

SECCHI DISK SAMPLING PROTOCOL

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INSTRUCTIONS:

Secchi Depth – a measure of water clarity. You will have two readings, one while lowering the disk until it disappears, and then lowering it further and then recording when it appears while raising the disk.

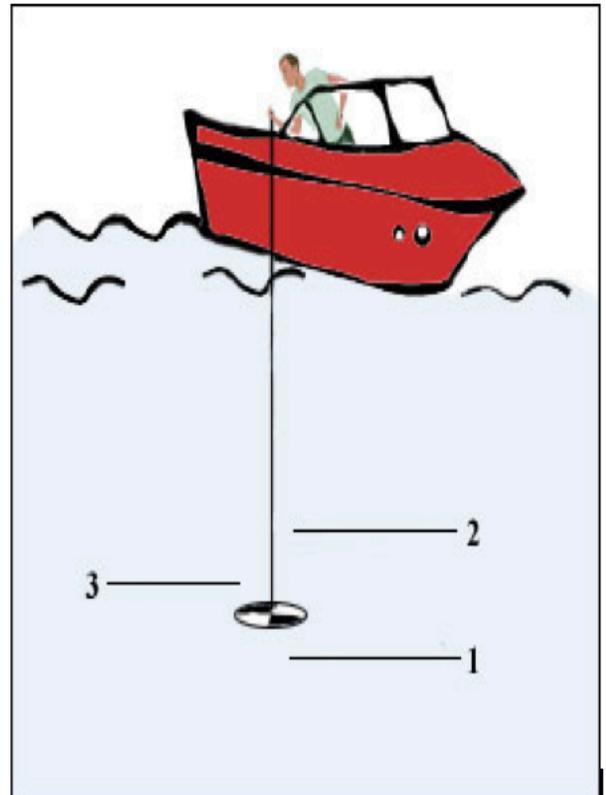
a. Do not use dark glasses or polarizing lenses while observing the Secchi disk. While these might improve the reading in your lake, it reduces the accuracy of the comparison of your reading with previous measurements from your lake by other volunteers, or readings from other lakes.

b. Slowly lower the disk into the water on the shady side of boat, watching it continually.

c. When the disk completely disappears from sight, use the tape to measure the depth. Record the depth to the nearest tenth of a meter (from the surface of the water) as Secchi Reading 1. If the disk can be seen all the way to the bottom of the lake, check the “on bottom?” box and skip the second reading.

d. Let out an additional length of tape (about a meter) so that the disk won't reappear immediately. Then slowly raise the disk and measure when the disk appears again as you are pulling it up. Record the depth on the tape to the nearest tenth of a meter as Secchi Reading 2 on the sampling form.

e. Secchi Reading 1 and Secchi Reading 2 may not be the same number, but neither should they be far apart. These readings should be within a meter of each other. You can repeat the procedure to double check, but only record one set of readings.



PRACTICE:

Practicing Secchi disk measurements can be very helpful and should improve the repeatability of our results. The Maine Volunteer Lake Monitoring Program has a website with a simulation used to certify Maine volunteers and indicates how close they come to the correct sighting. <http://www.mainelakedata.org/recertify/disk.php> To use the simulator, choose your lake type, press the "Take Reading" button, read the directions and click to start. Raise and lower the disc using the up and down arrow keys on your keyboard. When you reach what you think is the proper depth, press the measure button and then the submit button to check your reading against the correct answer. Practicing on the simulator can help you visualize what you will be doing and seeing on the lake. Note, however, that the Maine simulator only imitates measuring the Secchi disk as it goes down, and you will also take a reading as you pull the disk up.

Adapted from:

CSLAP Sampling Protocol
New York Citizens Statewide Lake Assessment Program
PHYSICAL AND CHEMICAL CSLAP SAMPLING
Updated for 2015

Where did the name Secchi Disk come from?

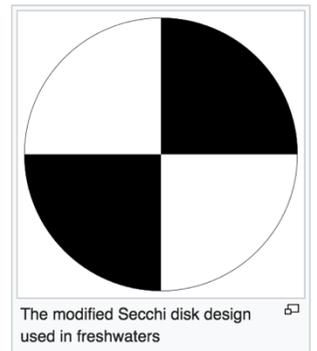
Secchi disk

From Wikipedia, the free encyclopedia

The **Secchi disk**, as created in 1865 by **Angelo Secchi**, is a plain white, circular disk 30 cm (12 in) in diameter used to measure water **transparency** or **Turbidity** in bodies of water. The disc is mounted on a pole or line, and lowered slowly down in the water. The depth at which the disk is no longer visible is taken as a measure of the transparency of the water. This measure is known as the **Secchi depth** and is related to water **turbidity**. Since its invention, the disk has also been used in a modified, smaller 20 cm (8 in) diameter, black and white design to measure freshwater transparency.

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History [edit]

The original Secchi disk was a plain white disk and it was used in the Mediterranean Sea.^[1]^[2] Today, a plain white, 30 cm diameter Secchi disk remains the standard design used in marine studies. In 1899 **George C. Whipple** modified the original all-white Secchi disk to "...a disc about 8 inches in diameter, divided into quadrants painted alternately black and white like the target of a level-rod...".^[3]^[4] This modified black and white Secchi disk is the standard disk now used in **limnology** (freshwater) investigations.^[5]^[6]