FAUNTLEROY CREEK BENTHIC STUDY

LOUISA BOREN STEM K-8, OCT. 22, 2020 Christina Massimino, teacher

OBJECTIVES

Students from Louise Boren STEM K-8 sampled sites in upper and lower Fauntleroy Creek for benthic macroinvertebrates (BMIs) and reported the findings. Because of the coronavirus pandemic, one small team of middle schoolers did the sampling and another small team of fourth graders did the analysis and reporting. Students gained experience in

- employing teamwork to execute an established scientific protocol
- making site observations
- documenting their work
- posing and answering questions based on their findings
- evaluating the experience with an eye toward improvements
- presenting a summary to watershed representatives.

METHODOLOGY

With their teacher, chaperones, and watershed volunteers, the sampling students followed scientific protocol to collect BMIs using a Surber sampler. The team took one sample near the church/YMCA in the upper creek and one several yards upstream of the fish ladder in the lower creek. The upper site is directly downstream of where all creek tributaries come together to form the main stem. Samples were taken in a riffle, with gravel in the frame stirred for one minute.

The team separated sample elements into shallow trays and used a dichotomous key to identify the macroinvertebrates they saw with the naked eye and hand-held magnifying glasses. The team also noted weather conditions and water temperatures at each site. A parent took photos of the action.

Because of difficulties associated with online schooling, the teacher worked with a second small team to analyze findings and report to members of the Fauntleroy Watershed Council members during a special Zoom session on March 4, 2021.

FINDINGS

	2015		2016		2018		2019		2020	
	Upper	**Lower**	**Upper**	**Lower**	**Upper**	**Lower**	**Upper**	**Lower**	**Upper**	**Lower**
Stonefly larvae		2			1		2	2		4
Mayfly larvae	1	5				1			1	
Caddis fly larvae	1	19								
Aquatic worms	1	5	1	7	1	2	2			2
Black fly larvae										1
Midge fly larvae										
Water penny									1	
Beetle larvae										
Riffle beetle										
Snail		4				1				
Too small or unable to ID	2				1	3				1
Total	**3**	**35**	**1**	**7**	**3**	**7**	**4**	**2**	**2**	**8**

The team noted dry weather conditions and water temperatures at about 12^{o} C at each site.

CONCLUSIONS

- A variety of BMIs were in samples collected at both sites, suggesting that juvenile salmon have food at both locations.
- The data show more BMI's in the lower creek than in the upper creek.
- Even though the upper creek had a lower number of BMIs, the presence of those what were found (mayfly and water penny) suggests relatively healthy water quality because those BMIs live only in healthy water.
- The lower creek had both an abundance and variety of BMIs.

RECOMMENDATION FOR NEXT YEAR

If time permits, sample each location multiple times per year to see if abundance and/or diversity varies.