

January and February Insect Monitoring: Bioassessment of Sausal Creek Continues

The bioassessment team has been busy in the New Year monitoring the health of the creek by sampling for benthic macroinvertebrates--insects and other organisms without backbones that live in the creek. We've done repeat sampling at sites in Dimond Park, and we've started monitoring a "reference site" in Joaquin Miller Park. The results show some interesting trends.

January: Two sites in Dimond Park show very different insect counts

On January 8, eight volunteers performed samplings of Sausal Creek for aquatic benthic macroinvertebrates in a continuing effort to assess the overall health of the creek. Benthic macroinvertebrates (BMI's) are animals without backbones, such as insects, worms, and snails that live in the creek for some or all of their life cycle.

We sampled two separate sites in Dimond Park: a section of the creek just below El Centro across from the Tot Lot, and a section below Wellington Street on the other side of the culvert. This site is of particular interest to us because of the upcoming daylighting of the section of the creek below Wellington Street. We want to get good before-and-after samples to see what effect the restoration has on that section of the creek.



The Wellington site team: Lou, Amit, Travis, and Gene
Not shown, the Tot Lot team: May, Michelle, Carol, and Kathleen

The sampling consisted of three "kick samples" at each of the locations. To perform a kick sample, one volunteer positions a net across an area where the water is flowing nicely. Then a second volunteer disturbs the area just upstream of the net, moving the rocks, and digging fingers into the sand and sediment to get all of the small invertebrates that live in the rocks and sand into the net. Next, the net is emptied into a bin, and the invertebrates are sorted and counted. Finally, the invertebrates are placed back into the creek.

We found interesting differences between the two sites, even though these sites are not that far apart. Here's what we found (and here's a link to an EPA document that more fully explains what we're doing here, <http://water.epa.gov/scitech/monitoring/rsl/bioassessment/ch07b.cfm>):

	Below Wellington	Tot Lot
Total BMI's (all of the organisms we saw)	28	238
Total insects	10	205
% insects	36%	86%
EPT total (Ephemeroptera/ Plecoptera/Tricoptera–sensitive families of insects)	3	155
% EPT	11%	65%
Total Taxa (total different types of Organisms seen—an index of diversity)	8	12

Based on our data, it would appear that there are far fewer organisms below Wellington and that the types of organisms differ between the two sampling sites. However, this is only one sample. We need to repeat the sampling at these sites to verify the data and to try to learn why these differences occur.

February: Sampling in Joaquin Miller Park and first repeat of Below Wellington sampling

On Sunday, February 5, seven team members split into two groups, one to repeat the sampling at the Below Wellington site, the other to sample an area in Joaquin Miller Park that was part of the bioassessment effort in 1998-2006. The Palo Seco site is away from roads and culverts in an area with few structures and good native plant cover, so we chose it as our reference site--a site that represents the creek in a relatively undisturbed state. The findings here will show what the state of the creek could be without all of the changes to the environment that the lower reaches of the creek have suffered.

We expected to see a difference between the two sites, and indeed the Palo Seco team found many more organisms and much more diversity than the Below Wellington team. Though the numbers were higher than before, we confirmed our January finding that the Below Wellington site does not have the quantity or diversity found at other sites in the watershed. It has probably been adversely impacted by its location in a busy park with runoff from nearby streets and houses.

	Below Wellington	Palo Seco
Total BMI's (all of the organisms we saw)	77	248
Total insects	68	232
% insects	88%	94%
EPT total (Ephemeroptera/ Plecoptera/Tricoptera–sensitive families of insects)	66	226
% EPT	86%	91%
Total Taxa (total different types of Organisms seen—an index of diversity)	8	13

Of course, more data is needed. The next sampling date is Sunday, March 4, beginning at 9:00 a.m. We provide equipment and training in identifying the organisms. We plan to sample the Tot Lot section of the creek as well as a section in Dimond Canyon on the east side of El Centro.

You can join us! Contact Kathleen Harris at kathalini@comcast.net.