



February 8, 2008

To: Dawn Calciano
Program Director
Putah Creek Council

Re: Water Flow Survey in Dry Creek / Enos Creek

Background:

In the spring of 2006 I collected 9 invertebrates in the recently-realigned "Design Channel" that were new to the list of aquatic species occurring in Putah Creek. I suspect they occurred historically in the waterway below Monticello Dam. Because the invertebrates are a primary food source for salmonids they are important to the overall restoration of Putah Creek.

The most likely source of the invertebrates are two intermittent creeks - Dry Creek and Enos Creek. Enos Creek is a major tributary of Dry Creek. Dry Creek enters Putah Creek near the City of Winters. A 2007 grant from the Rumsey Community Fund was designed to document the source of the invertebrates. Unfortunately, the lack of rainfall in 2007 did not allow for aquatic surveys in Dry-Enos watershed. Twenty inches (2008 to date) of rain in the upper Dry-Enos watershed will allow some invertebrate investigations to be completed this year.

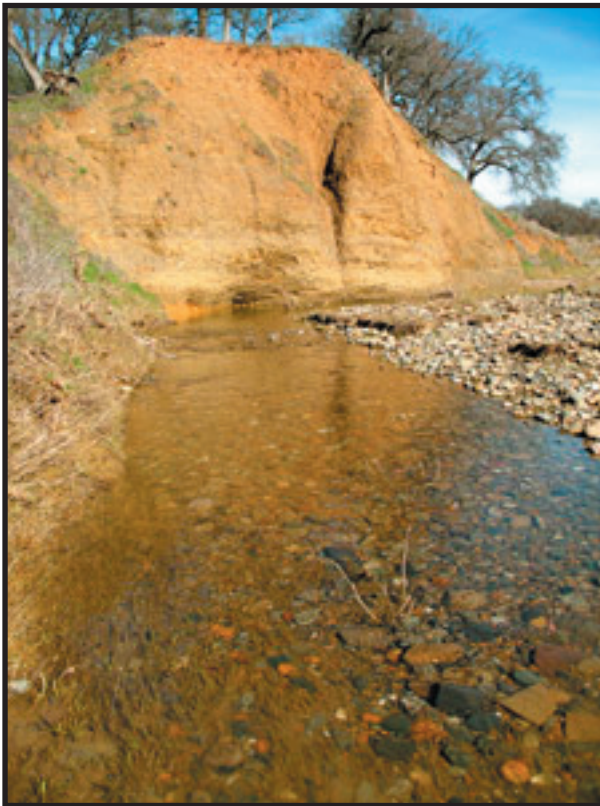
Survey Report:

On 2/8/08 I surveyed a significant stretch of Dry Creek (upstream from confluence with Enos Creek) and a one-half mile reach of Enos Creek. The purpose of the survey was to determine if enough water was flowing in the Dry-Enos Creek watershed to support a population of temperature-sensitive invertebrates that might resupply the community in Putah Creek.

Lower Dry Creek Watershed: The surface flow does not make it to the confluence with Putah Creek. I did not determine the terminus of the surface water flow.

Enos Creek:

After two significant winter storms, the water flow in Enos Creek (Audubon enclosure) is more than sufficient to support larval mayflies, stoneflies, and caddisflies. The one-half mile reach that I surveyed is comprised of a continuing series of deep pools (3-6 feet deep), riffles, and shallow runs. The



Enos Creek - Waterflow (riffle) on 2/8/08



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cobble is basically free from sedimentation which is essential for the production of the "Design Channel" invertebrates. The habitat in Enos Creek is ideal for the survival of the aquatic invertebrates. I suspect if the invertebrates are being produced in the Dry-Enos Creek watershed, they are coming from the Enos Creek tributary.

Although I did find many small black fly larvae (Simulidae) in Enos Creek, it's still too early in the year to find most aquatic invertebrates.

Dry Creek:

Dry Creek has surface flow in the upper reaches, but disappears before the confluence with Enos Creek. The upper Dry Creek watershed also has a component of cattle that will possibly interfere with the survey area. Dry Creek does not appear to offer the deep pools that might be necessary for keeping the bed wet during the invertebrate emergence period.

Protocol:

Because this is a study to determine the suitability of the Dry-Enos Creek watershed for producing aquatic invertebrates, I will identify and set up the following in the primary watershed - Enos Creek:

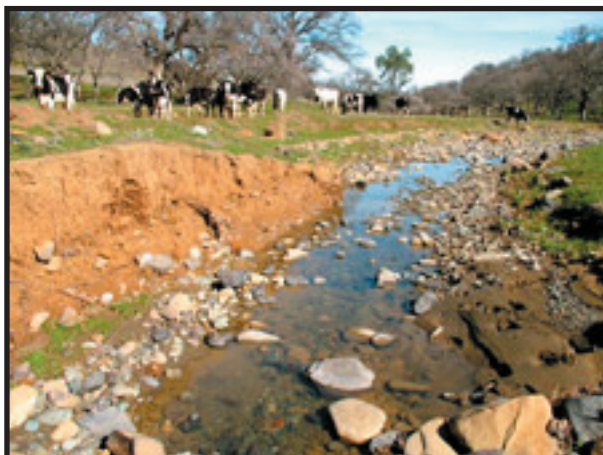
1. Six riffle / run sections for routine monitoring.
2. Protocol to monitor at least three of the six sites every two weeks.
3. Yellow "sticky trap" adult insect traps



Enos Creek - Waterflow (pool) on 2/8/08

Recommendations:

1. The importance of this project dictates that we limit the initial surveys to myself, Pat Randolph, PCC staff, and only the trained members of the Putah Biomonitoring Team.
2. We train the volunteer biomonitoring team after the initial surveys.
3. Remind all participants that the upper Dry / Enos Creek watershed supports a healthy rattlesnake population. Anyone working in the area should wear a pair of snake gaiters.



Upper Dry Creek - Waterflow on 2/8/08. Note cattle.

Ken W. Davis
Aquatic biologist