

# Friends of Pinole Creek Watershed



A Publication of Friends of Pinole Creek Watershed

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PHOTO COURTESY SAN FRANCISCO ESTUARY INSTITUTE

## Did you know?

Contra Costa County spends nearly \$1 million each month cleaning up debris (county-wide) that has been illegally dumped along our back roads.

Pesticide run-off from gardens is one of the highest concentration of pollutants in our streams and creeks.

To report spills in the creek: call (510) 724-9010 or (800) NO DUMPING.

## Gullies, and landslides, and headcuts—oh my!

During the 2005–06 wet season, the San Francisco Estuary Institute worked with the Contra Costa RCD, USDA Natural Resources Conservation Service, and EBMUD to complete an assessment of the Pavon Creeks sub-basin, a tributary to Pinole Creek. *By Sarah Pearce, Lester McKee, and Seth Shonkoff*

The 2005 Pinole Creek Watershed Sediment Source Assessment identified the Pavon Creeks sub-basin as a significant source of fine-grained sediment supply. This current study was designed to determine the dominant physical processes contributing to the excess sediment and to collect baseline data on locations and rates of the most significant erosion. The data will help land managers understand this unique sub-basin, and can be used in the future to help aide the design of creek and bank restoration.

Pavon Creeks, four adjacent small watersheds, is currently experiencing

a period of rapid adjustment, marked by incision and erosion of the existing channels. In addition, portions of the upper watershed contain landslides, sometimes contributing large volumes of sediment directly into the channel network. This channel network is comprised of gullies, or small, steep-walled, elongate depressions cut into the valley floor that have incised a pre-existing channel, and demonstrate instability of the basin, whether due to natural causes (climate, tectonics) or land use. Each of these gullies has one, or a series of headcuts, or locations

where the gradient of the channel changes abruptly, typically a 2 to 3 foot vertical drop.

The field team collected data to determine the rate of channel incision, bank erosion, and headcut retreat rates over the course of the wet season. Pavon Creeks is surprisingly active, with some channel reaches displaying rapid erosion rates. For example, the gully on the west side of Castro Ranch Road was measured as incising (getting deeper) by 2.5 feet, with banks that laid back (became less steep) up to 5 feet. Also in this same location, a headcut was measured as retreating (extending upstream into the pasture) over 53 feet. While these were some of the most dramatic erosion rates measured, overall many of the locations did display some amount of erosion. The exception was a short reach in the middle of the sub-basin where the channels aggraded (became less deep) as sediment supplied from landslides and bank erosion further upstream was temporarily deposited.

The study concluded that the Pavon Creeks sub-basin is currently very active, and is in-fact contributing large volumes of sediment to Pinole Creek, likely due to a combination of the erosion-prone underlying geology and soils, and of the long history (over 100 years) of land use on the site. Recommendations of specific locations and types of stabilization efforts or restoration activities that have the greatest likelihood of success are provided, in order to provide support and scientific data to future management of the sub-basin.

Sarah will make a full presentation of data at our August FOPCW meeting.

**The photograph clearly illustrates an actively retreating headcut on one of the Pavon Creeks gullies.**

# Meetings, News & Events

JUNE 24 9 a.m.–NOON

## **Demonstration Garden Work Party**

The Friends of Pinole Creek Watershed's Demonstration Garden behind the Pinole Library will be the setting for our June 24 work party. Bring your enthusiasm and energy; we'll provide gloves, bags, and an assortment of tools—plus, drinks and snacks. Help restore this once thriving little corner of Pinole. For questions about the workday, or if you are under 18 years old and need a parental permission form, please contact Tim at [tmcd945@yahoo.com](mailto:tmcd945@yahoo.com)

## UPPER WATERSHED CLEAN UP

On Saturday, May 27, several members of the FOPCW tackled the discarded debris that accumulated along the upper watershed area of Pinole Creek. Due to the considerable amount of poison oak along the banks, the group mainly picked up debris along the road, beginning at Bear Creek Road and going for a little over a mile along Alhambra Valley Road.

The majority of items bagged were beer bottles, plastic water bottles, and junk food wrappers. Construction debris and bagged yard waste was also in abundance. Sadly, much of this ends up along our back roads and in our watersheds, not at a regulated dump. When hiring someone to haul yard debris or construction waste, please ensure that you and the contractor are aware of the location and operating hours of the dump.

JULY 4 FIREWORKS IN PINOLE

At dusk, on Tuesday, July 4, at the mouth of Pinole Creek, where the creek meets the bay, you can watch a spectacular show of fireworks, put on by the cities of Pinole and Hercules. Bring a chair, and perhaps a warm jacket—and walk, if you can—parking and traffic can be difficult.

## RECAP OF JUNE 5 FOPCW MEETING

At the June 5 meeting of FOPCW, Beth Pardiek spoke on the Muir Heritage Land Trust and their recent acquisition of the Fernandez Ranch. This 700 acre parcel doubles the number of acres that the Trust manages in Contra Cost County. The Fernandez family members were eager to work with MHLT to preserve the land which also contains a number of endangered animals and plants. The Trust is in the process of planning habitat restoration, improving fire safety, and creating visitor parking. Although this parcel is not yet ready for public access, most of the other land the Trust protects is available for hiking, docent led walks, and environmental education programs.

Karin Korda was also present at the meeting and filled us in on her activities with the Rodeo, Refugio and Carquinez watersheds. She is working with Kids from the Bay, the California Native Plant Society, local Boy and Girl Scout troops, and the Conoco refinery, as well as habitat restoration projects and environmental

education. One of her programs involves leading 20 hikes with youth ages 14–18. In addition, the youth will participate in GPS monitoring and water quality testing. Karin is also the propagation coordinator for CREEC, which collects and propagates seeds for restoration projects (including our very own Pinole library project).

## UPCOMING EVENT

### **2007 Watershed Calendar**

The Contra Costa County Watershed Program is once again producing their watershed calendar for 2007, featuring color photographs of Contra Costa County. Each month will focus on different aspects that relate to our watersheds—landscapes, the environment, and wildlife. The calendar will go to about 50,000 homes in unincorporated Contra Costa County. If interested in donating photographs for the 2007 calendar, contact John Finger at (925) 945-0612 or [jfinger@FingerArt.com](mailto:jfinger@FingerArt.com). Deadline is the end of June, 2006.

### ANOTHER GREAT KIDS CREEK FEST!

We had beautiful weather, fabulous booths and activities, a cleaner creek, and plenty of smiling children. Special thanks to Bert Mulchaey, Sarah Pearce, Betsy Coggins, Carol Thompson, Craig Barnes, and Dr. Joe Mariotti for their help in making this day possible. For more information or to volunteer, call (510)741-8336 or e-mail [carolt@futuregraphics.com](mailto:carolt@futuregraphics.com).



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**NOTE: there will be NO FOPCW meeting in July. Our next meeting will be in August. Sarah Pearce will be our guest speaker. Time and location to be announced in July newsletter.**

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To learn more about Friends of Pinole Creek Watershed, please visit our website at [www.PinoleCreek.org](http://www.PinoleCreek.org).