

Volunteer Sampling Quick Guide

Where should I sample?

Look for these things:

Accessibility

Can find it on a map

Type of water body

No nearby sampling sites

Sample upstream and downstream of any discharge or tributary

Be able to take your at the same time

How do I sample?

DON'T TRESPASS— Get Permission from the landowner!

With a Boat

Set your anchor and don't move it.

Set a buoy or establish two landmarks perpendicular to the shore

Without a Boat

Wade to the site downstream towards upstream.

Stand on a bridge over the site. Attach a weight to your sampling gear and extend them on a rope or string into the water.

Measuring Stream Flow: $Q = \frac{A \times L \times C}{T}$

Q = Discharge

A = Cross Sectional Area (Width of the stream × Average water depth)

L = Length of measured stream reach

C = The coefficient; 0.9 if the length has a muddy bottom.

T = Time in seconds.

Pick a ten foot section in length. Run a string from one bank to the other (called a transect) at each end of your section. Measure the widths of each transect and average the two. Measure the depths of the stream at several points along each transect and average the number. Multiple the average width and the average depth to get A. Measure time by floating a light object, like an orange peel, from the upstream to the downstream transect line and counting the seconds. Do this three times to get an average.

Measuring Dissolved Oxygen

- follow the instructions on your kit
- record data on your form
- interpret Data
 - 0-2 mg/L or ppm: not enough oxygen to support most animals
 - 2-4 mg/L or ppm: only a few kinds of fish and insects can survive
 - 4-7 mg/L or ppm: good for most kinds of pond animals
 - 7-11 mg/L or ppm: very good for most stream fish (Cary, 2009)

Measuring E.Coli

- follow instructions on your kit
- record data on your form
- interpret the data
 - Primary Contact Recreation (swimming) 235 MPN/100mL
 - Secondary Contact Recreation (boating, wading) 406 MPN/100mL

Measuring pH

- follow instructions on your kit
- record data on your form
- interpret the data
 - Values below 7 are more acidic and values above 7 are basic
 - The majority of aquatic life prefers a pH range of 6.5-8.0 pH

Measuring Temperature

- follow instructions that came with your thermometer
- record data on your form

Measuring Turbidity

- follow the instructions to use the turbidity tube
- record NTUs on the form based on the following table

Centimeters	NTU	Centimeters	NTU
6.7	240	38.2	17
7.3	200	40.7	15
8.9	150	43.3	14
11.5	100	45.8	13
17.9	50	48.3	12
20.4	40	50.9	11
25.5	30	53.4	10
33.1	21	85.4	5