



LITTLE FALLS WATERSHED ALLIANCE

EDUCATION - ACTION - STEWARDSHIP

2021 Water Quality Report

Overview:

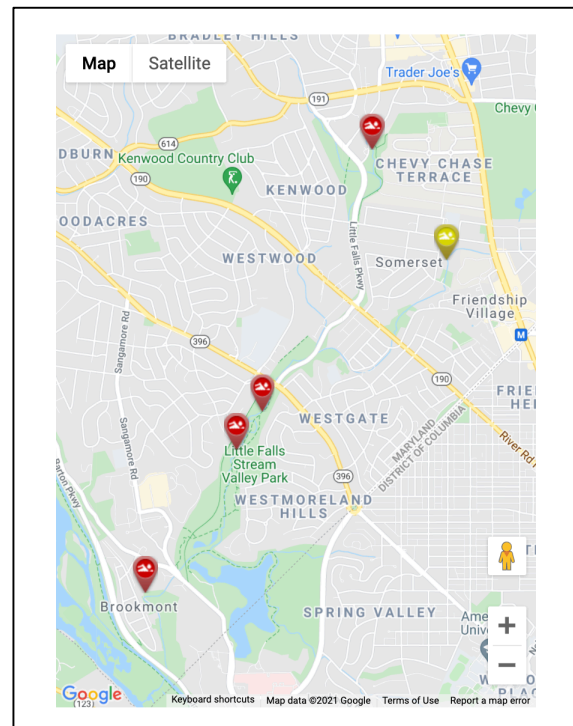
Volunteers collected water quality samples bi-weekly in the Little Falls watershed basin between July 7th and September 15th. The samples were analyzed for Fecal bacteria (i.e., *E-Coli*) by [Anacostia River Keepers](#). Volunteers also measured pH, air and water temperature when the samples were collected. Four sample locations – WB1, LFB1, LFB2, and LFB3 - were initially selected. A fifth location – LFB3 - was added on July 21st (the original LFB3 was re-labeled as LFB4).

Summary:

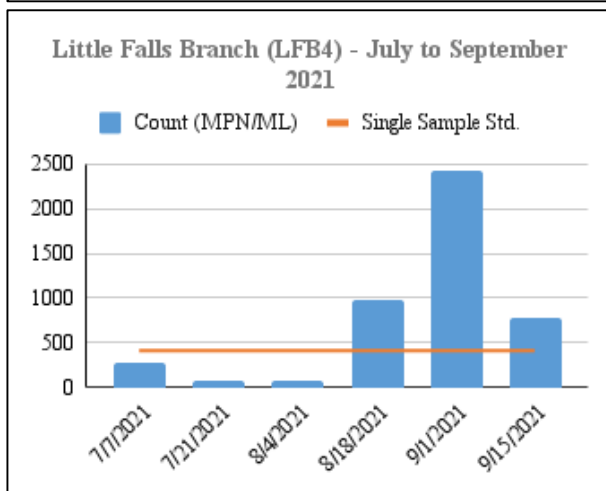
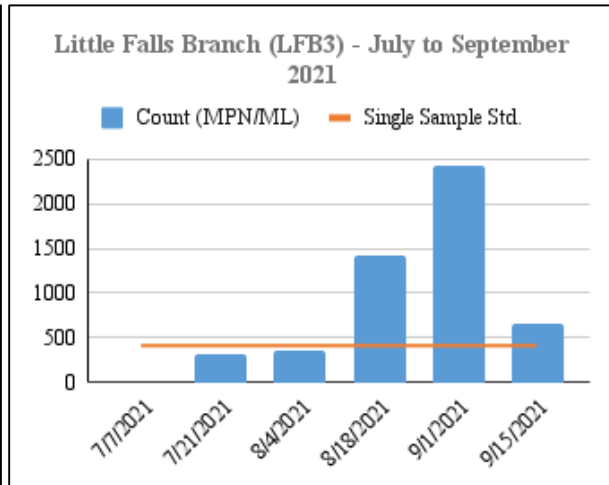
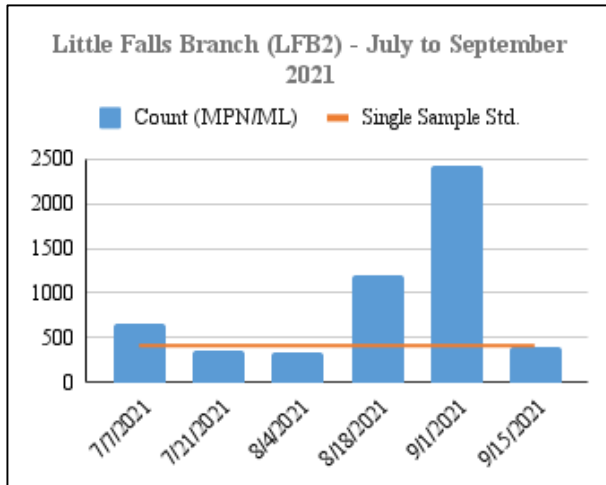
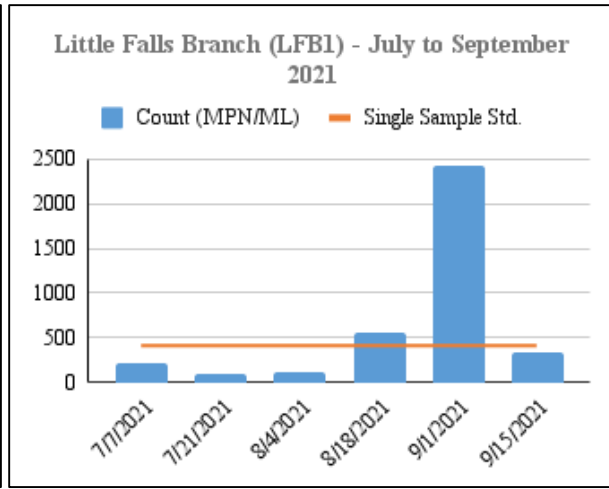
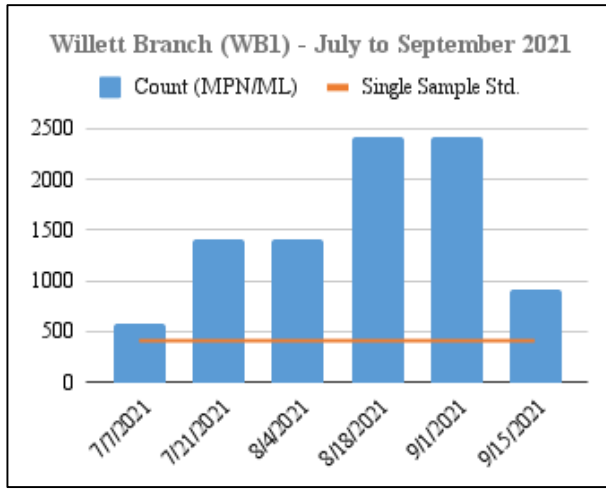
The water quality in Little Falls Watershed does not meet D.C. or MD recommended standards for recreational water use, even for human contact on an infrequent basis. During the sampling period, a flash flood overnight on August 31st resulted in dangerously high Fecal bacteria counts and exceedingly harmful water quality.

Results: Single-Sample

Fecal bacteria levels exceeded the single-sample standard of 410 MPN per 100 ml. set by the District of Columbia for Class I recreational waters through most of August and September. As shown in the series of charts below, the highest counts were found in the Willett Branch (WB1), which failed to meet the standard in all 6 samples. Counts were lower at sample locations in the Little Falls Branch (LFB1) and main stem of the creek (LFB2, LFB3, and LFB4). On average, the lowest counts were at the Brookmont location farthest downstream (LFB4). A flash flood event on August 31st resulted in counts that exceeded the limits of the test (>2420 MPN per 100



ml) in all 5 locations the next day. (Note: Similar high counts were also recorded at 22 locations in D.C. recreational waters).



Results: Geometric Mean

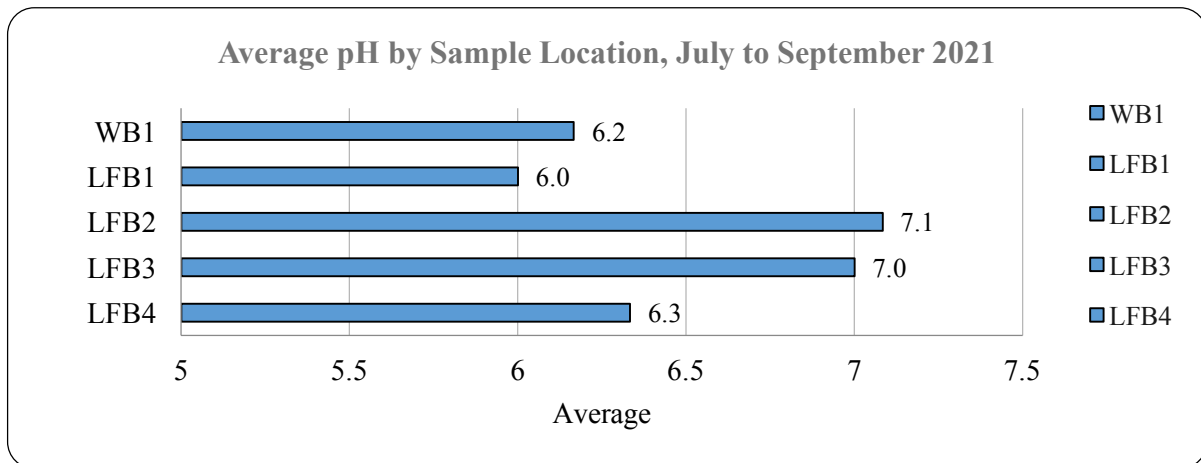
According to the Maryland Department of the Environment [water quality standards](#) for Class 1 waters, a stream is suitable for recreational use if the geometric mean of all *E. Coli* samples taken over a 90-day period does not exceed 125 MPN per 100 ml. while 10% of samples taken do not exceed the statistical threshold value of 410 MPN per 100 ml. Little Falls failed to meet both criteria during the 70 day sampling period, as shown in the table below.

Station Symbol and Location		Geometric Mean (**)	Percent of Samples Exceeding Threshold Value (>410)	Range (Lo/Hi)
WB-1	Willett Branch at Norwood Park (WB1)	1082	100%	580/>2420
LFB-1	Little Falls Branch at Somerset Pool (LFB1)	266	33%	102/>2420
LFB-2	Little Falls Branch below Mass. Ave. Bridge at 2nd Bench (LFB2)	586	50%	326/>2420
LFB-3	Little Falls Branch below Mass. Ave. Bridge at Pedestrian Bridge 1 (LFB3)	548	50%	313/>2420
LFB-4	Little Falls Branch at Brookmont (LFB4)	435	50%	68/>2420

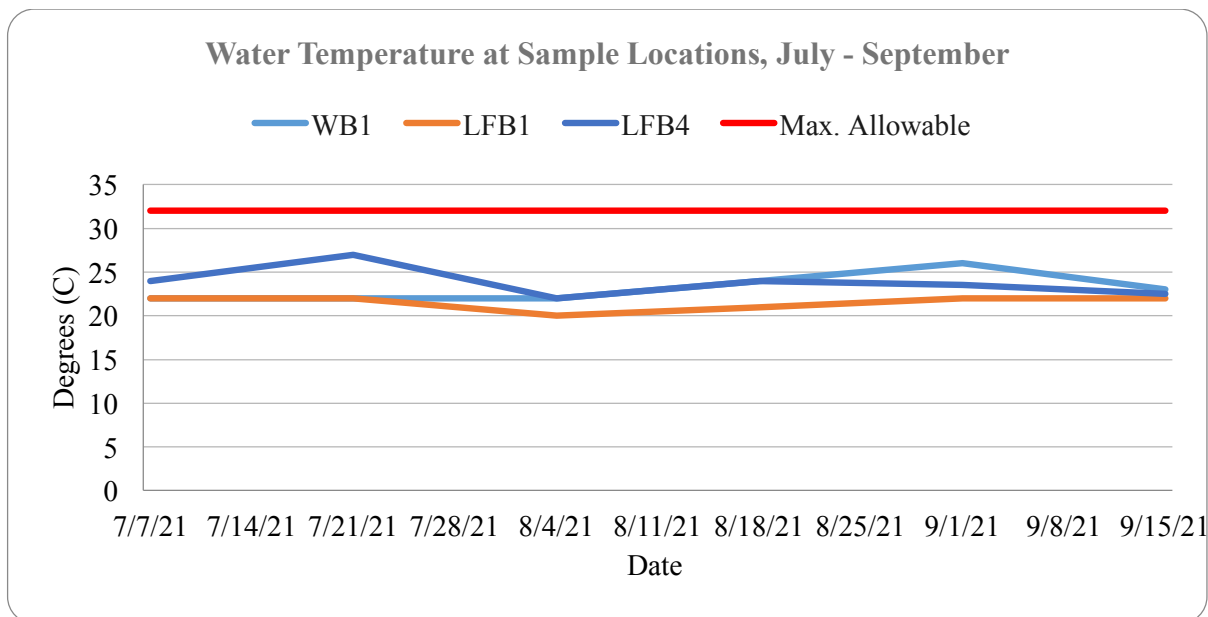
** Counts for samples that exceeded the limits of the test methodology (>2420 MPN/100 ml.) were excluded from the calculation of the geometric mean. As a result, the geometric mean is likely to be higher than reported.

Results: pH and Temperature

Normal pH values for Class I waters should not be less than 6.5 or greater than 8.5. As illustrated in the figure below, average pH values were slightly acidic and below the recommended value at 3 of the 5 locations.



The maximum temperature outside the mixing zone for Class I waters should not exceed 90°F (32°C) or the ambient temperature of the surface waters, whichever is greater. Water temperatures at 3 of the 5 sample locations did not exceed recommended levels, as shown in the figure below. (Note: Temperature measurements were not available for LFB2 and LFB3 during September and the results for July and August are not shown on the chart).



However, the water temperature exceeded the ambient temperature at all 3 sites on September 1st following the flash flood event. Greater differences between water and ambient air temperatures were measured at the Brookmont (LFB-4) location, which reached as high as 27 deg. C on 7/21.

Station Symbol and Location		Percent of Samples Water Temp. > Ambient Temp.
WB-1	Willett Branch at Norwood Park (WB1)	17%
LFB-1	Little Falls Branch at Somerset Pool (LFB1)	17%
LFB-4	Little Falls Branch at Brookmont (LFB4)	50%

Initial readings of dissolved oxygen levels were obtained at one sample location (LFB2). The level was constant at 8.0 PPM for every sample taken. Additional results will be reported later this year with seasonal trends in pH and Temperature.