

2021 TRWA Monitoring Program Sampling Instructions

Sampling

[Important Note] Always fill out the labels (except time of sample collection) on the three Microbac Analytical Lab sample bottles used for enterococci bacteria, nitrate, and total phosphorus sample collection with ball point pen (so it doesn't smear) on dry labels several days before the sampling date. Fill in the time of collection on the bottles in pen on site when the sample is collected and before filling the bottles. Do not touch the inside of either the cap or the sample bottle with your fingers.

- Lower bucket (or sample bottle if using a pole sampler) into river/stream near mid-point and fill with river water;
- Pull up and gently dump out the sampling container to the side of the river/stream so as not to disturb river sediment to rinse the sample bucket;
- Lower bucket again to collect the water used for sample collection;
- Write time of sample collection on the three Microbac bottles and field chain of custody sheet;
- Fill sample bottles from the bucket or sample collection container in the following order:
 - 1) Enterococci bacteria (EN) – clear cylindrical Microbac supplied 100 ml bottle – As mentioned above, be very careful not to touch the inside of either the bottle cap or the bottle with your fingers to avoid contamination of the bacteria sample;
 - 2) Nitrate (NO₃) – smaller of two plastic opaque bottles 120 ml;
 - 3) Total Phosphorus (TP) – larger of two plastic opaque bottles 250 ml;
 - 4) Dissolved Oxygen (DO) – glass Wheaton bottle minimizing bubble entrainment;
 - 5) From your sample bucket fill the big 1,000 ml plastic opaque bottle with your site name on it which will be used by Rick McCormack at the lab for pH, and TSS measurement;
 - 6) Any time after the first three samples are secure measure water temperature (to the nearest 0.5 C°) from either the bucket or large plastic pH/TSS bottle and write it on the Field and Chain of Custody Sheet. [Note if your thermometer is calibrated in F° convert to C° using GOOGLE Chrome or other conversion tool on your smart phone or record as F°].

Duplicate and Blank Samples are taken at the last site you visit for the day. You need three sets of the Microbac supplied bottles and two sets of the Veolia glass and pH/TSS plastic bottles (labeled DUP 1 or DUP 2) along with a large bottle of deionized (DI or blank) water which Rick McCormack will supply for this site if your team is designated to do regular, duplicate, and blank samples for a designated site on a particular month.

Duplicate Samples

- Take Duplicate sample (DUP 1 or DUP 2) from the same bucket of water used for your regular sample;
- Take the samples sequentially (your regular site sample then the duplicate sample):
 - 1) Two enterococci – regular and DUP 1 or 2 (by two designated teams/month);
 - 2) Two nitrate bottles – regular and DUP 1 or 2 (by two designated teams/month);
 - 3) Two total phosphorus bottles – regular and DUP 1 or 2 (by two designated teams/month);
 - 4) Two dissolved oxygen bottles – regular and DUP 1 or 2 (by two designated teams/month);
 - 5) Two large pH/TSS plastic bottles - regular and DUP 1 or 2 (by two designated teams/month).

Blank Samples

- Rinse your sampling bucket thoroughly with blank water carefully swirling it around to rinse all sides and dump it out, rinse and dump bucket again using a total of about ½ your blank water;
- Pour remaining half of the blank (DI) water into your bucket so you can fill the sample bottles for enterococci, nitrate and total phosphorus analysis from the bucket just like you took the regular and duplicate samples. These bottles are labeled either Blank 1 or Blank 2 depending on your site's designation for that month. **[Note we are only doing blanks (designated and labeled Blank 1 or Blank 2) for the Microbac sample bottles (enterococci, nitrate and total phosphorus)].**