



# Total Phosphorus

**Total Phosphorus** is an essential nutrient for plants and animals. It is naturally limited in most fresh water systems because it is not as abundant as carbon and nitrogen; introducing a small amount of additional phosphorus into a waterway can have adverse effects. Sources of phosphorus include soil and rocks, wastewater treatment plants, runoff from fertilized lawns and cropland, runoff from animal manure storage areas, disturbed land areas, drained wetlands, water treatment, decomposition of organic matter, and commercial cleaning preparations.



*Algal Bloom from the Klamath River Basin*

**Understanding the Impact of Phosphorus:** The addition of even a small amount of phosphorus to a water body can have negative consequences for water quality. Those adverse effects include: algae blooms, accelerated plant growth, and low dissolved oxygen from the decomposition of additional vegetation. An acceptable range for total phosphorus is 10 µg/L to 40 µg/L. Be sure to use the tribal, state, or federal standards as a comparison for your data.



*Collecting Algae Samples for Testing*

**Monitoring Equipment:** Depending upon monitoring objectives set forth in an environmental program, the following equipment options are commonly used to collect total phosphorus data from the field.

Readily available and economically priced:

- Total Phosphorus Kits

Greater precision and higher cost:

- Meters
- Multiparameter Probes
- Contract Laboratories (if necessary)

*For additional information:*

[www.epa.gov/owow/monitoring/volunteer/stream](http://www.epa.gov/owow/monitoring/volunteer/stream)