**Vermont Lay Monitoring Program Sampling Protocol**

 *Collect a minimum of 8 samples once per week or every 5 - 10 days, Memorial Day through Labor Day.*

**Station 1 Secchi Disk Transparency 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://dec.vermont.gov/content/lay-monitoring-program-secchi-depth-water-sampling-form>

1. Hold the Secchi disk tape steady with one hand while using the other hand to look through the view tube underwater, and then repeat step 2. Record this *Secchi depth with view tube* on the LMP Secchi Depth & Water Sampling Webform at:

<https://dec.vermont.gov/content/lay-monitoring-program-secchi-depth-water-sampling-form>

**Station 1 Sub-Surface Sampling Protocol**

1. Rinse the plastic sample bottle 3X with surface water.
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://dec.vermont.gov/content/lay-monitoring-program-secchi-depth-water-sampling-form>

**Station 1 Hose Sampling Protocol**

1. Rinse sample bottle and bucket 3X with surface water.
2. Rinse hose by lowering into lake 3X.
3. Lower hose to twice the Secchi depth or at least 1 meter off bottom, keeping the rope loose.
4. Tightly crimp hose when at proper depth.
5. Bring weighted mouth of hose up with rope.
6. Lift crimped end overhead, then release, draining water towards weighted end in bucket.
7. Pass hose completely through hands overhead, ensuring all water drains to bucket.
8. Swirl sample water in bucket.
9. Pour water from bucket into plastic sample bottle.
10. Connect hose ends to prevent contamination.

**Total Phosphorus Sample Processing:**

1. Shake plastic sample bottle gently and fill to the line on the glass total phosphorus vial.
2. Cap tightly and label with *lake*, *date, time, and sample depth.*
3. Store sample in a cool, dark place.

**Chlorophyll-a Sample Processing:**

1. Fold and tear one large filter into halves.
2. Use half of large filter for filter jackets.
3. Label jacket in pencil with *lake*, *date, time, and sample depth.*
4. Rinse filter apparatus and graduated cylinder (or measuring cup) 3X with tapwater.
5. Use tweezers to place small filter paper on center piece.
6. Shake plastic sample bottle gently.
7. Measure 100 ml of water using graduated cylinder (or measuring cup) and pour onto filter.
8. Squeeze pump with finger covering other hole until all water passes through filter.
9. Fold into quarters and remove filter paper using tweezers.
10. Place filter inside labeled jacket with paper clip.
11. Store inside dark container or foil wrap and **freeze**.

**Wrap-up:**

1. Rinse laboratory equipment with tap water and store in a clean box.
2. Fill out <https://dec.vermont.gov/content/lay-monitoring-program-secchi-depth-water-sampling-form>

**Questions:**

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*Read at eye level*

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