



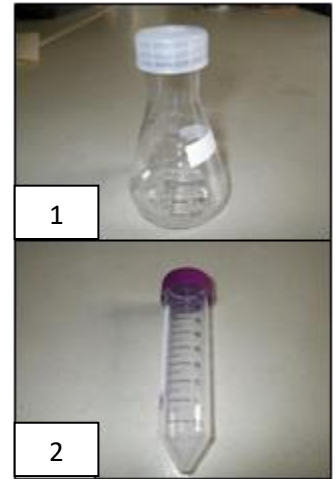
Total Phosphorus Surface Grab Sampling Instructions for Volunteer Monitors

The Maine Department of Health and Human Services, Health & Environmental Testing Laboratory (HETL) is the only certified laboratory in Maine. Often the samples of lake water are below thresholds other labs in the state are targeting. Because of this and the quality assurance that HETL follows, we ask that volunteers send their samples to the HETLab for analysis.

The lab fee of \$45.00 for each analysis plus shipping and handling. You must set up an account with HETL to have a sampling kit sent to you.

Please follow these steps to continue:

- 1) Become certified in surface phosphorus (or another form) of water sample collection. Do so by contacting LSM at stewards@lakestewardsme.org and attending a training workshop.
- 2) **Contact Joe Niskach at the HETLab (joseph.niskach@maine.gov), or 207-441-4460 and set up an account.**
- 3) Request a “Total P Kit” from Joe or another member of the Shipping and Receiving Department.
 - a. The physical location of HETL is 47 Independence Drive, Augusta, ME. The shipping location is The Health & Environmental Testing Laboratory, Statehouse Station #12, Augusta, Maine 04333-0012
 - b. Please contact HETL at least two weeks before you need the kit.
- 4) The kit from HETL will contain an insulated box with ice packs, a “Chain of Custody” form, sampling instructions, and two sample containers: an acid-washed Erlenmeyer flask (image 1) and a 50 mL centrifuge vial (image 2).
 - a. The centrifuge vial is used to collect a precise sample volume from your lake, after which the contents are poured into the Erlenmeyer flask.
 - b. Samples should be placed into a cooler with ice (or an ice pack) immediately after collection to ensure they are kept cool.

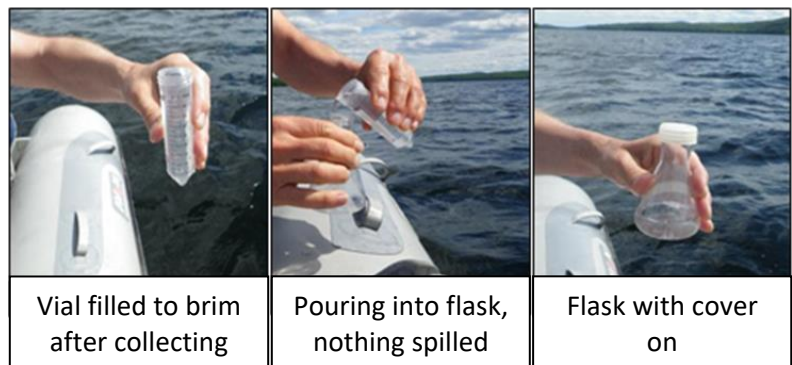


LSM Sampling Procedure Guidance

Please carefully follow the procedure below to obtain your surface sample. For information on other forms of sampling, please contact Tristan Taber at Lake Stewards of Maine, stewards@lakestewardsme.org.

- 1) Before going out on the lake, label the Erlenmeyer flask (using permanent ink or pencil) with the lake name, lake MIDAS number, station number, date, ‘SG’ to indicate that it is a surface grab, and your last name.
 - a. You will be recording the time of the sampling after you have collected the sample.
 - b. Phosphorus samples are very easily contaminated so it is beneficial to keep both the vial and flask clean, until such a time as when you are using it. We suggest putting them in a sealable plastic bag.
- 2) When you have arrived at your station, be sure to take a water transparency reading using a Secchi disk. This ensures the sample has a comparable transparency and helps us understand the conditions on the water.
 - a. Record environmental condition and Secchi results on your datasheet and make a note in the comments section that you are collecting a phosphorus surface grab for that day.
 - b. When you submit your sample to HETL, they will provide you with a serial number for result tracking purposes. Please record that on your datasheet so we can pair it up after analysis.
- 3) To begin taking the phosphorus sample, start by briskly and thoroughly washing your hands and arms up to the elbow on one side of the boat using your lake’s water. This will dislodge any dust, skin flakes, oil residue, and other dirt which could contaminate the sample.
- 4) Take out and remove the cap on the 50 mL centrifuge vial. **Be sure not to touch the inner surfaces or mouth of the vial or the cover.** Fill the vial with lake water and swirl it briefly, before emptying it back into the lake. Rinse the vial three times, then empty out all rinse water.

- 5) Move to the other side of the boat and take out the flask and set it down in easy reach. *If you are working alone, you may want to slightly loosen the cap to aid you later in the process, but **make sure you do not touch the threading or any internal surfaces of the flask.***
- 6) Invert the vial and submerge to a depth of about six inches; angle the mouth of the vial toward the surface of the water, while pushing it through the water away from the boat scooping it full of water. The vial should be completely full of water and lifted out of the lake vertically; there will be approximately 60 mL of water in the vial.
 - a. Fill the centrifuge vial with a scooping gesture that engages your entire arm and goes into the water approximately up to half way up your forearm.
 - b. **Be sure to avoid areas where there is any visible oil sheen or debris floating on the water's surface.**
- 7) Remove the cap from the Erlenmeyer flask. **Do not set the cap down upright or down in a manner that it could become contaminated by something interacting with it.** Pour the contents of the vial into the flask, being careful not to spill any of the sample. *This is most easily done with an assistant, but it can be done by one with practice and a steady hand.*
 - a. If you spill a noticeable amount in the pouring process, thoroughly shake out all the contents of both vials and restart from step 6.
- 8) Put down the vial and securely tighten the cap on the flask such that no water will leak out. *The caps can be brittle so avoid over-tightening which can crack the cap.*
- 9) Put the sample in a cooler on ice and refrigerate if you are not mailing the sample immediately. The centrifuge vial cannot be used again for phosphorus sampling so please recycle or upcycle it.
- 10) Mail the sample as soon as possible, including the chain of custody form and frozen ice pack back to the lab.
 - a. You can mail it out Monday through Thursday, **do not mail it on a Friday or Saturday**, due to laboratory hours and there are no weekend mail deliveries to the lab.
 - b. The sample must be analyzed at the lab within 28 days of collection.
- 11) The lab will analyze the sample then mail the results back to you. Please record the results received from the lab in the TP column on the Secchi datasheet, or in the comments of the DO datasheet, or on the chemistry form before sending it into LSM.
 - a. You can also photocopy the results and send them in with your datasheets.
 - b. If you do not get results before submitting your datasheet, please just record the lab sample serial number on the datasheet and make a note that you took a sample on that day.
 - c. **All TP data must have a matching Field Data Form to be accepted by LSM & DEP.**



To get the most significant results for your money, we suggest you use the table we have created below:

# of Samples	Month
1	Mid-August
2	Mid-July & Mid-August
3	Mid-June, Mid-July & Mid-August
4	Mid-May, Mid-June, Mid-July & Mid-August
5	Monthly, Mid-May through Mid-September
10	Every other week May through September