FAUNTLEROY CREEK BENTHIC STUDY

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OBJECTIVES

Fourth-grade STEM students from Louise Boren K-8 sampled sites in upper and lower Fauntleroy Creek for benthic macroinvertebrates (BMIs) and this report summarizes their findings. A class of 23 students gained experience in

- employing teamwork to execute an established scientific protocol
- making site observations
- recording data
- posing and answering questions based on their findings
- evaluating the experience with an eye toward improvements.

METHODOLOGY

With their teacher, chaperones, and watershed volunteer Shannon Ninburg, the students followed scientific protocol to collect BMIs using a Surber sampler. The class took samples at two riffle locations in Fauntleroy Creek. One was near the church/YMCA in the upper creek directly downstream of where all creek tributaries come together to form the main stem. The other was in the spawning reach, several yards upstream of the fish ladder in the lower creek.

At each site, a collection team positioned the Surber sampler and stirred the gravel for one minute. An environmental team collected data on air and water temperature, water depth, and weather conditions. A sorting team separated sample elements into shallow trays and used a dichotomous key to identify the BMIs they saw with the naked eye and hand-held magnifying glasses. Adults took photos of the action.

Because of issues with bus service, students arrived late, so activities had to be shortened. Because of class size, students were split into two groups at each site, with one taking a “story walk” with a teacher and the other doing the benthic study. Groups switched roles at the lower creek site.

Shannon visited the school in advance to give the class a short presentation about BMIs. At the conclusion of on-site activity, she and fellow volunteer Judy Pickens walked the students through a short verbal report of their findings.

FINDINGS

	2018		2019		2020		2021		2022	
	Upper	**Lower**	**Upper**	**Lower**	**Upper**	**Lower**	**Upper**	**Lower**	**Upper**	**Lower**
Stonefly larvae	1		2	2		4	**1**	2	3	1
Mayfly larvae		1			1		4	**1**		4
Caddis fly larvae								**5**		
Aquatic worms	1	2	2			2	**1**			2
Black fly larvae						1			1	
Midge fly larvae										2
Water penny					1			**2**		
Beetle larvae										
Riffle beetle										
Snail		1								
Scud								**1**		
No ID	1	3				1		3		
Total	**3**	**7**	**4**	**2**	**2**	**8**	**6**	**14**	**4**	**9**

ENVIRONMENTAL DATA

	Upper Creek	**Lower Creek**
Air temperature	11.0° C	9.0 ° C
Water temperature	10.0 ° C	10.0 ° C
Water depth	4.0 cm	cm
Weather conditions	Cloudy/foggy	Cloudy

CONCLUSIONS

- A variety of BMIs were in samples collected at both sites, most of which live only in good-quality water.
- BMIs were more abundant and diverse in the lower creek than in the upper creek.
- Most stoneflies were found in the upper creek, and most mayflies were found in lower creek.
- Fewer BMIs were found this year than last year. Because of time issues, students had less time to collect and look for BMIs, which could have contributed to results.

RECOMMENDATIONS FOR NEXT YEAR

- Continue splitting a full class into two groups, with only one of the groups collecting and documenting samples at each site so each student a chance to participate.
- If time allows, do two collections at each site.