

Parameters

Site and Date	BOD (mg/L)	TSS (mg/L)	Enterococci (MPN/100mL)	NH3 (mg/L)	DO (mg/L)	Chlorine (mg/L)	pH	Salinity (mg/L)	Conductivity (mS/cm)	Flow	Color	Turbidity	Water Temp (°C)	Within 3 days of Rain
Normal Ranges	<20	None	<104	<2	>2	<2.5	6.5-9.0	1-10	50-20,000	N/A	N/A	Low-High	12-34	Y/N
BV4 (Ling St)														
7/7/2020	<2	68.4	31	<0.1	4.57	0.08	7.30	13.76	22896	Mod	Lt Green	Mod	28.50	Y
8/12/2020	3.6	35.6	10	<0.1	4.43	0.26	7.22	17.68	28864	Slight	Clear	Low	31.10	N
9/3/2020	2.0	38.0	10	0.1	4.17	0.10	7.52	24.34	38482	Slight	Clear	Low	29.60	N
BV5 (Warsaw Dr)														
7/7/2020	<2	22.8	10	<0.1	4.76	0.09	7.63	11.89	20062	Mod	Lt Green	Mod	29.50	Y
8/12/2020	3.7	34.8	<10	<0.1	3.64	0.10	7.49	16.95	27769	Slight	Clear	Low	30.60	N
9/3/2020	2.6	30.4	<10	<0.1	4.64	0.09	7.61	24.03	38029	Slight	Clear	Low	29.40	N



Definitions:

Dissolved Oxygen (mg/L) measures the oxygen freely available in water. Dissolved oxygen is vital to fish and other aquatic life and for the prevention of odors. Traditionally, the level of dissolved oxygen has been accepted as the single most important indicator of a water body's ability to support desirable aquatic life.

Biological Oxygen Demand (mg/L) measures how much oxygen is being used by aerobic microorganisms in the water to decompose organic matter. A measure of the amount of oxygen consumed in the biological processes that break down organic matter in water. The greater the BOD, the greater the degree of pollution.

Chlorine (mg/L) indicates a possible inflow from potable water sources.

Ammonia (NH₃) (mg/L) is a nutrient that contains nitrogen and hydrogen. High levels can be an indicator of the presence of sanitary wastewater.

Total Suspended Solids (mg/L) is a measure of the total suspended solids in water, both organic and inorganic. In laboratory terms it is defined as the portion of total solids retained by a filter.

Enterococci (MPN/100mL) or **E. Coli** (cfu/100mL) indicates the presence of sanitary wastewater. EPA's water quality criteria for bacteria are based on levels of indicator bacteria, namely *Escherichia coli* (*E. coli*) and *Enterococci* that demonstrate the presence of fecal pollution. Indicator organisms such as these have long been used to protect people from illnesses that may be contracted from engaging in recreational activities in surface waters contaminated by fecal pollution. These organisms generally do not cause illness directly, but have demonstrated characteristics that make them good indicators of fecal contamination and thus the potential presence of pathogens capable of causing human illnesses such as gastroenteritis.

pH (s.u.) measures how acidic or basic a solution is. Extreme levels indicate commercial or industrial flows. The pH scale goes from 1.0 to 14.0 standard units, with 7.0 being neutral and 6.5-9.0 being a normal range.

Salinity (mg/L) measures how much dissolved salt is in the water. It is also an indicator for whether the sample is *E. Coli* (<2.0) or *Enterococci* (>2.0). In general, salinity over 2.0 in ambient water indicates "salt water" versus "fresh water".

Conductivity (μS/cm) is used as an indicator of dissolved solids. Conductivity is a measure of the ability of water to pass an electrical current and is useful as a general measure of stream water quality.

Discharges to streams can change the conductivity depending on their make-up. A failing sewage system would raise the conductivity because of the presence of chloride, phosphate, and nitrate; an oil spill would lower the conductivity. Significant changes in conductivity could then be an indicator that a discharge or some other source of pollution has entered a stream.

Turbidity is a measure of water clarity (cloudiness) and is affected by the concentration of suspended particles in the water column. Suspended matter may include clay, silt, organic matter, and plankton (microscopic plants and animals). The cloudier the water, the greater the turbidity.

Temperature (Temp) ($^{\circ}\text{C}$) is the most common physical assessment of water quality is the measurement of temperature. Temperature impacts both the chemical and biological characteristics of surface water. It affects the dissolved oxygen level in the water, photosynthesis of aquatic plants, metabolic rates of aquatic organisms, and the sensitivity of these organisms to pollution, parasites and disease.