

Aquatic Insects at Sausal Creek: An Update

As you may recall from the previous monitoring update (see volunteer section of FOSC's website), aquatic insects are indicators of stream health. Of particular interest are the Ephemeroptera, Plecoptera, and Trichoptera (EPT), commonly known as the Mayfly, the Stonefly, and the Caddisfly. A high ratio of EPT families to other aquatic invertebrate families indicates good stream habitat. Within the EPT Orders, we look for a variety and abundance of representatives to indicate a healthy level of trophic (feeding groups) and habitat types.

The spring counts are the most significant in terms of finding trends, therefore our analysis will highlight data collected from the Sausal Creek channel restoration area for the months of March through May. The spring sample sizes at Sausal Creek have decreased by one-third annually since the channel was modified, perhaps due to lack of food sources: the light vegetative cover and the new rock in the streambed may be a limiting factor on the number of insects that can be supported within the stream.

Over the years, Sausal Creek has seen its ups and downs in the proportion of EPT to the total number of organisms in our sample. In 1998, that proportion was 48%. It fell back to 21% following the sewer pipe repair and replacement and 10% following the channel restoration. As of March 2004, it was back up to 91%.

The diversity of invertebrates at Sausal—once at a high of 14 Families—decreased in 2004 to only three. However, over time the Baetid (Ephemeroptera) has displaced the flies (Diptera) and worms (Oligochaeta) as the most abundant organism. The Baetid is the most pollution-tolerant member of the EPT Orders and its presence is primarily responsible for the rise in the EPT ratio. While the number of insects in our sample has gone from 1,002 to only 112 since 2002, we are pleased to note that beneficial insects are outnumbering the fly larvae.

Once again, Sausal Creek is in fair condition. There is certainly room for improvement, but we are hopeful that this part of the channel will mature into a lively habitat. Perhaps this spring's sample will include a number of other members of the EPT Orders.

Please stay tuned: A full report of our findings with data tables will be available soon on our website.

--Emma Brown