

## 6.1 GENERAL PROTOCOLS FOR TAKING SECCHI DISC MEASUREMENTS

### Overview

Secchi discs (Photo 5 and Figure 3) are used to provide a visual measure of water clarity or optical depth. The Secchi disc is lowered into the waterbody and the depth at which the pattern is no longer visible is taken as the measure of clarity. Measurements should be made every two weeks if possible between June and October.

Secchi depth measurements should be in a shady location and the observer should not wear sunglasses. Ensure to record the time of sampling, since this may influence the Secchi measurement. The optimal time for taking a Secchi measurement is mid-day. Take at least two measurements at each sampling site/station and estimate the optical depth based on the mean of these two measurements. Ideally the Secchi disc measurement should be accurate to within  $\pm 1$  cm. The higher the Secchi disc reading, the clearer the lake. If the light meter is not operational, determine the approximate euphotic zone (depth of 1% incident radiation [light]) by multiplying the Secchi disc reading by 2.



Photo 5. Secchi disc (Source: CRE Laurentides)

### Sources

Développement durable, Environnement et Parcs, Gouvernement du Québec (2007 a), EMAN-N (2005), Alberta Environment (2006 a)

### At a glance

- 1** Take the Secchi reading on the shaded side of the boat using a calibrated cord or chain. (Use a permanent marker to mark intervals as tape wrapped around the rope tends to loosen and slide over time.)
- 2** Slowly lower the disc into the water until it disappears from sight and note the depth (Depth 1).

**3** Lower the disc down a further 1 m (or until it is well out of sight) then slowly raise the disc until it is visible again and note this depth (Depth 2).

**4** The Secchi disc reading is the average of the two recorded depths (Depths 1 and 2). Record the time of sampling. The higher the Secchi disc reading, the clearer the lake. The depth at which the Secchi disc disappears or appears may vary from observer to observer and from day to day due to light conditions.

*average of  
two  
readings*

**Other  
sources**

Environment Canada (2009), Nova Scotia Department of Environment and Labour 1996

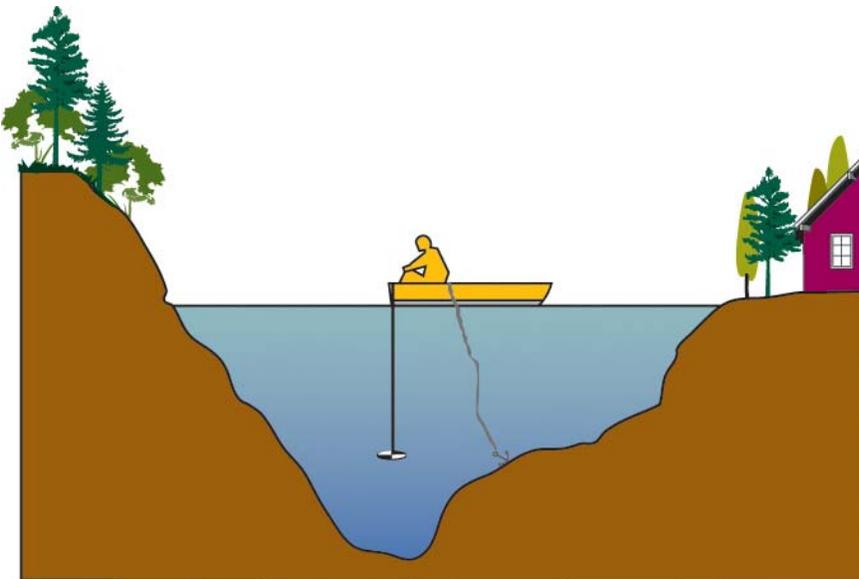


Figure 3. Secchi disc measurements (Source: CRE Laurentides)