

# Level II Lake Keeper HAB Sample Collection Protocols

Protocol Revision Date: 05/2023

## *Materials and Equipment*

- 1 HAB toxin bottle (2017: brown), sent in shipping box to testing lab;
- 1 nutrient bottle (2017: clear white HDPE, 32 oz.) sent in shipping box with HAB toxin sample;
- First August and second September samples only: 1 Algae (cell count) bottle sent in shipping box with HAB toxin and nutrient samples;

## *Frequency*

Refer to Data Collection and Water Sample Schedule for the current year schedule. Collect data/samples on alternating weeks to allow for statistical analysis of seasonal trends.

## *Preparation*

Before leaving home to collect samples:

1. Freeze the ice packs for the field cooler and all (4) ice packs for the shipping box.
2. Review checklist of sample equipment that you need to place into the field tote bag.
3. Take a digital camera for pictures of the extent of algae bloom each time you sample.
4. Collect samples only from Sunday to Wednesday. If you collect on Sunday, cool the sample overnight and mail on Monday. **Never freeze water samples.**
5. Collect samples between 8:00 a.m. and 6:00 p.m.
6. Mail samples as soon as possible, but no later than 24 hours after collection.
7. Keep samples cool and in the dark at all times after collection.
8. Do not collect water samples if raining.
9. For personal protection, always use vinyl gloves and goggles when collecting and handling samples.
10. Keep all samples away from children and pets.

## ***Collection Procedure***

### **Location**

For HAB sample collection, select an area of the lake to sample that has known public contact with lake water with seasonal algae blooms, such as swimming beach, boat dock, fishing area. **MWCD Lake Keepers should collect samples at the established HAB site for their lake.**

### **Collecting the Lake Water Samples from a beach or dock**

1. **Important:** For personal protection always use vinyl gloves and goggles provided while touching sample containers, and when collecting and pouring lake water samples that may contain cyanobacteria (“blue-green algae”) toxin chemicals.
2. Complete the **Chain-of-Custody** form and **Field Data Form** for the marked sections using an x-fine Sharpie pen. Replace paper forms into plastic bag in the shipping box.
3. Remove all water sample bottles. **Use an X-fine sharpie pen to record the lake name, site number/location, date and time on each sample bottle.**
4. Use the metal bucket with rope to collect a grab sample of surface water from the lake.
  - Do not walk into water or stir bottom sediments with the bucket.
  - Do not skim water surface to collect sample, rather let the metal bucket fall into the lake water to a depth of 3-4 inches.
5. Rinse collection bucket and compositing sampling (Mason) jar with lake water three times prior to use.
6. Collect 3 surface grab samples from the test location: **For a swimming beach** or fishing area collect the **3 samples about 30 feet apart**. For boat docks collect samples from all sides of the dock.
7. Pour each of the 3 bucket samples into the glass compositing mason jar. **For each bucket sample pour 8 oz (1 cup) of lake water into the mason jar.** Composite a total of 24 oz (3 cups) of lake water in the mason jar. Put the lid on the mason jar and gently mix the water.
8. Place the sample bottles into the white basket. Carefully remove the lids from the sample containers. Use vinyl gloves and goggles while pouring lake water. **Be very careful of the cell count bottle with iodine solution.**
9. Carefully pour water from the glass mason jar into the sample containers to the shoulder of each container. Be careful not to overfill the sample containers.
10. Tighten the lids on each sample container. Invert each container to look for leaks. Dry the lid. Use the black electric tape to double wrap the lid to the container.
11. Immediately place sample containers into zip-lock bags with frozen ice packs into the field cooler. Always keep samples cool and in the dark after they are collected.

## ***Shipping Procedure***

1. It is important that samples be mailed as soon as possible, but no later than 24 hours after collection. If samples must be held at home, place samples into the field cooler to keep cool before packing to mail. **DO NOT FREEZE SAMPLES.**
2. Place each plastic sample container into a small zip-lock bag.
3. Place one pre-frozen small ice pack into the zip-lock bag next to the toxin sample container. Place the remaining ice packs into the thermal insert of the shipping box. Be sure the sample containers are upright.
4. Seal shut the top of the thermal insert with packing tape. Complete the shipping time and your signature on the Chain-of-Custody form. **Add the small plastic bag with the Chain-of-Custody and Field Data Form on top of the thermal insert. Do NOT place the Chain-of-Custody form along the side of the box.**
5. Tape the shipping box shut using the packing tape. Secure top and all sides.
6. Hand deliver the shipping box to US Post Office window. Mail the Box with postage for PRIORITY MAIL with DELIVERY CONFIRMATION. Keep postage paid and delivery confirmation receipts for your records. Explain that the Box to Mail contains lake water samples and no hazardous substances. For lakes located far from Cleveland: Samples must be received by Thursday. Consider other shipping options if Thursday receipt is not possible.