

Volunteer Lake Monitoring Program

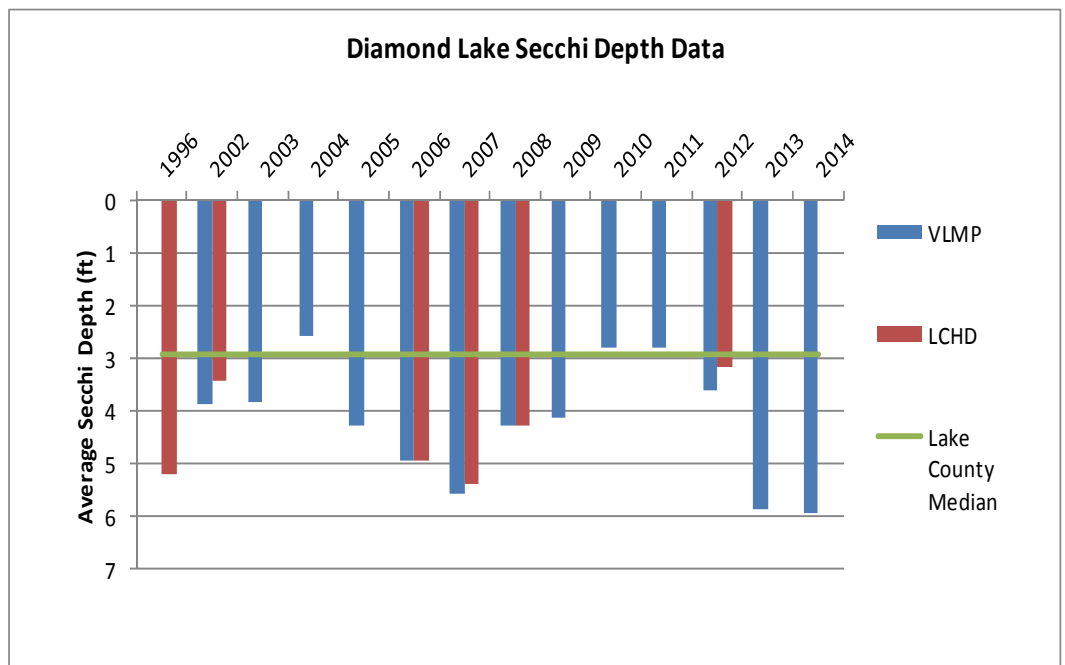
Diamond Lake Fact Sheet

Diamond Lake

Watershed: Des Plaines
 Subwatershed: Indian Creek
 Surface Area: 153 acres
 Maximum Depth: 23.56 ft
 Average Depth: 7.65 ft
 Lake Volume: 1171 acre-feet
 Shoreline Length: 3.09 mi
 Lake Elevation: 743 ft, msl



For some lakes in Illinois, data collected by Volunteer Lake Monitors are the only consistent water quality data available from year to year. The Illinois Volunteer Lake Monitoring Program (VLMP) has been around since 1981. In 2014, 59 lakes were monitored in Lake County by volunteers participating in VLMP. The Illinois Environmental Protection Agency (IEPA) and Lake County Health Department (LCHD) use this data for water quality assessments and as baseline water quality indicators.



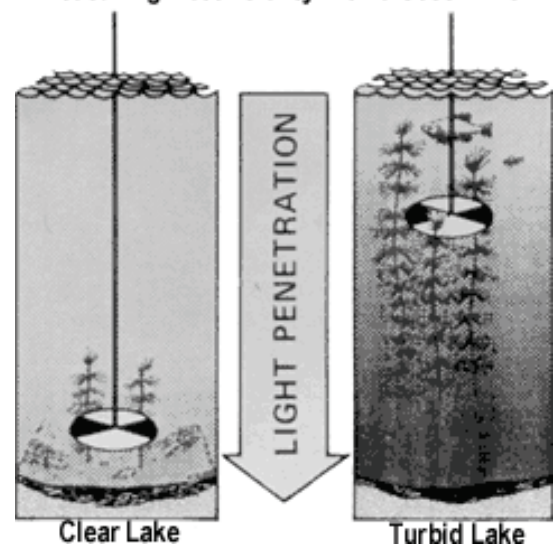
Questions?

Contact your Lake County VLMP Coordinator:
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 847-377-8009
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 Lake County Health Department
 500 W. Winchester road,
 Unit #102,
 Libertyville, IL 60048

What Does a Secchi Disk Measure?

- ◆ A secchi disk measures **water transparency or clarity**.
- ◆ Indicates the amount of light penetration into a lake.
- ◆ Provides an indirect measure of the amount of suspended material, which in many cases is algae in the water.

Measuring Water Clarity with a Secchi Disk



Trophic State Index

Carlson's Trophic State Index (TSI) is a common way to characterize a lake's trophic status—meaning it's overall health or productivity. The VLMP summer-mean Secchi transparency generally provides a good indication of trophic status for lakes and can be used to estimate likely ranges of total phosphorus and chlorophyll-a for your lake.

The TSI scale ranges from 0 to 100 which correlates from nutrient poor to nutrient rich lakes. Low trophic values (oligotrophic) are often associated with very clean and clear lakes. High and/or increasing trophic status values indicate more eutrophic (increased nutrients) conditions. The "ideal" trophic state depends on how the lake is used or managed. For example, an oligotrophic lake is a better source of drinking water than a eutrophic lake. Swimmers may prefer oligotrophic lakes because of their clarity. Eutrophic lakes can be biologically diverse with abundant fish, plants, and wildlife.



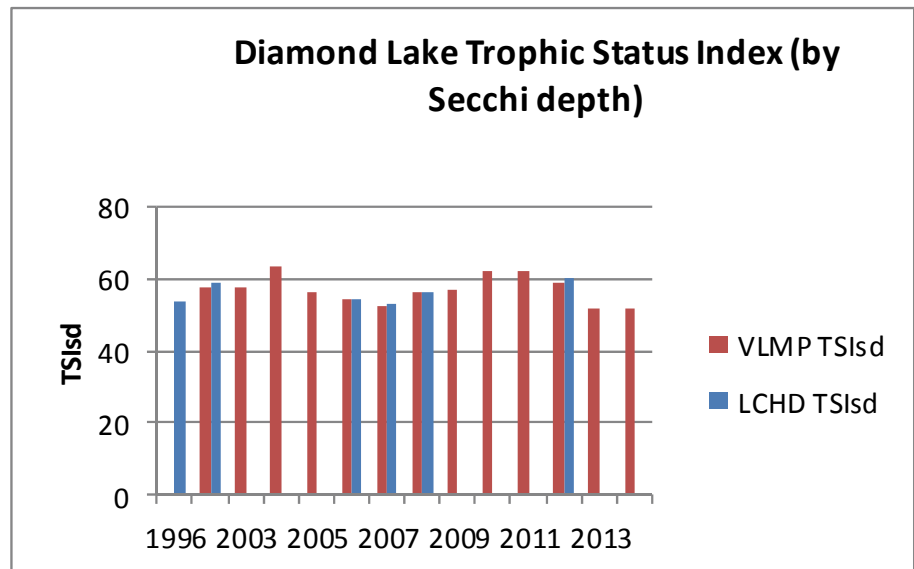
OLIGOTROPHIC: Lakes are generally clear, deep and free of weeds or large algae blooms. They are low in nutrients and usually have a sparse fish populations and sparse vegetation.



MESOTROPHIC: Lakes have an intermediate level of productivity. These lakes are commonly clear water lakes and ponds with beds of submerged aquatic plants and medium level of nutrients. Diverse increasing fish population.



EUTROPHIC: Lakes have high biological productivity. These lakes are normally weedy and subject to frequent algae blooms. Eutrophic lakes support large fish populations but are usually less diverse. These lakes are also susceptible to oxygen depletion near the bottom of the lake, also known as the hypolimnion.



*TSI is calculated from mean average Secchi readings from VLMP data

Trophic Status	Trophic Class
<40	Oligotrophic
40-50	Mesotrophic
50-70	Eutrophic
>70	Hypereutrophic

Diamond Lake is considered to be eutrophic.