

Upper Wapsipinicon River Watershed 2019 Sampling Results

The Upper Wapsipinicon River Watershed Management Authority started water sampling with the help from partner organizations in 2015. Since then, samples were gathered in 2016, 2017, and 2019. Due to lack of funding and volunteers no samples were collected during the 2018 season. Currently in 2019, samples are collected twice a month during May and June (on the first and third Monday of the month) and once a month (on the third Monday) from July to October. Samples are gathered from 22 locations across the UWRW. This data provides a snapshot of the entire watershed on a given day each month and allows the comparison of one stream/watershed to the next. Water samples are collected on the same day by 7 public and private organizations including, Buchanan SWCD, Buchanan County Conservation, Iowa State Extension, NRCS, Linn County Conservation, Black Hawk County Health Department, and Chickasaw County Conservation. Once samples are gathered they are packed on ice, and sent to the Coe College laboratory for analysis. The samples are analyzed for concentrations of E.coli Bacteria, Nitrate, Total Phosphate as P, Dissolved Reactive Phosphorus, Chloride, Sulfate, and Total Suspended Solids. Below is a summary of results from the 2019 sampling season.

Table1. 2019 sampling results for each sampling site.

Site_id	Watershed	TSS	DRP	Cl	NO3-N	SO4	E coli	Total P
Linn_23	Nugents Creek-Buffalo Creek	9.76	0.17	15.15	6.22	20.93	789.00	0.25
Linn_26	Crows Creek-Wapsi River	19.97	0.19	13.27	7.35	14.79	413.38	0.37
Delaware_21	Silver Creek-Buffalo Creek	20.76	0.27	12.41	6.24	13.49	599.50	0.47
Linn_25	Crows Creek-Wapsi River	25.48	0.23	13.76	5.87	19.66	144.00	0.41
Chickasaw_6	Spring Branch-Little Wapsi River	23.07	0.18	15.80	6.31	12.82	196.86	0.31
Linn_24	Heatons Creek-Wapsi River	11.24	0.16	19.00	5.44	20.21	600.00	0.30
Blackhawk_12	Lower Crane Creek	9.90	0.18	15.38	5.97	21.40	642.29	0.31
Chickasaw_5	Village of Ionia-Wapsi River	8.95	0.19	16.26	6.86	16.09	869.71	0.23
Chickasaw_4	Elk Creek	24.12	0.21	13.67	4.82	13.58	163.43	0.34
Buchanan_18	Otter Creek	3.93	0.15	17.98	11.18	18.79	366.71	0.20
Bremer_14		11.42	0.20	15.73	7.05	17.47	918.14	0.25
Bremer_8	Lower East Branch Wapsi River	7.03	0.14	14.76	6.68	21.00	789.00	0.22
Bremer Plum*		22.60	0.08	7.89	3.08	9.13	3448.00	
Buchanan_15	Village of Fairbank-Little Wapsi River	7.74	0.15	16.85	10.46	18.52	436.25	0.24
Bremer_12A	Upper Crane Creek	14.83	0.20	14.29	7.11	15.78	377.40	0.36
Buchanan_20	Silver Creek-Buffalo Creek	29.00	0.18	15.10	4.43	15.85	3516.25	0.45
Delaware_23	Nugents Creek-Buffalo Creek	4.77	0.32	23.25	10.13	17.19	4329.86	0.38
Chickasaw_7	Middle East Branch Wapsi River	28.00	0.20	14.77	7.27	16.31	542.75	0.34
Chickasaw_3	Mead Creek	24.41	0.18	15.15	4.48	15.88	319.71	0.38
Buchanan_19	Pine Creek	17.43	0.27	14.67	3.79	13.62	210.25	0.48
Blackhawk_13	Camp Creek-Wapsi River	23.33	0.22	13.15	6.28	14.64	609.38	0.44
Linn_22	Walton Creek-Wapsi River	29.47	0.21	12.65	7.12	20.11	443.63	0.33

*Only sampled during the month of May

Table 1. shows the average value for each sampling location in 2019. According to the EPA, Iowa's nitrate water quality standard for fish and water consumption is 10 mg/L as Nitrate-N. 2019 averages above 10mg/L for nitrate are shown in red. E. coli concentrations above 235CFU/100ml E. coli represents Iowa's single sample maximum water quality standard for primary contact recreational use. Majority of 2019 sampling location averaged above 253CFU/100ml. These values are also shown in red. E. coli bacteria as an indicator species is a great concern for the UWR watershed.

For more information on the 2019 sampling year, and other Upper Wapsipinicon River Watershed Sampling results go to www.upperwapsi.org/plan/challenges-and-opportunities/water-quality/.

Continued data collection over a wide spatial area of the UWR Watershed allows for a better understanding of the water quality problems in the Watershed, and allows landowners, citizens and organizations to find ways to solve the issues related to poor water quality. Extensive water monitoring data can result in increased funding for effective watershed projects, bringing tens of millions of dollars in state and federal cost share to help private landowners implement voluntary conservation practices, as well as funding for SWCDs and other organizations to hire conservation professionals, including technicians and engineers, to provide free technical assistance to watershed residents.