



Winter 2017

# SPAWNERS

*San Pablo Watershed Neighbors Education and Restoration Society*

## The Timescales of Urban Creeks

by Helen Fitandis

This winter, we are giving thanks for all the rain that has come our way. Our reservoirs are full, and we're happy to see water in the creeks! After a significant drought, just what does rain mean for our urban creeks?

Rain creates runoff. When rain falls in natural areas a small part of it is absorbed through the topsoil, recharging the groundwater, while the rest follows gravity and runs downhill. It may find hollows or ditches to accumulate in, allowing more rain to sink into the groundwater, and the remainder flows to the creeks. If there is loose soil or detritus around, the rain will take that along too. It's normal for creeks to get bigger during storms, and it's also normal for some erosion to occur.

In urban areas with a lot of impervious surfaces, however, things can escalate quickly. **The timescale here is a matter of hours.** Falling rain finds mainly houses, streets and sidewalks, none of which will allow it through to the ground, and thus the vast majority of the rain moves very quickly to the creeks. It takes with it anything that's built up on the ground, including pet waste, oil, trash, fertilizer, pesticides, and more.



Pinole Creek washed out Alhambra Valley Road during a recent storm



The Watershed Project's bioswales on the Richmond Greenway

Urban creeks are often called "flashy," referring to the flash flood conditions that can occur, and significant erosion and harm can result. Bioswales and rain gardens are a couple of great ways to make urban areas act more like natural ones. By allowing large amounts of rain to sink through the soil, such projects help with retaining some of the runoff and result in more groundwater recharge.

In addition to impervious surfaces, urban areas create another issue for creeks. California waterways have more than 1,400 dams or diversions altering their natural path. Dams create fish passage barriers, in addition to drastically changing the flow pattern of creeks: either the flow of water stops altogether, in which case the creek ceases to exist, or the discharge is set to a small but steady flow that doesn't change throughout the year. While it may seem intuitively that some water all the time would be a good thing, it's actually more complicated than that!

Natural creeks have cycles. In the California summer, rain is scarce and flows are low, coming mainly from the groundwater. Creek inhabitants adapt by moving to better habitat or burrowing in the creek bed. In the winter, rain makes the creeks flow high, and the creek critters come out in force.

**The timescale here is measured in months or years.** An ecosystem that's used to seasonal changes gets very confused when faced with a low, steady stream of water all year round. Natural flow cycles act as a cue for a variety of creek inhabitants, from tiny bugs to fish and everything in between. In addition, many fish such as trout need cold, fast-flowing water to survive; lower flows mean slower, shallower creeks, and more extreme changes in temperature from day to night and through the seasons.

Many groups in California are advocating for dam removal or for more ecologically relevant flow discharge. In 2016, Pinole Creek gained a fish ladder, which now connects the fish habitat above and below Highway 80. We might accomplish something similar by eliminating drop structures in San Pablo Creek.



Pinole Creek's new fish ladder

### Helpful numbers

Broken hydrant or street flooding: 1-866-40-EBMUD  
Debris dumped in the creek: 1-800-No-Dumping

## Calendar of Events

### *Community Work Parties*

*Saturday, Feb. 18 & Mar. 18 from 9:30am-noon*  
*Wilkie Creek Restoration Site*  
*Near 4805 Santa Rita Road, Richmond*

Help maintain our Wilkie Creek site! We have many happy weeds growing in our native plant garden; help us pull the bad and reclaim the good.

### *February Public Speaker*

*Debbie Viess on Mushrooms in the Garden*  
*Thursday February 23 from 6-8pm*  
*El Sobrante Library Community Meeting Room*  
*4191 Appian Way, El Sobrante*

The Bay Area Mycological Society's Debbie Viess will teach us about the fascinating variety of mushrooms we find in our own gardens.

### *April Public Speaker*

*Doc Hale on Wildlife of the East Bay*  
*Tuesday, April 4 from 7-9pm*  
*Hope Lutheran Church \*Note venue change\**  
*2830 May Road, El Sobrante*

Join SPAWNERS as we learn about the fascinating wildlife of the East Bay from noted biologist and speaker Jim (Doc) Hale! Note that we have new venue while the El Sobrante Library is under construction.

### *SPAWNERS Earth Day*

*Saturday, April 22 from 9:30am-12:30pm*  
*Elk's Lodge \*Note venue change\**  
*3931 San Pablo Dam Road, El Sobrante*

Spend Earth Day cleaning up your local creek! Meet us at the Elk's Lodge at 9:30am to pick a stewardship project. All working volunteers will be rewarded with lunch at noon. RSVPs are appreciated; please send yours to [helen@thewatershedproject.org](mailto:helen@thewatershedproject.org).

# Photos from the Watershed: Sobrante Ridge Regional Preserve

by Gudrun Kleist



Pallid Manzanita (*Arctostaphylos pallida*) that began blooming in November, to the delight of bumblebees, butterflies, and hummingbirds.



Western hounds tongue (*Cynoglossum grande*).



Mountain lion paw print found in December.



Indian Warrior (*Pendicularis densiflora*).