

LAKE PARTNER PROGRAM – detailed instructions

General

Lakes within the **Canadian Shield** are sampled for total phosphorus **once per year** during May at the deep spot of your lake or bay. The instructions for taking the water sample for total phosphorus are provided on page 2 of this sheet.

Because the transparency of a lake may vary through the year, Secchi disk observations are made, ideally, twice per month from May to October. Refer to the **sampling instructions** on the reverse side of the Secchi observation sheet for instructions on how to take a Secchi disk measurement.

Record the Secchi depths on the enclosed observation sheet. **In November**, return the Secchi observation sheet to the Dorset Environmental Science Centre in the pre-paid envelope provided.

Please read these detailed instructions and the Secchi observation sheet before you sample.

Before You Sample

Water Sampling Materials include:

- one 80 micron filter with funnel (1)
- one 100mL sample jar (blue or orange cap)(2)
- one sample collection bottle (3)
- two glass sample tubes (4)
- Secchi observation sheet and return envelope
- return postage for samples with Dorset mailing address



NOTE: You will need to supply some materials to complete the collection bottle and Secchi Disk (explained below).

1. Prepare the **collection bottle** by attaching about 6 meters of clean rope to the neck ring (**photo A**). Mark the rope off in metres. Duct tape a suitable clean weight to the bottom of the bottle. Choose a weight heavy enough to sink the bottle (approximately 2Lbs/900g). A metal *pipe cap* is shown in the photo below (**A**). *Keep your ropes and weights to attach to a new bottle that is supplied each year.*

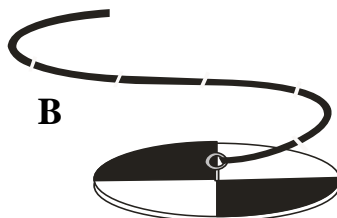
2. Assemble the **Secchi disk**. Attach a rope to the Secchi disk enclosed in your kit (for new volunteers). The rope length will depend on how transparent the lake is, but in general, lakes in Ontario have up to 10 metres of water clarity (usually 4-6 m). Mark the rope off in tenths of a metre (**photo B**). You will need to add an eye bolt (for the rope) and a few large washers, or other suitable weight, to the bottom (**photo C**). Some stores carry large square “dock hardware” washers that are ideal to use as weights.

Please keep your Secchi Disk to use in following years. With time, some rope material will stretch. Each year check that the metre markings on the collection bottle rope and the tenths of a metre markings on the Secchi disk rope are still accurate.

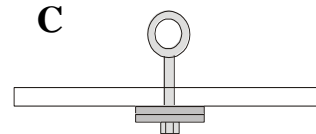
A



B



C



At the Lake

Secchi transparency readings and water samples must be taken at the **off-shore deep spot** of the lake or bay. It is best to sample when lake conditions are calm, between the hours of 10 am and 4 pm.

Step 1. *Secchi Transparency Readings*

- Use your Secchi disk to measure water clarity. Record the depth (in **metres**) on the observation sheet (see instructions on how to take a Secchi measurement on the back of the field observation sheet).
- **Keep** your observation sheet to make Secchi readings once or twice per month and return it to Dorset in November in the envelope provided.



Step 2. *Collect the Water Samples*

- First, write the **sampling date** on the two glass tube labels and on the 100mL sample jar label (blue or orange cap)
- Rinse the weighted sample bottle twice with lake water (does not need to be filtered). Next, lower the weighted sample bottle down to the Secchi depth and back up to the surface to fill it. In shallow lakes, lower the bottle no closer than approximately **1 metre** from the lake bottom.

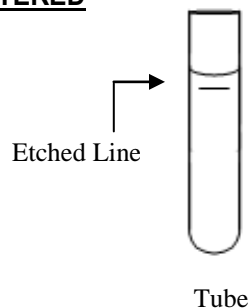
Step 3. *Fill the 100mL sample jar (blue or orange cap)*

- Pour the water through the filter and rinse the small sample jar **THREE TIMES** with **FILTERED** water. Fill the small sample jar with filtered water.
- **The funnel components are held together by friction. If they come apart, reassemble the two halves with the filter screen between the upper and lower sections.**



Step 4. *Fill both Glass Phosphorus Tubes*

- Rinse both glass tubes and caps **THREE TIMES** with **FILTERED** water
- **Using filtered water, fill both tubes to 1 cm above the etched line on the glass sample tube** (if you run out of water, repeat Step 2 by collecting another water sample with the weighted sample bottle)
- Make sure the lids are screwed on snugly.



Step 5. *Mail the samples to Dorset*

- Place the **funnel, sample collection bottle, 100mL jar and glass tubes** back into the box.
- Make sure the lids are securely screwed on and insert into the protective pipe wrap. Attach the return address label and postage provided to the outside of the box. Seal the ends of the box with tape and mail to Dorset.

Questions? Call 1-800-470-8322 (or 705-766-1294 if outside Ontario) or email lakepartner@ontario.ca