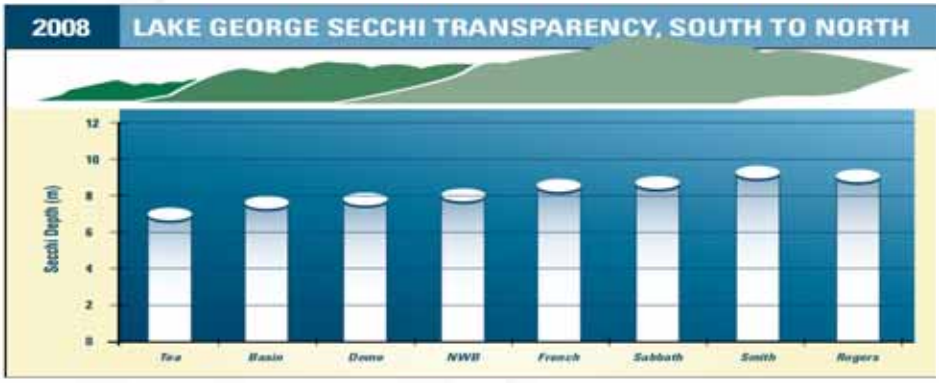
LAKE GEORGE FACT SHEET

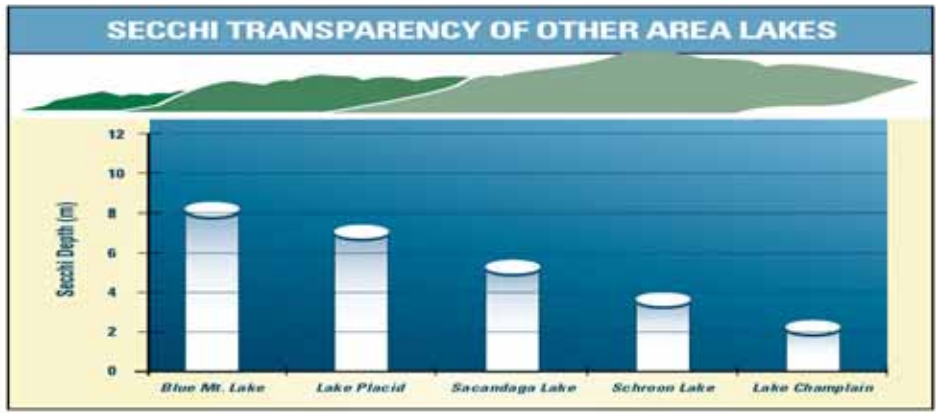
WATER CLARITY

THE WATER CLARITY LEVELS IN LAKE GEORGE ARE DECREASING

The main way that many around Lake George judge water quality is the clarity of the water. Many remark about how years ago they were able to clearly see the lake bottom at significant depths and how today the lake is no longer as clear as it used to be. Scientific research over the past 30 years has found a downward trend in water clarity at long-term study locations near Tea Island, Dome Island, Basin Bay, Northwest Bay, Green Island, and Smith Bay. The range over the years is an average between 6 -14 meters in depth.

Another trend found in Lake George is that water clarity improves from the south of the lake to the north end. The chart on the right shows that the monitoring locations at the south end of Lake George, including Tea Island, Dome Island, and Basin Bay in Bolton, are all significantly less than those at north basin locations near Sabbath Day Point, Rogers Rock, and Smith Brook. This trend has been consistent for a long time and is a result of greater land uses activities in the south basins of Lake George than at the north end.





Lake George regularly has some of the highest water clarity measurements of lakes in the Adirondacks and across New York.

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Water Clarity

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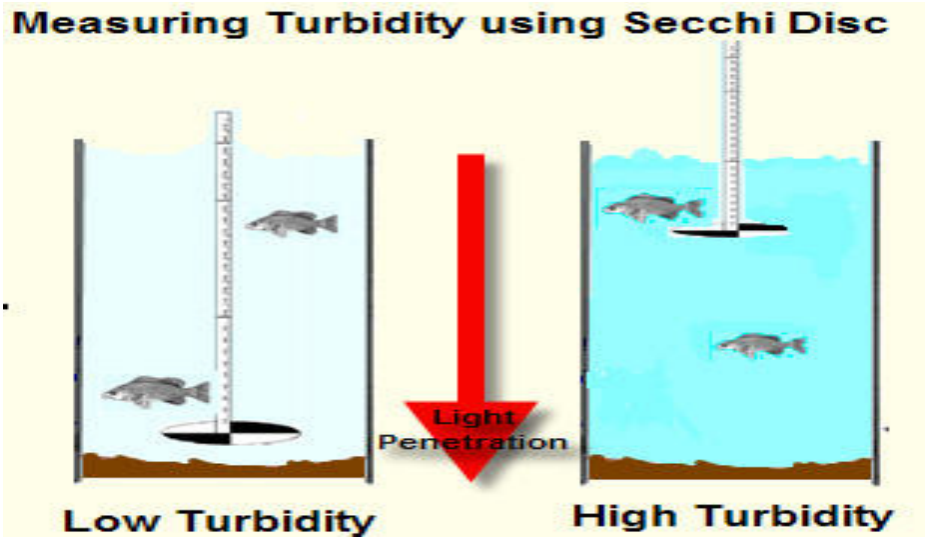
It's also important to note that the water clarity of Lake George, while declining, is still significantly better than many other lakes in the Adirondacks and across New York. Major lakes, such as Schroon, Great Sacandaga and Lake Champlain have clarity levels of less than half of those recorded in Lake George.

Water clarity is an important indicator over overall lake health. Early spring sampling finds clarity levels of upwards of 18-20 meters. This is largely due to the fact that algal life has not fully established. By late spring, clarity levels have dropped as phytoplankton – microscopic plant life – have begun to grow and zooplankton – microscopic animal life – have begun to feed on them. Phytoplankton need sunlight to survive, grow, and exist only in the photic zone where sunlight is transmitted below the surface.

High levels of rainfall can also lessen water clarity as greater amounts of sediment, nutrients and pollutants are carried into Lake George with stormwater. This has the effect of clouding waters. High nutrients levels also stimulate a greater abundance of aquatic and microscopic plant life.

One reason the south basin of Lake George sees clarity averages less than the north basin is because of the higher amount and greater intensity of land use activities around the south end of Lake George. Land use activity, such as houses, septic systems, yards, fertilizer use, pesticide use, stormwater runoff from roads and parking lots, among many other sources, all load nutrients into Lake George that feed the algal life and produce higher levels of phytoplankton, which feed zooplankton. This abundant microscopic plant and animal life lessens water clarity at it blocks sunlight from being transmitted far below the surface.



The turbidity of lake water affects the depth of a Secchi disc reading.

The most common measurement of water quality is the use of a Secchi disc, which is lowered with a measuring tape into the lake. A recording is taken of the lowest point at which it can still be seen.

If the trends measured over the past 30 years of slowly declining water clarity continue unabated, it is expected that the loss of water clarity will accelerate in the future. A continued decrease in water clarity will be part of an overall decrease in water quality.

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