

FAUNTLEROY CREEK BENTHIC STUDY

ARBOR HEIGHTS ELEMENTARY SCHOOL, OCT. 20, 2009 Sandy Kennewick, teacher

OBJECTIVES

For the niOctober, intermediate students from Arbor Heights Elementary School performed a data-collection survey in upper Fauntleroy Creek at Fenton Glen. The goals of this project are to teach students the elements of a healthy watershed, to enhance observation skills, to demonstrate how to be stewards of the local watershed, and to help evaluate the general health of the creek.

METHODOLOGY

With their teacher and a watershed volunteer, 25 students participated in data collection, as well as plant identification, photo documentation, and illustration of the site. They followed informal scientific protocol to gather and identify macroinvertebrates. Students also measured water temperature and depth and estimated channel width at the collection site. Students also observed plant species and many other features of the area.

STUDY OBSERVATIONS

Water temperature continued a pattern of being warmer than 50 degrees F, the maximum temperature for a healthy salmonid habitat. Depth at the lowest point was higher than most years and channel width was typical.

Total macroinvertebrate count was the highest during this multi-year study. Indicators of good-quality water (mayflies and stoneflies) totaled more than most years. Mayfly larva were too small to measure with any certainty. Stonefly larva were under 2 cm.

HABITAT OBSERVATIONS

Five maple trees were growing 10-20 feet away from the creek and most of the leaves were still on. Douglas fir trees were farther back. Rotting logs were in the background, with moss and sword ferns living on them. The air smelled damp.

The creek was crystal clear in some areas and slightly muddy in others. The stream bottom was a combination of mud, sand, and clay-like material. Moss and clumps of leaves were there, along with some travel, twigs, old wet logs, and a metal grate (trash rack over culvert entrance). Creek banks were eroding because of the lack of plants and because of people walking there.

STUDY CONCLUSION

Fauntleroy Creek is clean because their research indicated that mayflies (the most abundant larva found) cannot live in polluted water but other creatures can.

RECOMMENDATION

Plants that are native to Fauntleroy Creek are needed to repair and stop erosion along creek banks.

HABITAT CONDITIONS

	2002	2003	2004	2005	2006	2007	2008	2009
Dissolved oxygen	8 ppm	8 ppm	-----	8-10 ppm	-----	4 ppm	8 ppm	
Nitrite	0 ppm	0 ppm	-----	-----	-----	5 ppm	5 ppm	
pH	-----	-----	-----	-----	7.8	8	8	
Phosphates						>1 ppm	0	
Water temp.	52F/11C	50F/10C	55F/18C	59F/15C	57F/14C	55F/13C	50F/10C	56F/24C
Water depth	6 cm	4-7 cm	8 cm	5-1/4 cm	?	17 cm	11 cm	15.2 cm
Channel width	.76 m	1 m	1.25 m	1.12 m	?	.72 m	1.5 m	.9 m*

MACROINVERTEBRATES

	2002	2003	2004	2005	2006	2007	2008	2009
Stonefly larvae	4 (>1.5 cm)	3 (>.5 cm)	3 (>1.5 cm)	2	3	1	6	3
Mayfly larvae	6 (>1 cm)	2 (>.5 cm)	2 (>1 cm)	0	0	5 (>.25 cm)	0	7
Caddis fly larvae	1	1	1	3	0	2	2	0
Worms	1	1	1	4	4	1	3	2
Black fly larvae	0	2 (>.5 cm)	0	0	0	0	0	1
Midge fly larvae	0	2 (>.5 cm)	0	0	0	0	0	0
Too small to ID or unable to ID					4	0	1	0
Total count	12	11	7	9	11	9	12	13

*Estimate