

# USING A SECCHI DISK

Secchi disk depth is the simplest and one of the most effective tools for estimating a lake's productivity. All you need is a Secchi disk, which is a metal disk that is 8 inches in diameter with a cord attached to the center. The cord has a black mark at one-foot intervals and a red mark at six-inch intervals.



The Secchi depth is a measurement of water clarity. Water transparency directly affects the amount of light penetration into a lake. Algae and suspended particles from erosion make the water cloudy and decrease the Secchi transparency in a lake; therefore, the lower the Secchi depth, the higher the algal concentration and lake productivity. A lake can vary in water transparency seasonally, so it is important to take numerous Secchi disk readings per summer. Once a month from May to September is the minimum, but every two weeks is even better. If Secchi depth is measured in a lake for numerous consecutive years, the data can be analyzed for water quality trends. If a significant trend indicates increasing Secchi depth over time, the water quality is improving. If a significant trend indicates decreasing Secchi depth over time, the water quality is declining.

There are some guidelines for taking Secchi disk readings that need to be followed. First, take the reading from an established monitoring site. To establish a new monitoring site, see <http://www.pca.state.mn.us/publications/wq-s5-01.doc>. Try to go out between 10am and 3pm on a bright, calm day since the angle of the sun and waves can affect readings. Also, never wear sunglasses while making the reading because this can affect visibility of the Secchi disk.

## TAKING A SECCHI DISK READING

1. Lower the Secchi disk into the water on the shady side of the boat. Keep lowering the disk slowly until it disappears. Note the depth on the cord.
2. Slowly pull the disk up until you see it again. Note the depth on the cord.
3. Average the 2 depths to the nearest half-foot mark on the cord.
4. Record the average depth on the Secchi data sheet along with the date and time of the reading.

