

Compiled from information provided by the University of Iowa State Hygienic Laboratory ([www.shl.uiowa.edu](http://www.shl.uiowa.edu)), Iowa Department of Natural Resources, and the English River WMA's Watershed *Improvement & Resiliency Plan*.

*35,000 milligrams/Liter (mg/L) is essentially the same measurement as 35,000 parts per million (ppm)*

*MPN stands for 'Most Probable Number' and refers to a method that uses dilution cultures and a probability calculation to determine the approximate number of viable cells in a given volume of sample. For example: 50 MPN/100 mL means that the Most Probable Number of viable cells in 100 mL of sample is 50. CFUs are "Colony Forming Units" that are counted. For these samples, you can use MPN and CFUs interchangeably.*

### **What is total Phosphorus (TP)?**

Sources: Human, animal and industrial waste; runoff from fertilized lawns and cropland.

*Standards:* The State of Iowa does not have water quality standards for TP; however, the EPA has established a benchmark value of 0.075 ppm for freshwater streams similar to the English River.

### **What is Orthophosphate?**

Orthophosphate is dissolved phosphorus stemming from animal and human waste, and decomposition of plant material.

*Standards:* The state of Iowa has not established water quality standards for OP. It is typically present in very low concentrations.

### **What are E.coli bacteria?**

Escherichia coli (E.coli) bacteria are a type of total coliform bacteria which are present in sewage. The presence of E.coli bacteria in drinking water indicates a pathway exists from a waste source (e.g. animal feedlot, septic tank, cesspool leakage, etc.) to the well. Drinking water which contains E.coli should NOT be used for human consumption unless properly disinfected before use.

*Standards:* The Iowa Administrative Code defines the 235 CFUs/100mL (colony forming units per 100 mL) as the benchmark for posing a health risk to humans, also referred to as a "recreational standard." If total coliform bacteria and E.coli test results are <1, the water is bacterially safe for drinking purposes. If the total coliform bacteria are greater than or equal to 1, the water is bacterially unsafe and should not be used for drinking until properly disinfected. Swimming is not advised at public beaches when E. coli bacteria levels exceed 235CFUs/100mL.

### **What are nitrates?**

Organic matter, animal and human waste, decomposing plant matter, rodenticides, and fertilizers. Nitrite in water can indicate ammonia contamination.

*Standards:* The Environmental Protection Agency's drinking water standard for nitrate is 10 ppm, and 1 ppm for nitrite. The State of Iowa follows these standards for public drinking water supplies. Nitrate concentrations exceeding the infant health advisory level (45 mg/L as NO<sub>3</sub> or 10 mg/L as N) are generally an indication of contamination from nitrogen fertilizers, sewage disposal systems or animal manure.