

Nutrient Concentrations

Why do we measure this?

Nitrogen and phosphorus are important nutrients for animals and plants in streams. Phosphorus is the nutrient that is often in limited supply in freshwater ecosystems. Nitrogen is more available to stream organisms but an excess of either nutrient can negatively impact a stream. An over abundance of nutrients can cause a significant increase of plant growth in the stream which can cause an initial increase in dissolved oxygen. As the vegetation blooms and then dies it is decomposed by bacteria which can decrease the amount of dissolved oxygen available to other stream organisms. A high concentration of either nutrient can indicate a possible source of environmental pollution to the stream. Excess nutrients in streams can be indicators of pollutants such as fertilizers, compromised septic systems, and animal waste among other things.



Equipment Needed:

- Orthophosphate test kit
- Nitrate test kit
- Waste bottle
- Physical and Chemical Data Sheet

Definition of Terms

Orthophosphate: chemistry based term that refers to the phosphate molecule all by itself.

Orthophosphate is the form of phosphate which is utilized by plants and algae for growth.

Nitrate: nitrate is a water-soluble molecule made up of nitrogen and oxygen. It is formed when nitrogen from ammonia or other sources combines with oxygenated water.