

Summary of Sampling / Field Procedures

1. Trip Preparations

- A. Each lake is supplied with a sampling cooler containing the required sample bottles, preservative, ice pack, cooler, temperature blank, and sample data / chain of custody sheet.
- B. Assemble the sampling gear in the boat. Make sure that the ice pack is frozen prior to the sampling date and is placed in the cooler.
- C. Prior to sampling, fill out the bottle labels with the following information: Lake Name, Site ID#, Samplers Name, and Date.
- D. Fill in the basic information on the sample data / chain of custody sheet (Lake Name, MN Lake ID#, Site ID#)

2. Locate your site using a map, depth finder, and/or a GPS unit. A site map can be printed by using our [Lake Mapping Tool](#) (web URL). Approach the site by motoring into the wind/waves and **anchor** the boat.

3. Following the proper directions for each parameter, be sure to complete the following readings in the listed order.

Primary Site

1. Recreational Suitability
2. Physical condition
3. Total Phosphorus Sample with 2M integrated sampler
4. Chlorophyll-a sample with 2M integrated sampler
5. Secchi Disk

Secondary Site

1. Recreational Suitability
2. Physical condition
3. Secchi Disk

4. Fill in a Sample Data / Chain of Custody sheet at each site. Be sure to complete field observations on the back side of the form. Make sure your entries are clearly written.

5. Water Sampling Procedure – Sampler and Bottle Rinse

- A. Record the sampling time on the bottle labels and the sample data / chain of custody sheet.
- B. Perform the following rinse procedures on the downwind side of the boat and collect all samples on the upwind side of the boat.
- C. Field rinse the 2 meter integrated sampler by filling and emptying it three times.
- D. Field rinse the 2 liter amber glass bottle as follows: Fill the integrated sampler with a water sample and empty the contents into the 2 liter glass bottle. Cap the bottle, shake it, and dump the rinse water out.
- E. There is no need to field rinse the plastic sample bottle.

6. Water Sampling Procedure – Total Phosphorus

- A. On the upwind side of the boat, collect a sample with the integrated sampler, then empty the water into the 2 liter glass bottle. Cap the bottle and mix the sample by inverting the bottle 4 to 5 times.
- B. Pour the water from the 2 liter glass bottle into the smaller 1 pint plastic bottle. Fill to the bottom of the bottle's neck. Pour the Sulfuric Acid that is contained in the small vial into the plastic bottle. The acid preserves the phosphorus sample by dropping the pH below 2. Cap the sample bottle and mix by inverting the bottle 4 to 5 times. Place the sample into the cooler. Cap the acid vial and place back into the cooler for disposal at the lab.
NOTE: If you get any acid on your hands or cloths, rinse immediately in the lake. Your hands will begin to itch, and then burn if you come in contact with the acid. It is wise to wash your hands in the lake after handling the acid vial. See the acid safety information section below.
- C. *Discard any remaining contents of the 2L glass bottle.*

7. Water Sampling Procedure - Chlorophyll-a

- A. Collect another sample using the integrated sampler then empty the water into the 2 liter glass bottle. Tighten the cap and place the bottle into the cooler. If you feel that you did not get enough water in the amber jug, discard the sample and try sampling again. It is important to collect only one water sample in the amber jug.

8. Secchi Disk Reading

- Remove sunglasses. Lower the Secchi Disk into the lake on the shaded side of the boat. Continue to lower the disk until it just disappears from view. At this point record the disk's Depth by way of the marked cord.
- Lower the disk a bit further and then raise the disk until it just appears. Record this depth.
- Average the two depths to the nearest 1/2 (0.5) foot to calculate the Secchi Disk reading. Record this number on the appropriate data sheets, along with the date and time of the reading. *NOTE:* When recording the time on the data sheet, use the same time for all data taken at the site on a given date.

9. Transportation / Delivery to Lab Procedures

- Make sure the bottle caps are on tight. Ensure that the cooler contains a frozen ice pack. Use *bagged* ice if you expect the cooler to sit for more than 24 hours before being received by the lab. In July and August we recommend that you add *bagged* ice to the cooler.
- Completely fill out the Sample Data / Chain of Custody Sheet. Place this in the large zip lock bag, and place it on top of the samples in the cooler.
- Close the cooler and tape the cooler lid to the cooler.
- Delivery Choices
 - If you belong to an organization that has a designated drop off location, deliver the sample there and pick up a replacement cooler. If you are unable to deliver to your drop off location, follow the instructions listed below as step b.
 - For individual lakes working with the program, ship or deliver cooler to RMB Environmental Laboratories at 22796 County Highway 6, Detroit Lakes, MN 56501 (218-846-1465). We will restock your cooler and return it to you.

Examples of Completed Bottle Label:

Organization Member

RMB Environmental Laboratories, Inc.	Lab Code: _____
Client: <u>Organization Name</u>	
Sample ID/ Description: <u>Lake Name / Site #</u>	
Date: <u>5/14/06</u> Time: <u>1430</u> Sampler: <u>RMB</u>	
Preservative: <input type="checkbox"/> None <input type="checkbox"/> Nitric <input type="checkbox"/> Sulfuric <input type="checkbox"/> Other__	
Analysis:	

Individual Lake Association

RMB Environmental Laboratories, Inc.	Lab Code: _____
Client: <u>Lake Name</u>	
Sample ID/ Description: _____ <u>Site #</u>	
Date: <u>5/14/06</u> Time: <u>1430</u> Sampler: <u>RMB</u>	
Preservative: <input type="checkbox"/> None <input type="checkbox"/> Nitric <input type="checkbox"/> Sulfuric <input type="checkbox"/> Other__	
Analysis:	

Safety Data for Sulfuric Acid

Danger.... Liquid and mist cause severe burns to all body tissue. May be fatal if swallowed. Harmful if inhaled. **DO NOT** get in eyes, on skin or clothing. Do not breathe mist. Wash thoroughly after handling. Always keep container closed when not in immediate use. Always add the acid to water, never add water to acid.

Inhalation

If inhaled, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion

If swallowed, **DO NOT** induce vomiting. Give large quantities of water or milk if available.

Call a physician immediately. Never give anything by mouth to an unconscious person.

Skin Exposure

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Call a physician if itchiness and/or burning sensations persist.

Eye Exposure

Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.