

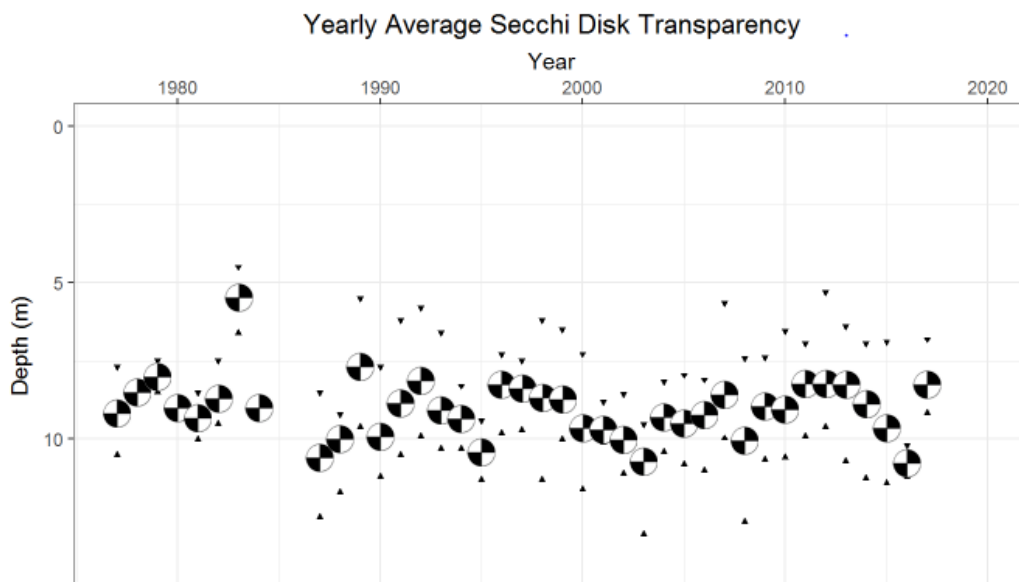
Thompson Lake Water Quality Overview for 2017

The water quality of Thompson Lake last summer varied from “average to below average”, compared to the historical average for the lake. This assessment is based on three critical indicators of lake water quality: the overall clarity of the water, the concentration of the nutrient phosphorus in the lake, and the amount of algae in the water through the period from May through September.

The lake was less clear in 2017 than the historical average for Thompson, but was still exceptionally clear, compared to other Maine lakes. The graphic below illustrates the degree to which the annual water clarity (aka: Secchi Disk Transparency) for Thompson Lake has varied from the 1970's to present. The hatched disks shown on the graph represent the average depth (in meters) that one could see down into the lake for each year. The small points above and below each disk represent the clearest and least clear individual readings for the given year.

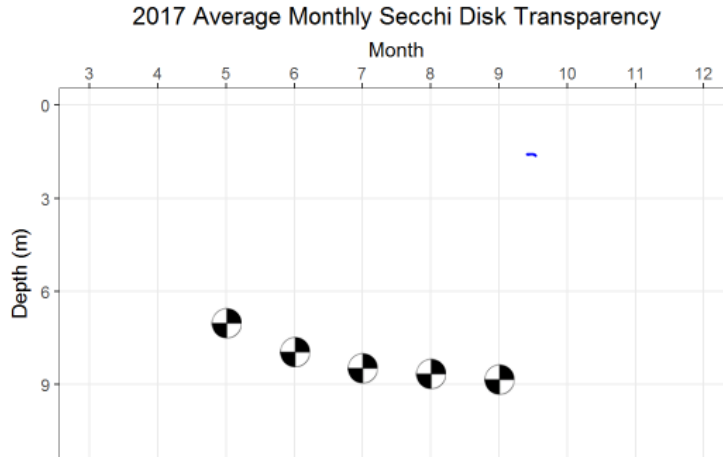
Through the years, Thompson Lake has been very sensitive to stormwater runoff from its watershed, often responding negatively following major rain events. Severe drought conditions in 2016 resulted in the highest (clearest!) annual average in the history of monitoring the lake (clearly visible on the chart below)! The sharp drop shown here for 2017 was likely due to the heavy snow melt in the spring, combined with many rain storms in the spring and early summer.

Weather conditions changed dramatically from mid to late summer, when drought conditions reappeared, and the lake responded predictably with deeper, clearer water clarity readings during the period, as shown in the second graph below, which illustrates the monthly average transparency readings for Thompson

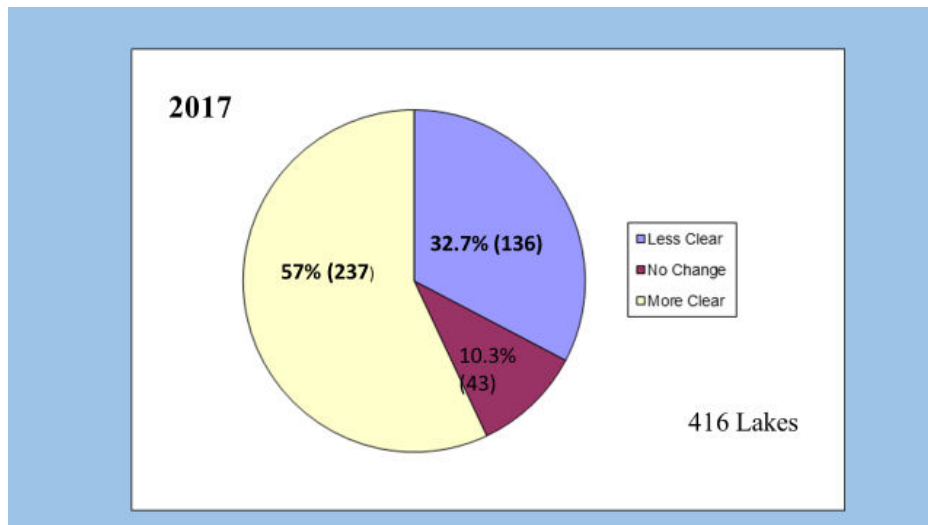


Graphics Courtesy Maine DEP and Maine VLMP

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The cumulative effect of the 2016 drought, combined with a return to drought conditions late last summer, was likely a strong influence on many Maine lakes in 2017, as illustrated in the graphic below. However, even though more than half of 416 lakes throughout Maine were clearer than their historical average last summer, about a third (including Thompson) were less clear, for a number of reasons, including the natural rate at which a lake “flushes”, development in the watershed, and other factors.



Percentage of Maine Lakes in 2017 that were clearer than (white), less clear (blue) or unchanged (purple), compared to their historical averages

The good news is that although Thompson Lake was less clear than average in 2017, the average concentrations of both phosphorus and algae in the lake during the course of the summer were very close to the historical average for the lake. And even though Thompson's 2017 clarity/transparency average was lower than the historical average (8.2 meters, versus 9.0 meters), it was still substantially clearer than the combined average for all of Maine's lakes in 2017 (8.2 meters versus about 5.6 meters). *The average distance that one could see down into the water in Thompson Lake in 2017 was 8.2 meters, or about 27 feet.*

Weather has a very strong bearing on the variability of indicators of lake water quality. Some lakes, including Thompson, appear to be more sensitive to the effects of weather than others. Extreme weather events associated with climate change may amplify this sensitivity. Efforts undertaken throughout the watershed to prevent soil erosion, and to divert stormwater runoff into stable vegetated buffers will enhance the lake's capacity for resilience in the future.

Scott Williams