Vermont Lay Monitoring Program Sampling Protocol (2024)

Sampling is conducted biweekly between June 1st and August 31st for a total of 6 samples.

Locate and Navigate to Station #1 Using Google Maps

1. With internet connection on phone, visit https://anrweb.vt.gov/DEC/IWIS/ and click Site Search
2. Type in lake name and search site list for Station #1
3. Click Google Maps button for Station #1 (install Google Maps app if needed)
4. Navigate your location to the point for Station #1 (make sure location and lake depth make sense)

***Basic* Secchi Disk Transparency Sampling Protocol**

1. Prepare to take the Secchi disk transparency reading on the shady side of the boat without sunglasses. This will ensure the deepest possible reading by reducing glare.
2. Slowly lower the Secchi disk until you can no longer see it (no white glow.) Then, raise it until it is visible again and lower it one more time, very slowly, stopping when it disappears. Record this *Secchi depth without view tube* on the LMP Secchi Depth & Water Sampling Webform at https://arcg.is/b1rnv.
3. Hold the Secchi disk tape steady with one hand while using the other hand to look through the view tube underwater, and then repeat previous step (#2). Record this *Secchi depth with view tube* on the LMP Secchi Depth & Water Sampling Webform at https://arcg.is/b1rnv.

***Supplemental* Surface Water Grab Sampling Protocol**

1. Rinse the plastic sample bottle 3X with surface water. (Optional: record surface water temperature)
2. Dip the plastic sample bottle upside-down to about elbow depth (0.5 m) and then fill by turning it right-side-up. Record this sample on the LMP Secchi Depth & Water Sampling Webform at https://arcg.is/b1rnv.

***Supplemental* Deep Water Grab Sampling Protocol** (https://lamotte.com/horizontal-water-sampler-1087)

1. To set the trigger mechanism, grasp one chamber end cover. Pull the cover outward while rotating it to move the pin to the end of the channel on the top of the bar. Repeat with the other end cover.
2. Hold the calibrated line and messenger in one hand. Hold the sampler by the line in the other hand. Lower the water sampler down to 20m or 1m above the lake bottom. Release the messenger.
3. Pull in the line to bring the sampler to the surface. Open one end cover and pour into sample bottle. Record this sample on the LMP Secchi Depth & Water Sampling Webform at https://arcg.is/b1rnv.

Total Phosphorus and Caffeine Sample Processing

1. Mix plastic sample bottle gently and fill to the line on the vial labeled for total phosphorus or caffeine.
2. Cap tightly and ensure vials and lab form are correctly labeled: *lake, sample depth, date and time.*
3. Store in refrigerator/cooler.

Chlorophyll-a Sample Processing

1. Rinse filter holder with tap water.
2. Use tweezers to place small filter paper on filter holder covering all the holes and tighten.
3. Shake plastic sample bottle gently.
4. Measure 100 ml of water (in graduated cylinder or syringe) and squeeze through filter holder.
5. Using tweezers, fold filter paper twice and remove.
6. Place filter paper inside foil or half of large filter paper folded with paper clip.
7. Ensure filter paper and lab form are correctly labeled: *lake*, *sample depth, date and time.*
8. Store inside dark container or foil wrap and **freeze**.

Equipment Storage and Online Sampling Form Submission

1. Rinse laboratory equipment with tap water, dry, and store in a clean box.
2. Complete and submit LMP Secchi Depth & Water Sampling Webform at https://arcg.is/b1rnv.

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