Aquatic Ecosystem – The complex interaction of living organisms (e.g., bacteria, algae, invertebrates, fish, amphibians and plants) and non-living structures and influences (e.g., chemicals, sediment, rocks, waves and temperature) in a water body, such as a creek, river, marsh, pond or lake.

Bacteriological Analysis – For purposes of environmental monitoring, the determination of the number of organisms of a specified type of bacteria in a specified volume of sampled surface water. Data from bacteriological analysis can provide an indication of environmental water quality.

Benthic Macroinvertebrates – Small organisms that lack backbones, that are large enough to see with the naked eye, and that live a portion or all of their life cycle in and on the substrate of streams and lakes. Examples include insect larvae, worms, clams, and snails. These organisms are a major food source for other aquatic organisms such as fish and amphibians. Some benthic macroinvertebrates are pollution-sensitive while others are tolerant of pollution. Their types and numbers are therefore useful indicators of water quality. They are collected, identified and counted to evaluate and monitor the ecological impairment of an aquatic environment by pollution and/or other stressors.

Combined Sewer Overflows – Structures designed to transport storm water along with sanitary and industrial wastewater as a single waste stream to streams or lakes, rather than to a wastewater treatment plant, during high flow events. Combined sewer overflows, or CSOs, were designed to prevent heavy rainfalls and large snowmelts from causing flooded streets and flooded basements in older areas of the sewer system.

***E. coli* Bacteria** – *Escherichia coli*, a specific type of fecal coliform bacteria whose levels in surface waters have been related to the risk of swimming-associated illness. Although not necessarily pathogenic themselves, *E. coli* bacteria indicate that pathogenic microorganisms may be present.

Fecal Coliform Bacteria – Microscopic organisms normally inhabiting the gastrointestinal tracts of humans and other warm-blooded animals. Fecal coliform bacteria may or may not be pathogenic (disease-causing) and are often used as an indicator of the degree of pollution in a stream or a lake.

Fish Tissue Sampling – Once certain environmental pollutants (e.g., mercury, PCBs, DDT) reach surface waters, they can concentrate through the aquatic food web and accumulate in the tissues of fish to levels that are potentially harmful to humans and wildlife that eat the fish. Therefore, analysis of fish tissue for chemical contaminants can provide an indication of health and ecological risks associated with pollution of waters and their underlying sediments. Specimens of representative fish species are captured, and either their fillets or the entire fish are homogenized prior to chemical analysis.

GPS Technology – A Global Positioning System device used to determine a precise geographic location based on data transmitted from satellites.

Storm Water Collection Systems – Drains and sewers designed to convey runoff from wet weather events, such as rainstorms or snowmelt, directly to a surface water, such as a stream or a lake.

Water Quality Standards – Laws or regulations that consist of designated beneficial uses of a water body, the criteria that are necessary to protect those uses, and policies that either prevent lowering of water quality or specify conditions that must be met before water quality is lowered. According to the federal Clean Water Act, each state must adopt water quality standards to protect, maintain and improve the chemical, physical, and microbiological quality of the nation's surface waters. These water quality standards are ambient standards that form the basis of water quality-based permit limitations that regulate the discharge of pollutants into surface waters under the National Pollutant Discharge Elimination System (NPDES) permit program. These standards represent a level of water quality that will support the Clean Water Act goal of "swimmable/fishable" waters.