

When to Sample

The only rule for when to sample is: *whenever you can*. Sample as often as you can or when your schedule allows for it. Sampling once a year is far better than not at all. To help you determine when to sample consider how water quality changes in the following ways.

Daily changes

Samples taken at different times of the day may yield different results. Changes in stream flow, air temperature, shading and the photosynthetic activity of aquatic plants affect chemical properties of water.

Seasonal changes

- Nutrient levels may vary seasonally with changes in the abundance of aquatic plants (plants use up nutrients in the water).
- Spring runoff may increase nitrate levels, stream flow, and turbidity.
- Macroinvertebrate populations also vary in abundance and types across seasons. You'll find the greatest diversity in the spring and fall, and easier collecting in the fall (when water levels are low).
- Sample once each season to see how water quality changes over the course of the year.

Special events

- High runoff events, such as spring snowmelt, may offer different results than other times of the year. Look for lower pH levels and higher turbidity.
- If you wish to monitor the effects of human actions on water quality, monitor before, during and after the action. For example, if your class is interested in the effects of a construction project on turbidity in a nearby stream, measure turbidity in the stream before, during, and after the project.

Long-term trends

Long-term trends will provide better insight into the health or functioning of your stream than one-time readings. Choose time(s) of year that is easiest for your group to get to the field. Try to return each consecutive year at that time.



Compare early morning samples to late afternoon samples to find differences in pH, temperature and dissolved oxygen values. Consult the background information for each parameter in Unit IV to find out why.



Be aware of the added safety issues that accompany high spring streamflows. If high flows are a concern, sample in the late summer and fall when flows are lower.