

# *Quick Reference Guide*

**For**

# Sampling Protocol



# SAMPLING PROCEDURES

## MY WATER SAMPLING ROUTINE

### Before I go...

- I familiarize myself with the MLA sampling program so I can answer questions.
- If I have question, I can call my Team Leader or the MLA office (705-765-5723).
- I co-ordinate with the members of my team and my Team Leader to ensure we are in sync with each other and understand each member's responsibilities.
- **I put the dates on appropriate number of Total Phosphorus and DOC bottles using the Sharpie. I put the site code on the bacteria jar lid using the wax pencil.**
- I prepare the top section of my data sheet and list sample sites to minimize the amount of writing I need to do in the boat.
- I plan my route using the map of my sampling area and arrange my sampling materials accordingly.
- I bring a cooler with ice packs or ice to keep my samples cool.
- I bring my Volunteer Manual and data sheets.
- I have my cell phone to match (or take) the GPS coordinates or my site and take pictures if necessary.
- I have all the legally required safety equipment needed in my boat, my PCO card, I am wearing a life jacket and I always go out with a partner.
- I rinse my arms and hands from sunscreen /

### After sampling...

- Take samples in cooler within two hours to either your Team Leader or the MLA office. If more than two hours, put them in fridge for interim period.
- **Bacteria samples must be tested within 24 hours.**

### 1 Go to my site

- Locate site using GPS coordinates or area map and photos.
- For a near shore site, coast into the location to not stir up the bottom. Get as close as possible to the shoreline and take sample(s) in between a 50 cm (19.7 in) to 150 cm (59 in) water depth.
- Hang thermometer in water on shady side.
- If waves or wind/current, use an anchor.

### 3 Collect samples

- Phosphorus, DOC and Bacteria if applicable.
- Put samples in a cooler as soon as possible.

### 2 Record info

- On the Data Sheet:
  - Wave action
  - Secchi depth if needed
- In notes: any unusual occurrences or things that might affect the samples (wildlife, construction...).
- Take pictures if missing or if site has changed.
- Take GPS coordinates if missing.

### 4 Water temperature

Retrieve thermometer and record water temperature in degree Celsius.

### 5 Move to next site

and repeat!

# SECCHI DEPTH

DEEPWATER SITES ONLY

## 1 Prepping at site

- Remove sunglasses if wearing any.
- Check the rope on the disc: tabs are placed every 10 cm to record depth in meters.
- Use the Secchi disc on the shady side of your boat.
- Deep water sites only.

## 2 Secchi Down

- Lower disc until you can no longer distinguish between the white and black portions of the disc.
- Record this depth in metres as "Secchi Down" on your data sheet - estimate to the nearest tenth of a metre.

## 4 Extra tips

- You can use clothes pegs to mark the rope - two different colours to indicate up and down - and then measure the rope.
- Measure depth from the surface of the water to the Secchi disc.
- Make sure the rope doesn't get tangled while retrieving the disc.

## 3 Secchi Up

- Lower the disc a little further.
- Raise the disc towards the boat until it reappears.
- Record this depth in meters as "Secchi Up" on your data sheet.

## 5 That's it!



Notes:

# COLLECTING MY PHOSPHORUS SAMPLES

## DEEPWATER SITES

### 1 Prepping at site

- Get bottles ready with correct site number.
- Rinse collection bottle twice using the "plunge and sweep method".
- Collect water using the "plunge and sweep method" and pour it twice through filter to rinse it - no need to dismantle the filter.

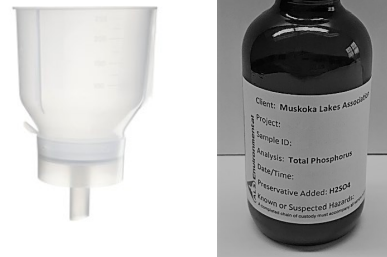


### 2 Collecting

- Clip sample collection bottle to Secchi disk and attach with rubber ties in vertical position.
- Lower down quickly to approximate Secchi depth. Once filled, raise bottle.
- Pour water through filter and into the phosphorus bottle, fill to shoulder. Do **NOT** rinse the sample bottle.
- Close lid tightly.
- Keep water in collection bottle for the duplicate sample, if applicable.

### 3 Duplicate sample

- Fill the second bottle with filtered water from the same grab of water in the collection bottle.



### 4 Keep it cool

- Put the bottles in your cooler which should be shaded from the sun if possible.

### 5 Move to next site

#### What is the approximate Secchi depth?

Approximate average "up" and "down" depths, measured with the Secchi disk.

#### What if my filter comes apart?

Reassemble the 2 halves with the filter screen between the upper and lower sections.

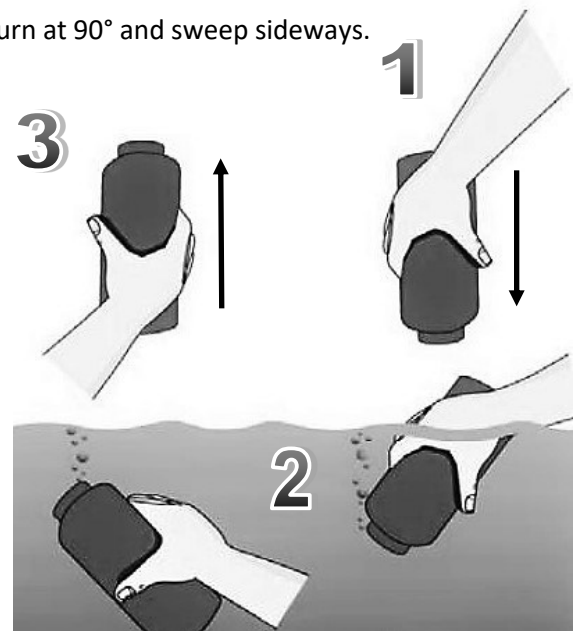
#### Do I...

Filter water? Yes  
Take a duplicate sample? Only if you have been instructed to and given the appropriate extra bottle.

#### "Plunge & Sweep Method"

1: Plunge the bottle upside down and vertically to forearm depth avoiding any surface debris.

2: Turn at 90° and sweep sideways.



# COLLECTING MY PHOSPHORUS SAMPLES

## NEARSHORE SITES

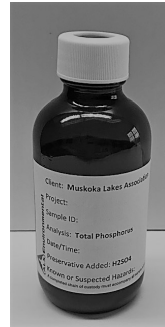
### 1 Prepping at site

- Get bottle ready with correct site number.
- Rinse collection bottle twice using the "plunge and sweep method".
- Collect water using the "plunge and sweep method" and pour it twice through filter to rinse it - no need to dismantle the filter.



### 3 Keep it cool

- Keep bottles in your cooler which should be shaded from the sun if possible.



### "Plunge & Sweep Method"

- 1: Plunge the bottle upside down and vertically to forearm depth avoiding any surface debris.
- 2: Turn at 90° and sweep sideways.
- 3: Once filled sweep upwards.

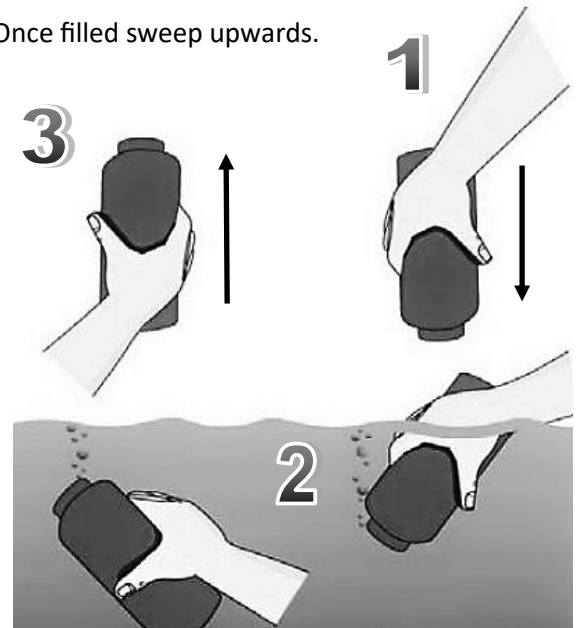


Image source: Ministry of Environment, Government of Quebec (2000)

### 2

### Collecting

- "Plunge and sweep" to fill collection bottle.
- Pour water through filter into phosphorus bottle and fill to shoulder. Do **NOT** rinse the sample bottle.
- Close lid tightly.

### 4

### That's it!

### Move to next site

#### Do I...

- Filter water? Yes
- Take a duplicate sample? Only if you have been instructed to and given the appropriate extra bottle.

#### What if my filter comes apart?

Reassemble the 2 halves with the filter screen between the upper and lower sections.

# COLLECTING MY BACTERIA SAMPLES

NEARSHORE SITES ONLY



## 1 Prepping at site

Get bacteria jar ready with correct site number on lid.

## 2 Collecting

- Be careful not to touch the inside of the cap or jar to avoid contamination.
- Fill bacteria jar using the "plunge & sweep method" leaving some air at top.
- Close lid tightly.

## 3 Keep it cool

Put the bacteria jar in your cooler which should be shaded from the sun if possible.

## 4 That's it!

## 5 Keep in mind...

Samples should be incubated and analyzed by Team Leader as soon as possible after collection.

**Do I...**  
Filter water? No  
Take a duplicate sample? No

### "Plunge & Sweep Method"

1: Plunge the bottle upside down and vertically to forearm depth avoiding any surface debris.

2: Turn at 90° and sweep sideways.

3: Once filled sweep upwards.

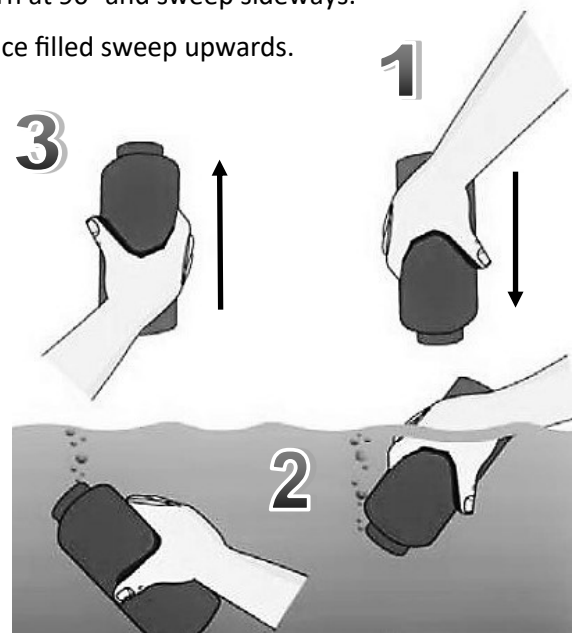


Image source: Ministry of Environment, Government of Quebec (2000)

### What if I have to reuse a jar from a previous sampling?

You should have enough jars in your kit so you don't need to use a jar twice. But if you do, wash your jar and lid at home with boiling water—do not use soap or detergent.

### Storing jars previously used:

Please do not leave the lids on your jars once used (to prevent rust formation).

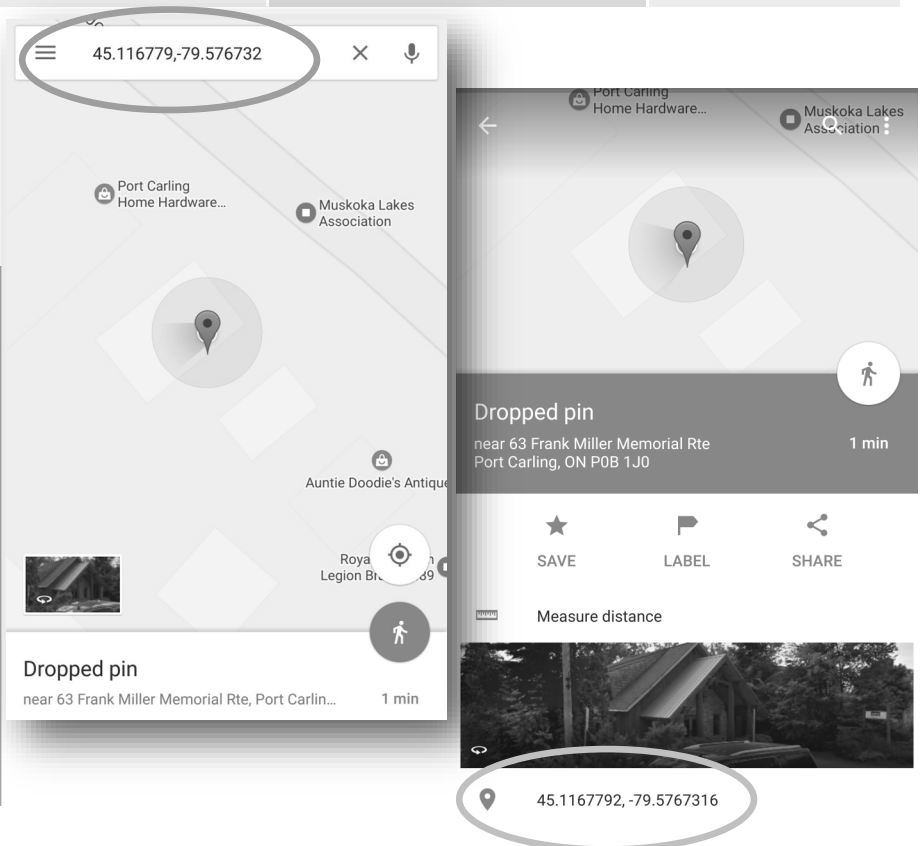
# Cheat Sheet

	Phosphorus deep water	Phosphorus nearshore	Bacteria
Do I filter water?	Yes	Yes	No
Do I take a duplicate sample?	Yes, I take two samples with one grab of water. Spring only plus where required by schedule. (Lake Partner sites will not have an MLA duplicate.)	Where required by schedule, I take two samples with one grab of water. Spring only.	No
Rinse twice with “plunge & sweep” collected water.	Collection bottle and filter	Collection bottle and filter	No
Do I rinse the sampling bottle?	No	No	No

## How to take GPS Coordinates

When you are at your site, open Google Maps on your smart phone. Zoom in closer to your location (blue pin/marker) then hold your finger on the marker—it will drop a pin. GPS coordinates should appear on a bottom banner. You can also click on the bottom banner, then “SAVE” (it will create a star) and “LABEL”: you can add the side code.

You can go back to these saved place at home by browsing your map.



# COLLECTING MY DOC SAMPLES

## DEEPWATER OR NEARSHORE SITES

### Prepping at site **1**

- Get DOC bottle ready with correct site number.
- Rinse bottle collection twice using the "plunge & sweep method".
- Collect water using the "plunge and sweep method" and pour it twice through filter to rinse it - no need to dismantle the filter.



### Collecting **2**

- "Plunge and sweep" to fill collection bottle.
- Pour water through filter in DOC plastic container.
- Rinse DOC container twice with filtered water.
- Fill container to the top.
- Close lid tightly.

### Keep it cool **3**

- Put the DOC bottle in your cooler that should be shaded from the sun if possible.

### That's it! **4**

### Keep in mind... **5**

DOC samples have a short shelf life, try to collect them at the end of the sampling weekend.

#### What if my filter comes apart?

Reassemble the 2 halves with the filter screen between the upper and lower sections.

#### Do I...

Filter water? Yes  
Take a duplicate sample? No

#### "Plunge & Sweep Method"

1: Plunge the bottle upside down and vertically to forearm depth avoiding any surface debris.

2: Turn at 90° and sweep sideways.

3: Once filled sweep upwards

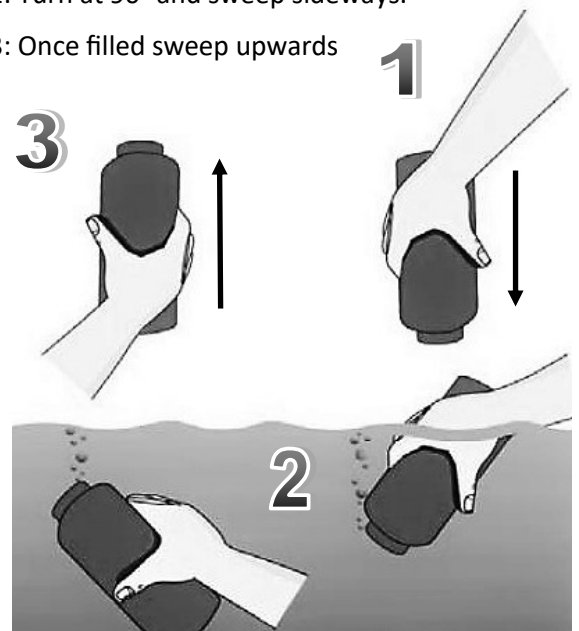


Image source: Ministry of Environment, Government of Quebec (2000)