to share some of their words with you.

Taking Steps: Strawberry Creek by *Esteban Campos*

All throughout the history of mankind, we have been known to grow in population. When our population grew, so did our achievements. Brilliant minds arise and make differences. Good-hearted souls serve their community, and many other great things happen in a large population. But, as a way of life, with the good achievements come sacrifices. What happens when we destroy something that is part of the land's history due to population demands and personal desires to profit? When we satisfy our desires, we usually don't think of the collateral effects that may take place afterwards. Unfortunately, this is also well known in mankind's history.

Did you know that the last global assessment for rainforests' productivity was in 1990? An area of about one hundred-fifty thousand square kilometers of rainforest, equivalent to the size of Wales, was being destroyed every year. This figure is believed to have increased in the last year. It sometimes takes statistics like these for us as people to rethink our intentions and causes.

These facts that are presented to you are not to try and convince you that Strawberry Creek is a one hundred-fifty thousand square kilometer rainforest, but rather to express what we are really destroying. We are truly destroying ourselves. No matter what damage we do to the earth, the earth will adapt and evolve with the damage it is taking, it does not mean the earth has to evolve with us.

Let Strawberry Creek stand as a natural monument of our community's respect and appreciation of all the natural gifts that were freely given to us. Let our youth from Calvine High School clean and care for the land, let us be of service to our community, and let's all take a small step for big opportunities.

Strawberry Creek by *Elizabeth Cavazos*

Calvine High School students are making one of the many contributions to the preservation of life by visiting Strawberry Creek. Strawberry Creek, like most creeks in California, has been polluted. Consequently, water has been contaminated and millions of organisms have been exterminated. Examining and cleaning the polluted water at Strawberry Creek will be very valuable and necessary for the environment. Not only does pollution affect the environment, but it also takes a toll on life in general.

First and most importantly, all creatures on this earth have the right of existence. Although humans are the dominant species, all other living things have just as much right to live as we do. Would you like it if someone invaded your living space and started dumping trash everywhere? Polluting the habitat of various creatures has a ripple effect on everything and everyone. For example, once a river or lake is contaminated, many fish and sea animals die. Fish are the main food supply for bears. If bears don't have anything to eat, they also then become extinct. In addition, every organism has a purpose as one of God's many beautiful creatures.

Water is the most common substance on earth and very important to our everyday lives. On the average, each person in the United States uses about 70 gallons of water a day in his or her home. Water is also needed for power, industry, irrigation, transportation and recreation. Our rivers, lakes and creeks supply the water. We should preserve water instead of polluting it. No one wants to live around dirty, smelly, polluted water that contains germs or chemicals. Polluted water can spread typhoid fever and other diseases. Pollution prevents people from using and enjoying water for recreation, and the risk of disease makes polluted water unsafe. In conclusion, the more pollution there is, the less chance we have of enjoying life to the fullest.

All in all, testing the water in Strawberry Creek and cleaning the environment will bring mankind one step closer to solving this problem.

Pesticides... (continued from page 1)

"Argentine" reflects the fact that these ants originated in South America. An invasive species in California for over 100 years, they have few natural enemies and are responsible for aggressively displacing native ant species. They are spreading almost unchecked in urban areas and irrigated agricultural lands. In the Sacramento Valley, indoor swarms occur mainly when the weather gets really hot outdoors or when it starts to rain. Both of these conditions encourage the ants to seek more favorable conditions indoors. In the summer they run out of honeydew outdoors and come indoors looking for food and water. In the winter, they are seeking shelter from rain and cold.

I really like insects, but I draw the line at the familiar black swarm covering virtually every square inch of the kitchen counter. So what will really work to get them out and keep them out of the house? First of all, spraying insecticides on ants indoors may kill those that you can see (less than 10 percent of the colony), but it is not an effective strategy for long term control, and results in unnecessary pesticide exposure for you. Likewise, spraying the perimeter of your home on a monthly basis for "prevention" is the primary source of pesticide toxicity in local urban creeks and is not the most effective method to control ants.

The best method for immediate relief from the swarm in your kitchen is to use a spray of dish soap and water or citrus cleaner to wipe them up. To reduce future infestations, clean up food and water sources that are attractive to them. Exclude ants from your home by finding and sealing the cracks and holes where the trails are coming in. They will look for alternate routes, so this may take some patience and persistence. Some people choose to use insecticidal baits that are designed for ants, and they can be very effective while using a small fraction of the amount of pesticides that a spray would contain. Properly placed, pre-containerized baits will also reduce the chance of people coming in contact with the pesticide, or the pesticide being washed away down the storm drain. These methods do take some time and effort to be effective, but the end result is longer term control with less pesticide use. More information can be found at <http://www.sacramentostormwater.org/ssqp/ants/>

For those of you more inclined to hire out this type of work, the Sacramento Stormwater Partnership is participating in the development of a program called EcoWise, so that you can easily identify pest management professionals who can control ants using these techniques. EcoWise should be available by this fall, so keep watching Creek Watch and our website for future announcements, or you can contact me at 916-874-8024 for more information.

Creek Week Snapshots

photos by Betty Cooper



**CONGRATULATIONS
EVERYONE ON A JOB
WELL DONE!**



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