





# BUTLER COUNTY STREAM TEAM – A PORTION OF 2019 STREAM SAMPLING DATA

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**PRESENTED BY GARY BRAMBLE**

**2/8/2020**



**Total  
Dissolved  
Solids**

**Total  
Phosphorus**

**Nitrates**

**E. Coliform**

**Total  
Coliform**

**Turbidity and  
pH**

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**WATER QUALITY PARAMETERS THAT WE MEASURE**

# TOTAL DISSOLVED SOLIDS (TDS)

- Total Dissolved Solids should be well under 500 ppm. Salt and other pollutants that dissolve in water cause elevated values. Parts per million (ppm) equals milligrams/liter (mg/l).
- The 2019 median value for the overall river basin for TDS was 351 ppm. A sampling site with a similar median value was Two Mile Creek @ North B Street.
- The highest median value was Unnamed Tributary at Oxford State Road – 1430 ppm
- The second highest median value was Hunt's Creek at Cincinnati/Dayton Road – 780 ppm
- The second lowest median value was Four Mile Creek at SR 73 -- 235
- The lowest median value was Four Mile Creek at Buckley Road -- 217

# TOTAL PHOSPHORUS

- Phosphorus can stimulate algae growth. Parts per million (ppm) equals milligrams/liter (mg/l).
- The 2019 median value for the overall river basin for total phosphorus value was 0.053 ppm. A sampling site with a similar value was Indian Creek at Fairfield Road.
- The highest median value was Four Mile Creek @ SR177 – 0.42 ppm
- The second highest median value was Great Miami River @ Rentschler Forest – 0.35 ppm
- The second lowest median value was Elk Creek @ Howe Road – 0.012 ppm
- The lowest median value was Brown's Run @ Thomas Road – 0.011 ppm

# NITRATES

- Nitrates can stimulate algae growth. Drinking water should be less than 10 ppm. Parts per million (ppm) equals milligrams/liter (mg/l).
- The 2019 median value for the overall river basin for nitrates was 0.67 ppm. A sampling site with a similar median value was Four Mile Creek @ Buckley Road.
- The highest median value was Four Mile Creek @ end of Wallace Road – 4.59 ppm
- The second highest median value was unnamed tributary @Hetzler Road – 3.96 ppm
- The second lowest median value was Brown's Run @ Hetzler Road – 0.20 ppm
- The lowest median value was East Fork of Mill Creek @ Allen Road – 0.13 ppm



# E. COLI

- The USEPA Water Quality Standard for E. Coli is 235 CFU per 100 milliter. E. coli is currently considered the most reliable indicator of fecal bacteria contamination of surface water. Swimming beaches should remain below 88 per 100 milliliter.
- The 2019 median value for the overall river basin for E. coli was 243. A sampling site with a similar median value was Darr's Run at State Route 73.
- The highest median value was Tributary A at State Route 4 -- 1497
- The second highest median value was Jackson Ditch at Gephart Road -- 1484
- The second lowest median value was Elk Creek at Howe Road -- 68
- The lowest median value was Seven Mile Creek at Taylor School Road -- 63

# WHAT MIGHT BE GOOD WATER FOR DRINKING AFTER BOILING? (MERELY A THOUGHT EXERCISE)

- The candidate stream would have low total dissolved solids (ppm), like: Indian Creek at Fairfield Road (270); Indian Creek at Garner Road (266); Four Mile Creek at SR 73 (235); or Four Mile Creek at Buckley Road (217).
- One would also want E. coli to be low. The respective values for the four above are: 215, 121, 123, and 75.
- The respective values for nitrates (ppm) are: 0.86, 2.58, 1.70, and 0.67.
- The winner in these three categories is Four Mile Creek at Buckley Road, just downstream of the 590-acre Acton Lake and 3,524-acre Park. (Related photos were taken Wednesday, February 5, 2020.)









