

# 2019 Water Testing Report

## Lakes Environmental Association



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# About LEA

The Lakes Environmental Association (LEA) is a non-profit organization founded in 1970 with the goal of preserving and restoring high water quality and traditional character of Maine's lakes, watersheds and related natural resources. Headquartered in Bridgton, Maine, LEA's service area includes six towns in the western Maine Lakes Region, although its reach and influence extends across the whole state.

## Lake Water Testing

Water testing on 41 lakes and ponds in LEA's service area occurs every year through traditional and advanced testing initiatives. Data collected and presented in this report contributes to our long-term understanding of lake/pond behavior and health. Our data is available to the public through Maine's Department of Environmental Protection and on LEA's website.

## Invasive Plant Program

LEA's Milfoil Control Team successfully eradicated invasive Variable Leaf Milfoil from Brandy Pond and the Songo River in 2015, after over a decade of hard work. The focus shifted to Sebago Cove in 2016, where a dense infestation threatens nearby waterbodies, and in 2017 they began work on Long Lake after an infestation was found there. LEA's program continues to be a model for the entire state.

## Environmental Education

LEA offers environmental education programs to local elementary, middle, and high schools, reaching over 1,000 students annually. LEA also hosts educational

programs for all ages at the Holt Pond Preserve, Highland Research Forest, and Pondicherry Park, all of which LEA played a key role in establishing.

## Landowner and Municipal Assistance

LEA provides technical assistance to residents interested in preventing erosion on their property. This service helps educate landowners about simple erosion control techniques and existing land use regulations. LEA also works with municipalities on comprehensive planning, natural resources inventories, and ordinance development.

## Courtesy Boat Inspections

Every summer, LEA hires over 30 courtesy boat inspectors to educate boaters at public boat launches about invasive plants and help them perform inspections on their watercraft. This program, begun by LEA, has been adopted across the state.

## Maine Lake Science Center

Opened in 2015, LEA's Maine Lake Science Center is a hub for lake research in the state. The center regularly hosts researcher retreats and other events at its remodeled and renovated energy-efficient headquarters located in Bridgton.

**You can become an LEA member with a donation of any amount. Just mail a check to LEA, 230 Main St., Bridgton, ME 04009 or join online at [www.minelakes.org](http://www.minelakes.org).**

LEA would not be able to test the 41 lakes and ponds of this area without strong support from our surrounding community. Every year, we rely on volunteer monitors, lakefront landowners, summer interns, and financial support from lake associations and the towns of Bridgton, Denmark, Harrison, Naples, Sweden, and Waterford to be able to continue to monitor and analyze lake water quality. **Thank you for all your help!**

### **2019 Volunteer Monitors and Lake Partners**

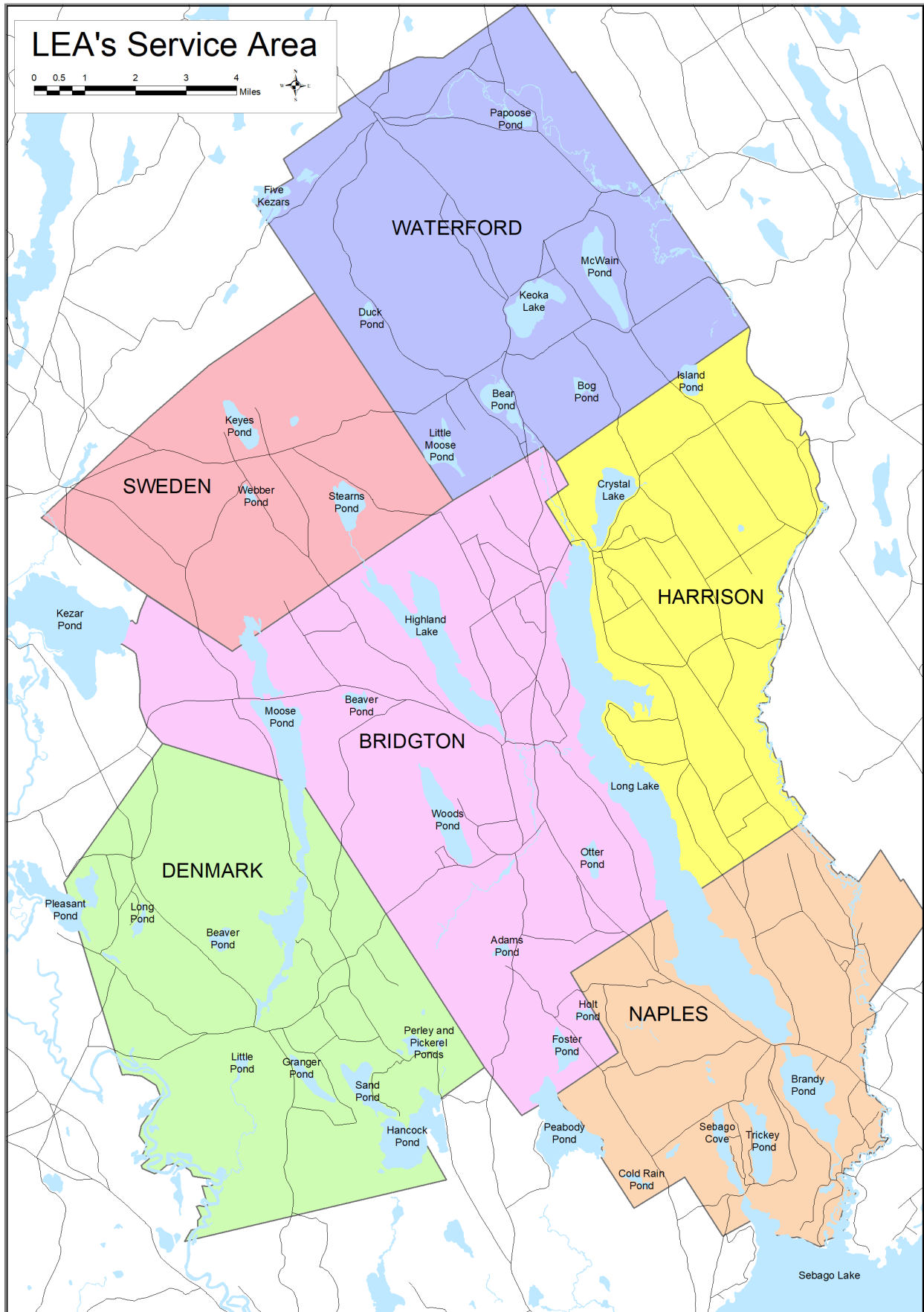
Bill Ames and Paulina Knibbe	Jean Preis
Richard and Andy Buck	Jean Schilling
Steve Cavicchi	Amy March
Jeff and Susan Chormann	Julie and Dan McQueen
Janet Coulter	Tom Straub
Shelly Hall	Bob Mahanor
Joe and Carolee Garcia	McWain Shores Association
Jane Seeds	Bob Mercier
Carol Gestwicki	Papoose Pond Campbottom
Linda and Orrin Shane	Barry and Donna Patrie
Foster and Marcella Shibbles	Nancy Pike
Bob Simmons	Don and Pat Sutherland

### **2019 Water Testing Crew**

Hannah Sirois   Olivia Mills   Shannon Nelligan   Addie Casali



# LEA's Service Area





## Key to Water Quality at a Glance Table

**Chlorophyll-a and Phosphorus Trends** — Available data from 1996-2019 were analyzed to determine if chlorophyll-a and phosphorus trends indicate increasing, decreasing, or stable concentrations over time. Both chlorophyll-a and phosphorus are measured in parts per billion (PPB).

*Increasing* = more chlorophyll-a or phosphorus in lake water samples over time

*Stable* = neither more nor less chlorophyll-a in lake water samples over time

*Decreasing* = less chlorophyll-a or phosphorus in lake water samples over time

**Clarity Trends:** Available data from 1996-2019 were analyzed to determine if clarity trends indicate increasing, decreasing, or stable depth trends over time. Clarity is measured in meters (m). Higher numbers indicate clearer water.

*Increasing* = deeper clarity readings over time

*Stable* = clarity readings are neither deeper nor shallower over time

*Decreasing* = shallower clarity readings over time

**2019 Average Chlorophyll-a concentrations, Phosphorus Concentrations, Color and Clarity readings:** Chlorophyll-a and phosphorus concentrations throughout the 2019 monitoring season were averaged and classified according to LEA's water quality index outlined below.

Clarity in meters (m)		Phosphorus in parts per billion (ppb)		Chlorophyll-a in parts per billion (ppb)		Color in Standard Platinum Units (SPU)	
10.0 +	Very High	less than 5.0	Low	less than 2.0	Low	Less than 10.0	Low
7.1 – 10.0	High	5.1 – 12.0	Moderate	2.1 – 7.0	Moderate	10.1 - 25.0	Moderate
3.1 – 7.0	Moderate	12.1 – 20.0	High	7.1 – 12.0	High	25.1–60	High
less than 3.0	Low	20.1 +	Very High	12.1 +	Very High	60.1+	Very High

# Water Quality at a Glance—Biweekly Monitoring

Lake	2019 Avg. Clarity	2019 Avg. Phosphorus	2019 Avg. Chlorophyll-a	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
ADAMS POND	High	Moderate	Low	Increasing	Stable	Stable
BACK POND	Moderate	Moderate	Moderate	Increasing	Decreasing	Stable
BEAR POND	Moderate	Moderate	Low	Stable	Stable	Stable
BRANDY POND	Moderate	Moderate	Moderate	Stable	Stable	Stable
CRYSTAL LAKE	Moderate	Moderate	Moderate	Decreasing	Decreasing	Increasing
FOSTER POND	Moderate	Moderate	Moderate	Increasing	Stable	Stable
GRANGER POND	High	Moderate	Moderate	Stable	Decreasing	Stable
HANCOCK POND	Moderate	Low	Moderate	Stable	Stable	Decreasing
HIGHLAND LAKE	Moderate	Moderate	Moderate	Increasing	Stable	Decreasing
ISLAND POND	Moderate	Moderate	Moderate	Decreasing	Stable	Stable
KEOKA LAKE	Moderate	Moderate	Moderate	Increasing	Decreasing	Stable
KEYES POND	Moderate	Moderate	Moderate	Increasing	Decreasing	Stable
LITTLE MOOSE POND	Moderate	Moderate	Low	Stable	Stable	Stable
LONG LAKE (North)	Moderate	Moderate	Moderate	Stable	Stable	Stable
LONG LAKE (Middle)	Moderate	Moderate	Moderate	Stable	Stable	Stable
LONG LAKE (South)	Moderate	Moderate	Moderate	Increasing	Decreasing	Stable
McWAIN POND	Moderate	Moderate	Moderate	Stable	Decreasing	Decreasing
MIDDLE POND	Moderate	Moderate	Low	Increasing	Stable	Decreasing
MOOSE POND (Main)	Moderate	Moderate	Moderate	Stable	Decreasing	Stable
MOOSE POND (North)	Moderate	Moderate	Moderate	Stable	Stable	Stable
MOOSE POND (South)	Moderate	Moderate	Moderate	Decreasing	Stable	Decreasing
PEABODY POND	High	Moderate	Moderate	Stable	Stable	Stable
SAND POND	Moderate	Moderate	Moderate	Stable	Stable	Stable
STEARNS POND	Moderate	Moderate	Moderate	Increasing	Stable	Decreasing
TRICKEY POND	High	Low	Low	Decreasing	Stable	Increasing
WOODS POND	Moderate	Moderate	Moderate	Increasing	Increasing	Stable

# Water Quality at a Glance—Annual Monitoring

Lake	2019 Avg Clarity	2019 Avg. Phosphorus	2019 Avg. Chlorophyll	Long Tem Clarity Avg.	Long-term Phosphorus Avg.	Long-term Chlorophyll Avg.
BEAVER B. (Bridgton)	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
BEAVER D. (Denmark)	*	Moderate	Moderate	*	High	Moderate
BOG POND	*	High	Moderate	*	High	Moderate
COLD RAIN POND	Moderate	High	Very high	Moderate	Moderate	Moderate
DUCK POND	Low	Very high	Very high	Moderate	Very high	High
HOLT POND	Low	High	Moderate	Low	High	Moderate
JEWETT POND	Moderate	High	Moderate	Moderate	Moderate	Moderate
KEZAR POND	Low	Very high	Low	Low	High	Moderate
LITTLE POND	Moderate	Moderate	Low	Moderate	Moderate	Moderate
LITTLE MUD POND	Low	Very high	Moderate	Low	Very high	High
LONG POND	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
MUD POND	Low	High	Moderate	Moderate	Moderate	Moderate
OTTER POND	Moderate	Moderate	Low	Moderate	High	Moderate
PAPOOSE POND	Moderate	High	Moderate	*	High	Moderate
PERLEY POND	Moderate	Moderate	Low	Moderate	Moderate	Moderate
PICKEREL POND	Moderate	Moderate	Low	Moderate	Moderate	Moderate
PLEASANT POND	Low	Very High	Moderate	Low	Moderate	Moderate
SEBAGO COVE	*	Moderate	Moderate	*	High	Moderate
WEBBER POND	*	Moderate	Low	*	High	Moderate

\* Indicates that the Secchi disk touched the pond bottom but was still visible during sampling. When the Secchi disk touches the bottom but is still visible, the resulting reading does not represent an accurate water clarity measurement.



# Lake Stratification 101

To understand much of LEA's water quality data, it is helpful to be familiar with the concept of lake stratification.

Lake stratification is when the water column separates into distinct layers. This is caused by density differences in water at different temperatures. However, wind also plays a key role in maintaining and breaking down stratification. This layering happens in both the summer and winter and breaks down in the spring and fall, allowing for "turnover" – full mixing throughout the water column.

In Maine, three layers often form: the epilimnion, metalimnion (aka thermocline), and the hypolimnion.

The epilimnion is the warm surface layer of the lake and the hypolimnion is the cold bottom layer. The thermocline is a narrow zone in between these layers where temperature and oxygen levels change rapidly. The exact depths of each layer change over the course of the summer and from lake to lake and year to year.

Due to the nature of stratification, which does not allow for oxygen exchange between the top and bottom layers, oxygen and nutrient concentrations often differ significantly between the upper and lower portions of a stratified lake. This is especially true in late summer.

Lack of nutrient and oxygen exchange has several consequences for the lake. Light penetration is greatest near the top of the lake, meaning that algae growth primarily occurs in the epilimnion. Algae growth will sometimes peak near the thermocline, often in lakes with deep light penetration and higher hypolimnetic phosphorus levels.

Oxygen levels in the epilimnion are constantly replenished through wind mixing, but the hypolimnion is cut off from the atmosphere, leaving it with a fixed volume of oxygen which is slowly used up over the summer. This can affect coldwater fish species in some lakes.

Phosphorus, the limiting element controlling algae growth in our lakes, is often more abundant in the hypolimnion because it is stored in sediments.

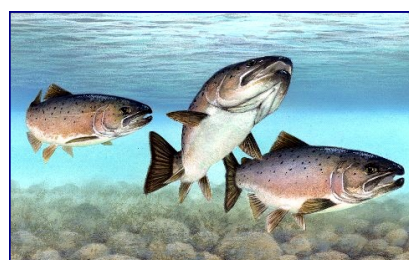
When oxygen levels are low at the bottom of the lake, as often happens later in the summer, a chemical reaction occurs that releases stored phosphorus from sediments. However, due to the density barrier at the metalimnion, these nutrients do not move easily into the epilimnion.



Smallmouth Bass

## Epilimnion

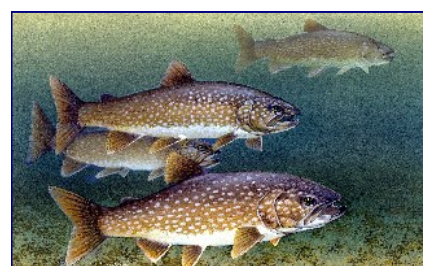
The warm upper waters are sunlit, wind-mixed and oxygen rich.



Landlocked salmon

## Metalimnion

This layer in the water column, also known as the thermocline, acts as a thermal barrier that prevents the interchange of nutrients between the warm upper waters and the cold bottom waters.



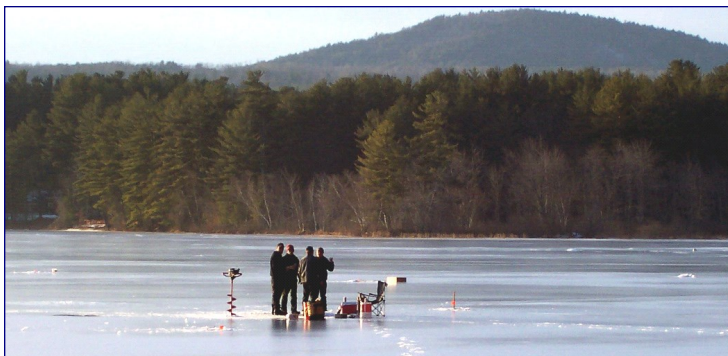
Lake trout, also known as togue

## Hypolimnion

In the cold water at the bottom of lakes, food for most creatures is in short supply, and the reduced temperatures and light penetration prevent plants from growing.

# *A year in the life of a lake*

**Winter** is a quiet time. Ice blocks out the sunlight and also prevents oxygen from being replenished in lake waters because there is no wind mixing. With little light below the ice and gradually diminishing oxygen levels, plants stop growing. Most animals greatly slow their metabolism or go into hibernation.



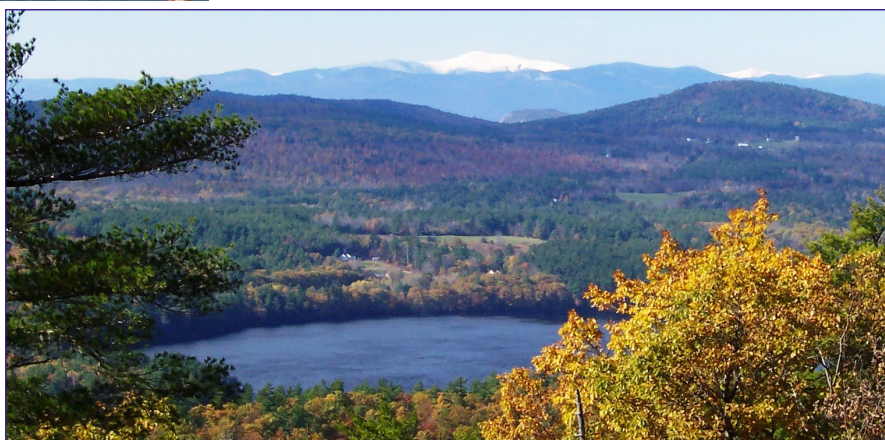
**Spring** is a period of rejuvenation for the lake. After the ice melts, all of the water is nearly the same temperature from top to bottom. During this period, strong winds can thoroughly mix the water column allowing for oxygen to be replenished throughout the entire lake.

This period is called spring turnover. Heavy rains, combined with snow melt and saturated soils are a big concern in the spring. Water-logged soils are very prone to erosion and can contribute a significant amount of phosphorus to the lake. Almost all soil particles that reach the lake have attached phosphorus.



**Summer** arrives and deeper lakes will gradually stratify into a warm top layer and a cold bottom layer, separated by a thermocline zone where temperature and oxygen levels change rapidly. The upper, warm layers are constantly mixed by winds, which “blend in” oxygen. The cold, bottom waters are essentially cut off from oxygen at the onset of stratification. Coldwater fish, such as trout and landlocked salmon, need this thermal layering to survive in the warm summer months, and they also need a healthy supply of oxygen in these deep waters to grow and reproduce..

**Fall** comes and so do the cooler winds that chill the warm upper waters until the temperature differential weakens and stratification breaks down. As in Spring, strong winds cause the lake to turn over, which allows oxygen to be replenished throughout the water column.



## Water Quality Testing Parameters

LEA's testing program is based on parameters that provide a comprehensive indication of overall lake health. Tests are conducted for transparency, temperature, oxygen, phosphorus, chlorophyll-*a*, color, conductivity, pH, and alkalinity.

**Clarity** is a measure of water transparency. It is determined with a Secchi disk and measured in meters. Clarity is affected by water color and the presence of algae and suspended particles.

**Temperature** is measured at one-meter intervals from the surface to the bottom of the lake. This data is used to assess thermal stratification. Lakes deep enough to stratify will divide into three distinct layers: the epilimnion, metalimnion and hypolimnion. The epilimnion (upper layer) is comprised of the warm surface waters. The hypolimnion is made up of the deep, colder waters. The metalimnion, also known as the thermocline, is a thin transition zone of rapidly decreasing temperature between the upper and lower layers. Temperature is recorded in degrees Celsius.

**Chlorophyll-*a*** is a pigment found in all algae. Chlorophyll (the *-a* is dropped for simplicity) sampling in a lake is used to estimate the amount of algae present in the water column. Chlorophyll concentrations are measured in parts per billion (ppb). Samples are collected with a core tube and are made up of water from the top layer (epilimnion) of a lake.

**Phosphorus** is a nutrient needed by algae to grow. It is measured in order to determine the potential for algae growth in a lake. Phosphorus is measured in parts per billion (ppb). Surface-layer phosphorus samples are collected with a core tube, while deep-water phosphorus samples are taken at individual depths using a grab sampler. Surface-layer samples tell us how much phosphorus is available for algae in the sunlit portion of a lake, where the algae grow. If deep-water samples show high phosphorus levels, this is an indication that sediments are releasing phosphorus and that the lake is potentially susceptible to future algae blooms.

**Dissolved oxygen** is measured at one-meter intervals from the surface to the bottom of the lake. It is measured in parts per million (ppm). Over the course of the summer, oxygen in the bottom waters is consumed through organic matter decomposition. If dissolved oxygen concentrations reach zero at the bottom of the lake, phosphorus can be released into the water column from bottom sediments, which can cause increased algal growth that could fuel further oxygen depletion. Phosphorus release is inhibited in lakes with high sediment aluminum levels. Oxygen depletion can be a natural occurrence in some lakes. It is a special concern in lakes that support coldwater fish because they are an important part of lake food webs. In this report, "oxygen depletion" refers to dissolved oxygen levels below 4 ppm.

***Other Measurements:*** We collect data on these parameters, but they tend to remain stable over long periods time. They are not reported on unless unusual conditions were observed.

**Conductivity** measures the ability of water to carry electrical current. Pollutants and minerals in the water will generally increase lake conductivity.

**Color** is a measure of tannic or humic acids in the water.

**pH** is used to measure the level of acidity in lake water, which affects the species makeup and availability of micronutrients in a lake.

**Alkalinity** measures the capacity of lake water to buffer changes in pH.



## Interpreting the Summaries

### Water Quality Classification

Each lake's clarity, chlorophyll, and phosphorus readings will be discussed in the lake summaries. These three measurements are the basis for determining water quality classification. Most lakes in LEA's service area are in the moderate range for all three parameters. The following table shows the range of values in each category for each parameter. Water color is also included in the table because it affects clarity.

Clarity in meters (m)		Phosphorus in parts per billion (ppb)		Chlorophyll-a in parts per billion (ppb)		Color in Standard Platinum Units (SPU)	
10.0 +	Very High	less than 5.0	Low	less than 2.0	Low	Less than 10.0	Low
7.1 – 10.0	High	5.1 – 12.0	Moderate	2.1 – 7.0	Moderate	10.1 - 25.0	Moderate
3.1 – 7.0	Moderate	12.1 – 20.0	High	7.1 – 12.0	High	25.1 - 60.0	High
less than 3.0	Low	20.1 +	Very High	12.1 +	Very High	60.1 +	Very High

Table 1. Numeric values used to determine water quality in waterbodies monitored by LEA.

### Trends and Long-Term Averages

Lake summaries include an explanation of clarity, chlorophyll, and phosphorus trends. Trends are determined for each lake that has been visited bi-weekly for multiple years in a row. These trends are a regression analysis of all data that has been collected by LEA on that lake or pond since 1996 (or later if data is unavailable for earlier years). If the p-value of the regression is less than 0.05, it is an increasing or decreasing trend (depending on the direction of the trend). If the p-value is above 0.05, there is no significant trend and that parameter is considered stable. These trends show water quality changes over time.

The long-term average is determined for each lake that has been visited once annually for multiple years in a row. The long-term average is a simple mean of all the data we have on record for each parameter (clarity, chlorophyll, and phosphorus). The long-term average uses all the data available, rather than just data collected in or after 1996. The long-term average doesn't tell us specifically how each parameter changes over time; it is instead used to see how the current year's data compares to historical values. A t-test was used to compare 2019 average values against long-term average values. This shows us if 2019 data is significantly different than historic data. If the p-value is above 0.05, there is no significant difference between 2019 averages and long-term averages. If the p-value is below 0.05, there is a significant difference between 2019 averages and long-term averages.

### Coldwater Fish Habitat

Suitable habitat is defined as being below 15.5 °C and above 5 ppm dissolved oxygen. Marginal habitat is between 15.5 and 20 °C and above 4 ppm dissolved oxygen. Coldwater fish habitat is considered a water quality issue in lakes with coldwater fisheries that do not have at least 2 meters' worth of suitable habitat at all times during the testing season.

## Individual Lake Summaries

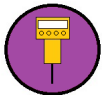
The following pages present 2019 routine monitoring data by lake. Graphs or charts have been included in the individual summary information to help show particular conditions or trends. You will also see the following symbols in the top right corner of some pages. These symbols indicate that additional data from that lake is available in chapters 2–5.



This symbol indicates that the lake has a high-resolution monitoring buoy. Further information is available in chapter 2.



This symbol indicates that a series of temperature sensors was deployed in the lake in 2019. More information is available in chapter 3.



This symbol indicates that fluorometer profiles were taken from the lake in 2019. Fluorometer results are discussed in chapter 4.



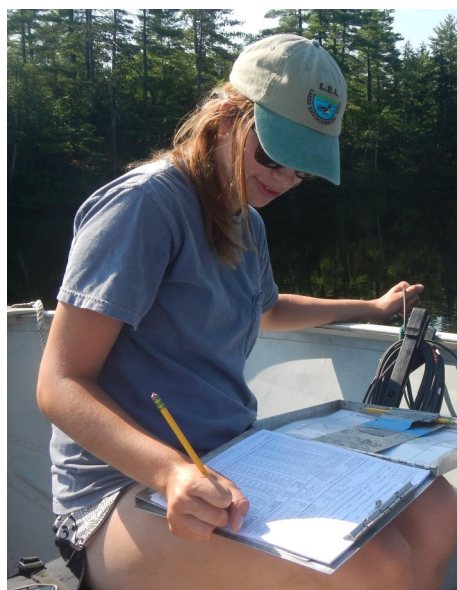
This symbol indicates that LEA analyzed spatial differences in water quality over the surface of the lake in 2019. Spatial water quality results are discussed in chapter 5.



# Lakes Environmental Association 2019 Water Testing Report



## Chapter 1—Routine Monitoring Results

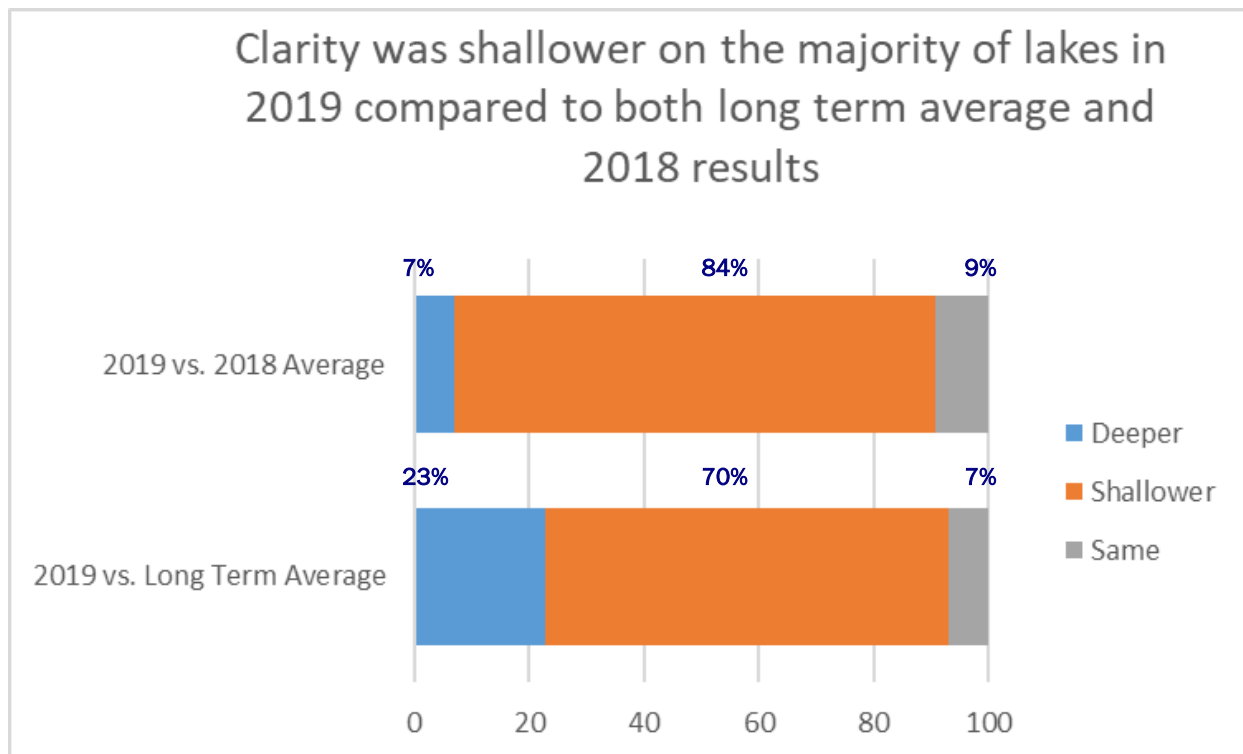


## 2019 as a Year

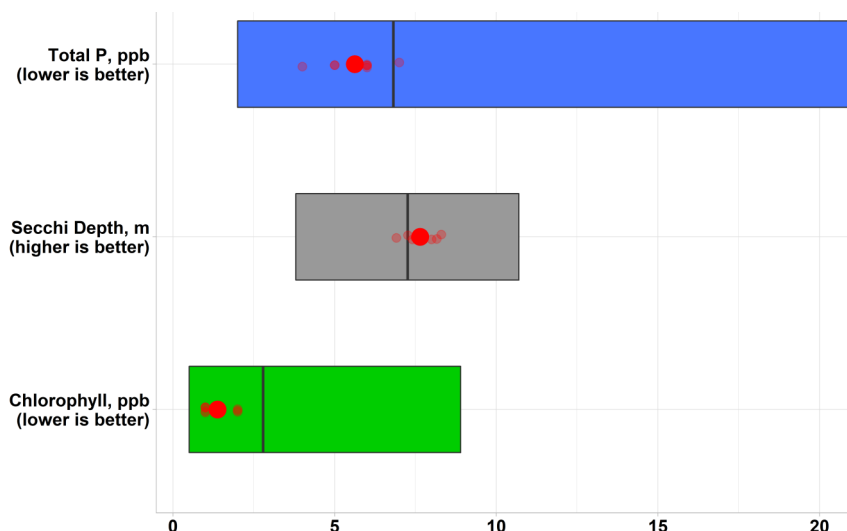
Clarity is an important measurement in lakes because it has a huge effect on ecology and water quality. At a basic level, clarity can be an indicator of algae growth. Low clarity readings may indicate high algae growth. Another measurement, chlorophyll, is a more direct measure of algae concentrations. Clarity and chlorophyll, together with phosphorus—a measure of the nutrient available for algae growth – are the key parameters used to determine lake water quality. LEA measures chlorophyll and phosphorus using a sample made up of water from the top layer of the lake. Phosphorus is also measured in the deeper waters of some lakes at individual depths.

On average in 2019, 30% of lakes had deeper (or similar) clarity, 76% of lakes had lower surface layer phosphorus, and 86% of lakes had lower or similar chlorophyll concentrations when compared to long-term averages. Because of this, many lakes and ponds went from having stable trends in clarity, phosphorus, or chlorophyll to having improving trends, or went from a negative trend to a stable one.

The winter snowpack was substantial for the third year, leading to erosion in the spring that resulted in poor clarity readings to begin the testing season. Ice-out was relatively late in 2019, which meant that the stratified period was shorter, but also contributed to the lower clarity seen at the beginning of the year. The overall low clarity readings are likely due to rain storms throughout the summer. Despite low clarity readings throughout the season, overall water quality in the Lakes Region was very good.



## Adams Pond



<b>Surface Area:</b>	43 acres
<b>Maximum Depth :</b>	51 feet
<b>Mean Depth:</b>	27 feet
<b>Volume:</b>	955 acre-feet
<b>Watershed Area:</b>	196 acres
<b>Flushing Rate:</b>	0.54 flushes per year
<b>Elevation:</b>	640 feet

**Adams Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Adams Pond. The line represents the long-term average value obtained and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

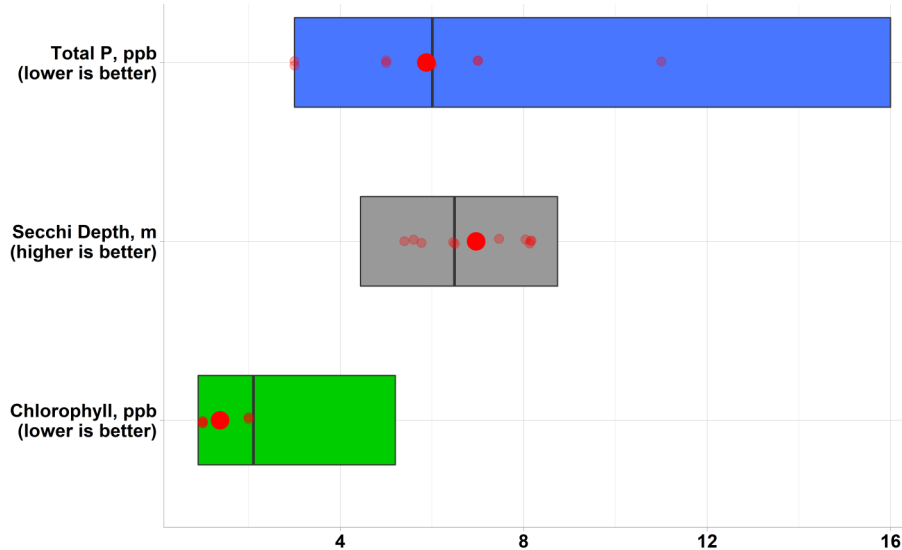
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 7.65 meters, fell into the clear range, and was deeper than the long-term average of 7.25 meters. The average total phosphorus reading of 5.63 ppb fell into the moderate range and was less than the long-term average of 6.75 ppb. Deep water phosphorus values did reach into the “very high” range. The chlorophyll-a average of 1.38 ppb fell into the low range and was less than the long-term average of 2.73 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Adams Pond are stable, total phosphorus concentrations are stable, and clarity readings are slightly increasing. The average color reading for 2019 was 22.3 SPU, indicating that water in Adams Pond is moderately colored. Suitable fish habitat was present through September, however low oxygen conditions were present in deep water from June through September.

## Adams Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Coldwater Fish Habitat	Water Color	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	23.67	Suitable	22.3	Increasing	Stable	Stable
<b>Interpretation</b>	Very high, indicates phosphorus recycling	Coldwater fish had at least 2 meters of habitat in parts of the lake	Water was moderately colored	Deeper Secchi readings over time	Neither less nor more phosphorus in water over time	Neither less nor more chlorophyll- a in water over time

## Back Pond



Surface Area:	62 acres
Maximum Depth:	33 feet
Watershed Area:	584 acres
Elevation:	572 feet

### Back Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Back Pond. The line represents the long-term average value obtained, and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

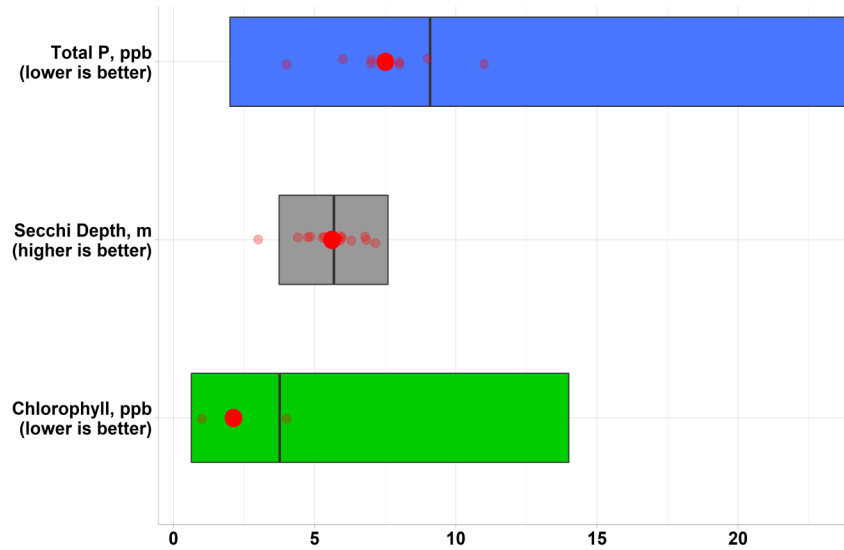
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 6.96 meters, fell into the moderately clear range, and was deeper than the long-term average of 6.53 meters. The average total phosphorus reading of 5.88 ppb fell into the moderate range and was slightly less than the long-term average of 5.9 ppb. Deep water phosphorus values reached into the high range. The chlorophyll-a average of 1.38 ppb fell into the moderate range and was higher than the long-term average of 2.05 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Back Pond are stable, total phosphorus concentrations are decreasing, and clarity readings are increasing. The average color reading for 2019 was 18.38 SPU, indicating that water in Back Pond is moderately colored. Suitable fish habitat was present through November, however low oxygen conditions were present in deep water from July through November.

## Back Pond's Quick Stats

	Deep Water Phosphorus (average in PPB)	Coldwater Fish Habitat	Water Color	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	14.5	Suitable	18.38	Increasing	Decreasing	Stable
<b>Interpretation</b>	High	Coldwater fish had at least 2 meters of habitat in parts of the lake	Water was moderately colored	Deeper Secchi readings over time	Less phosphorus over time	Neither more nor less chlorophyll over time

## Bear Pond



<b>Surface Area:</b>	250 acres
<b>Maximum Depth:</b>	72 feet
<b>Mean Depth:</b>	34 feet
<b>Volume:</b>	7,978 acre-feet
<b>Watershed Area:</b>	5,331 acres
<b>Flushing Rate:</b>	2.3 flushes per year
<b>Elevation:</b>	375 feet

### Bear Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Bear Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

## 2019 Water Quality Highlights

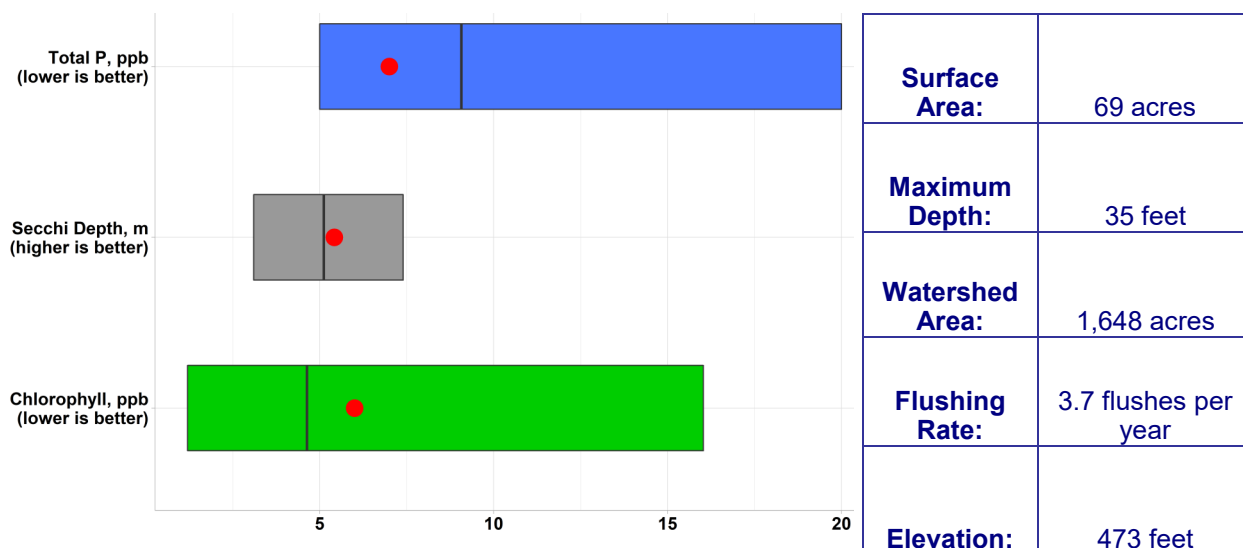
The average Secchi disk reading for 2019 was 5.54 meters, fell into the moderately clear range, and was shallower than the long-term average of 5.68 meters. The average total phosphorus reading of 7.50 ppb fell into the moderate range and was less than the long-term average of 9.01 ppb. Deep water phosphorus values did reach into the very high range. The chlorophyll-a average of 1.86 ppb fell into the low range and was less than the long-term average of 3.63 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Bear Pond are stable, total phosphorus concentrations are stable, and clarity readings are stable. The average color reading for 2019 was 20.06 SPU, indicating that water in Bear Pond is moderately colored. Suitable fish habitat was present through September, however low oxygen conditions were present in deep water from June through September.

## Bear Pond's 2019 Quick Stats

	<b>Deep Water Phosphorus (average in PPB)</b>	<b>Coldwater Fish Habitat</b>	<b>Water Color (SPU)</b>	<b>Clarity Trend</b>	<b>Phosphorus Trend</b>	<b>Chlorophyll-a Trend</b>
<b>Analysis Result</b>	16.25	Suitable	20.06	Stable	Stable	Stable
<b>Interpretation</b>	High deep water phosphorus	Coldwater fish had at least 2 meters of habitat in parts of the lake	Water was moderately colored	Neither deeper nor shallower Secchi readings over time	Neither more nor less phosphorus in water over time	Neither more nor less Chlorophyll in water over time



## Beaver Pond – Bridgton



**Beaver Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Beaver Pond. The line represents the long-term average value, and the dot represents 2019's value.

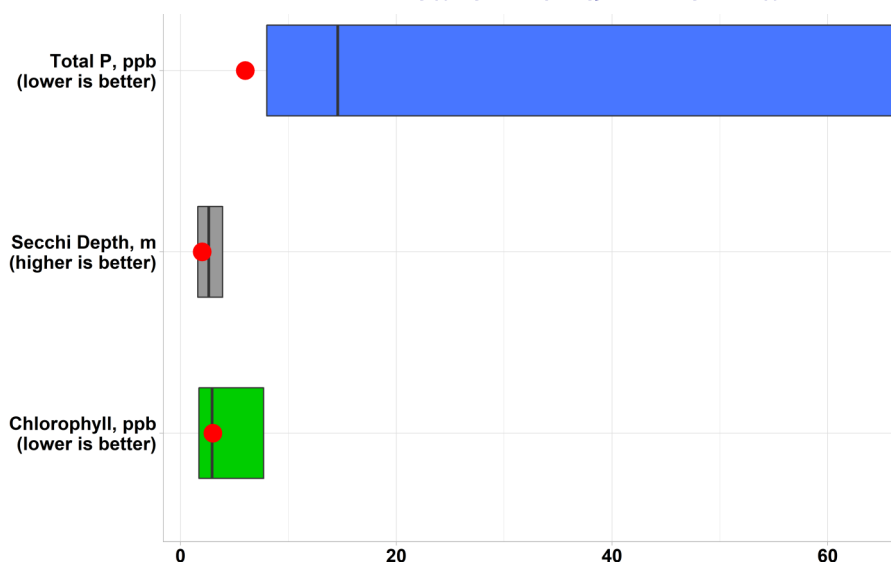
## 2019 Water Quality Highlights

Bridgton's Beaver Pond is sampled by LEA once per year in August. The long-term average reflects data from 1996 to 2019. The Secchi disk reading for 2019 was 5.42 meters, fell into the moderately clear range, and was not significantly different than the long-term average of 5.09 meters. The Secchi disk did not hit the bottom, indicating that Secchi depth is a reliable indicator of water clarity. The total phosphorus reading of 7.00 ppb fell into the moderate range and was lower than the long-term average of 9.07 ppb. The chlorophyll-a average of 6.00 ppb fell into the moderate range and was greater than the long-term average of 4.69 ppb. The average color reading for 2019 was 31 SPU, indicating that water in Bridgton's Beaver Pond is highly colored.

## Bridgton's Beaver Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	31	5.42	7.00	6.00
<b>Interpretation</b>	Highly colored water	Moderate water clarity	Moderate concentrations of phosphorus in surface water	Moderate concentrations of chlorophyll in surface waters

## Beaver Pond – Denmark



Surface Area:	80 acres
Maximum Depth:	7 feet
Watershed Area:	1,288 acres
Elevation:	397 feet

### Beaver Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Beaver Pond. The line represents the long-term average value and the dot represents 2019's average value.

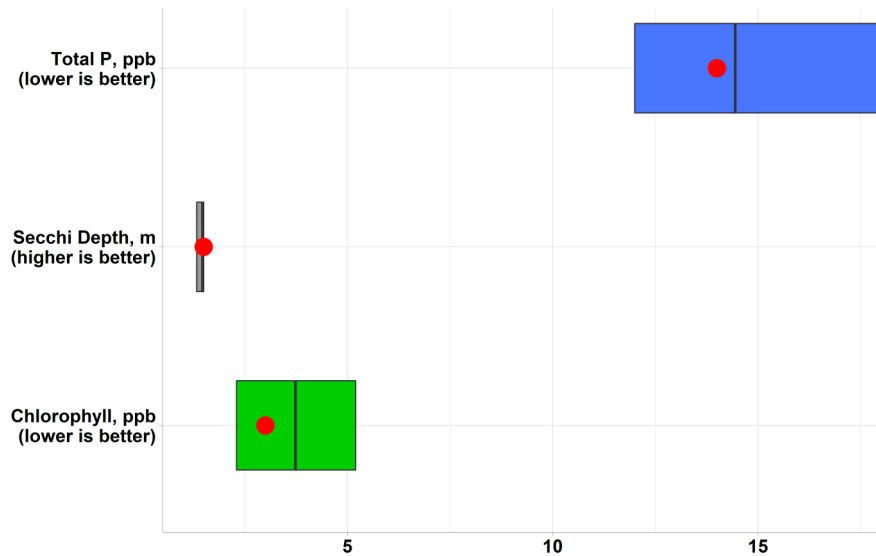
## 2019 Water Quality Highlights

Denmark's Beaver Pond is sampled by LEA once per year in August. The long-term average reflects data from 1997 to 2019. The Secchi disk reading for 2019 was 2.00 meters and was not less than the long-term average of 2.60 meters. The Secchi disk did hit the bottom, indicating that Secchi depth is not a reliable indicator of water clarity. The total phosphorus reading of 6.00 ppb fell into the moderate range and was less than the long-term average of 12.23 ppb. The chlorophyll-a reading of 3.00 ppb fell into the moderate range and was not significantly different than the long-term average of 2.92 ppb. The color reading for 2019 was 24 SPU, indicating that water in Denmark's Beaver Pond is moderately colored.

## Beaver Pond 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	24	2.00	6.00	3.00
<b>Interpretation</b>	Water was moderately colored	Secchi disk hit bottom, clarity indeterminate	Moderate concentrations of phosphorus in surface water	Moderate concentrations of chlorophyll in surface water

## Bog Pond



<b>Surface Area:</b>	57 acres
<b>Maximum Depth:</b>	5 feet
<b>Perimeter:</b>	1.4 miles
<b>Elevation:</b>	669 feet

### Bog Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Bog Pond. The line represents the long-term average value and the dot represents 2019's average value.

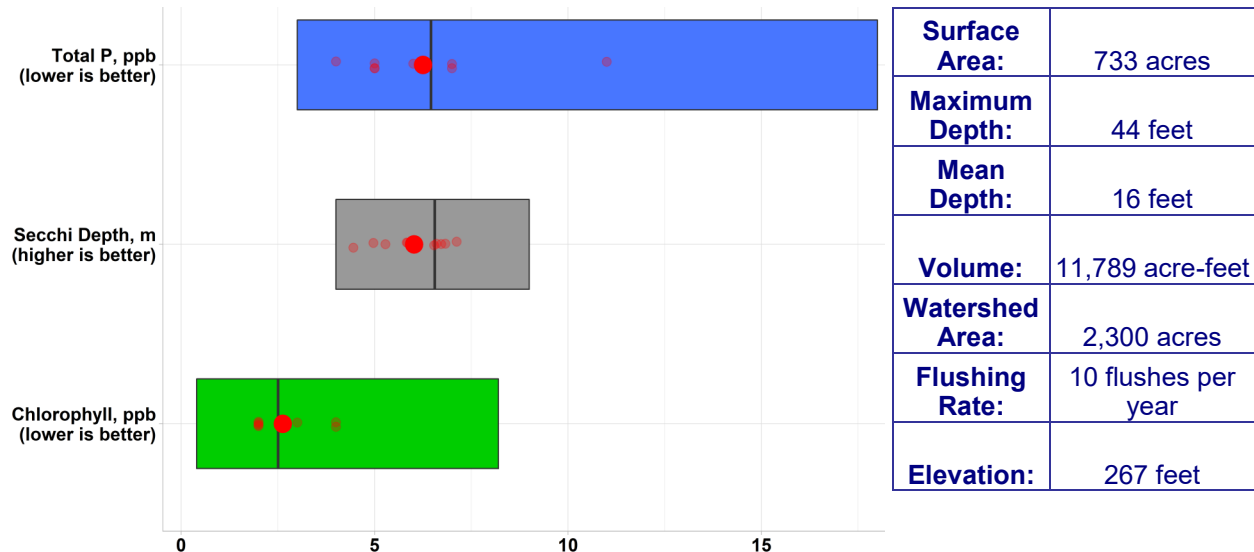
## 2019 Water Quality Highlights

Bog Pond is sampled by LEA once per year in August. The long-term average reflects data from 2009 to 2019. The Secchi disk reading for 2019 was 1.5 meters and was not significantly different than the long-term average of 1.47 meters. The Secchi disk did hit the bottom, indicating that Secchi depth is not a reliable indicator of water clarity. The total phosphorus reading of 14.00 ppb fell into the high range and was not significantly different than the long-term average of 14.44 ppb. The chlorophyll-a reading of 3.00 ppb fell into the moderate range and was not significantly different than the long-term average of 3.73. The average color reading for 2019 was 55, indicating that water in Bog Pond is highly colored.

## Bog Pond's 2019 Quick Stats

	<b>Water Color (SPU)</b>	<b>Clarity Measure (meters)</b>	<b>Phosphorus Measure (ppb)</b>	<b>Chlorophyll-a Measure (ppb)</b>
<b>Analysis Result</b>	55	1.5	14.00	3.00
<b>Interpretation</b>	Water was highly colored	Secchi disk hit bottom, clarity indeterminate	High concentrations of phosphorus in surface water	Moderate concentrations of chlorophyll in surface water

## Brandy Pond



### Brandy Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

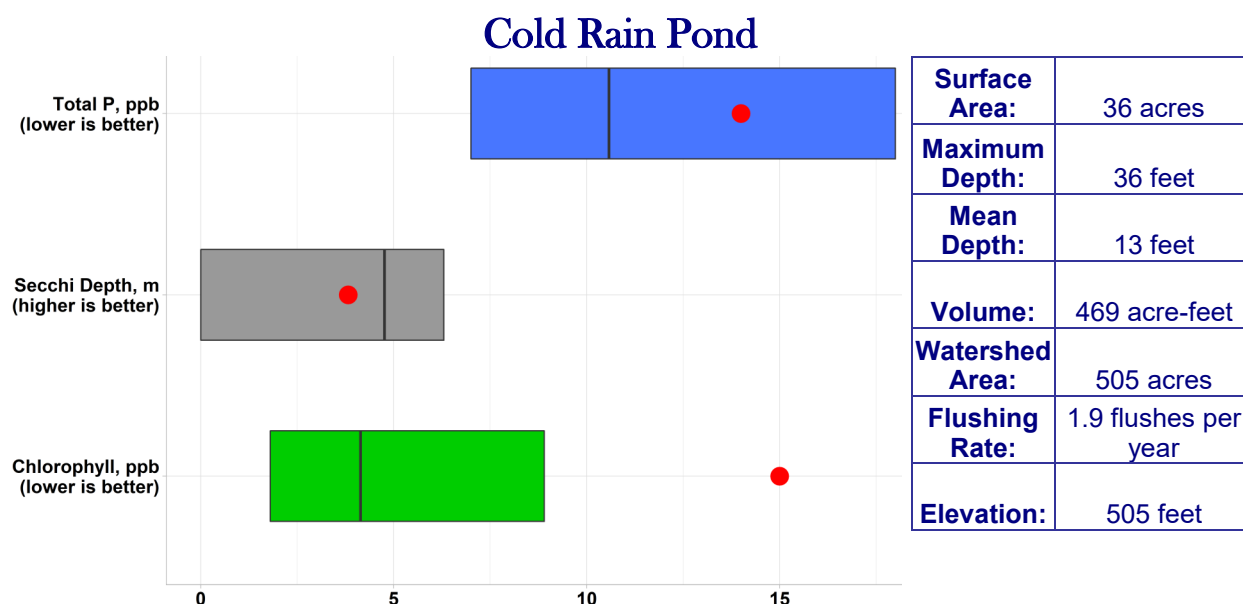
Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Brandy Pond. The line represents the long-term average value and the large red dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 6.02 meters, fell into the moderately clear range, and was shallower than the long-term average of 6.53 meters. The average total phosphorus reading of 6.25 ppb fell into the moderate range and was slightly less than the long-term average of 6.43 ppb. Deep water phosphorus values did reach into the very high range. The chlorophyll-a average of 2.63 ppb fell into the moderate range and was more than the long-term average of 2.56 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Brandy Pond are stable, total phosphorus concentrations are stable, and clarity readings are stable. The average color reading for 2019 was 27.00 SPU, indicating that water in Brandy Pond is highly colored. Suitable fish habitat was present through June. In July fish habitat became unsuitable. Unsuitable fish habitat persisted through September.

## Brandy Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Coldwater Fish Habitat	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	9	Unsuitable	49	Stable	Stable	Stable
<b>Interpretation</b>	Low deep water phosphorus	Less than 2 meters of fish habitat during testing season	Water was highly colored	Neither shallower nor deeper clarity readings	Neither more nor less phosphorus in water over time	Neither more nor less Chlorophyll in water over time



**Cold Rain Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.**  
 Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Cold Rain Pond. The line represents the long-term average value and the dot represents 2019's average value.

## 2019 Water Quality Highlights

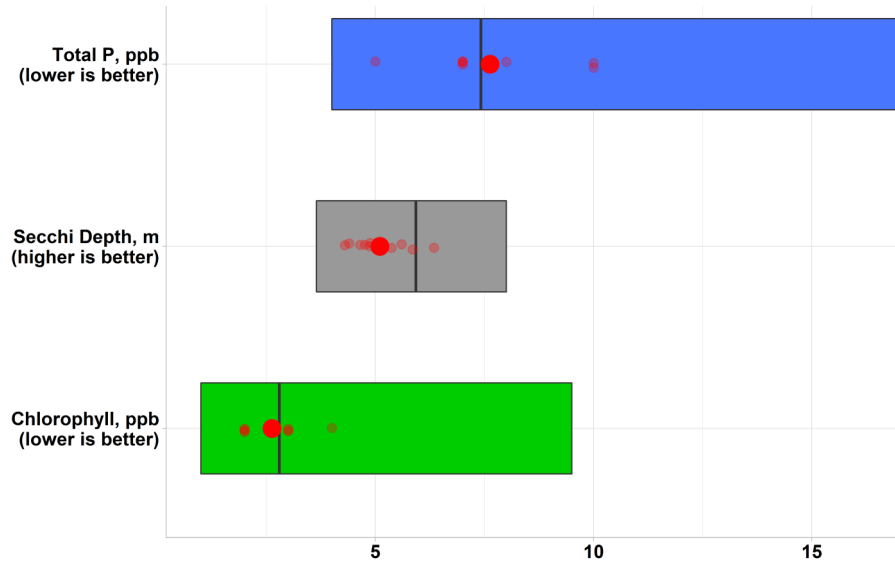
Cold Rain Pond is sampled by LEA once per year in August. The long-term average reflects data from 1987 to 2019. The Secchi disk reading for 2019 was 3.82 meters, fell into the moderately clear range, and was less than the long-term average of 4.77 meters. The total phosphorus reading of 14.00 ppb fell into the high range and was higher than the long-term average of 10.42 ppb. The chlorophyll-a reading of 15 ppb fell into the very high range and higher than the long-term average of 4.08. The color reading for 2019 was 30 SPU, indicating that water in Cold Rain Pond is highly colored.

### Cold Rain Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	30	3.82	14.00	15.00
<b>Interpretation</b>	Water was highly colored	Moderately clear water	High concentrations of phosphorus in surface water	Very high concentrations of chlorophyll in surface water



## Crystal Lake



<b>Surface Area:</b>	446 acres
<b>Maximum Depth:</b>	65 feet
<b>Mean Depth:</b>	33 feet
<b>Volume:</b>	14,253 acre-feet
<b>Watershed Area:</b>	5,345 acres
<b>Flushing Rate:</b>	0.65 flushes per year
<b>Elevation:</b>	294 feet

**Crystal Lake surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Crystal Lake. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

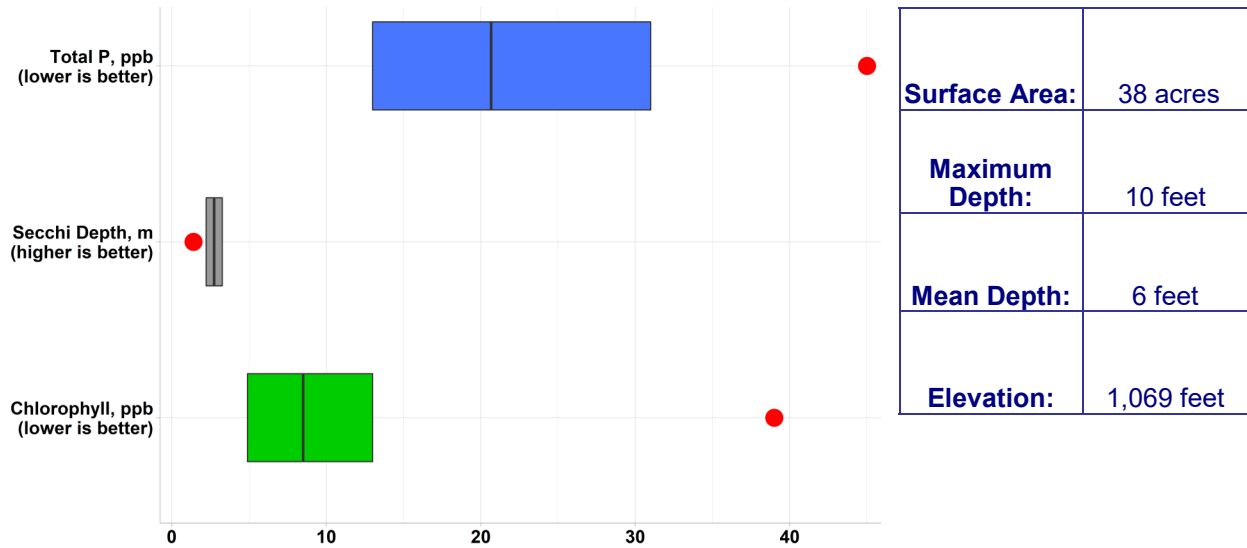
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 5.10 meters, fell into the moderately clear range, and was shallower than the long-term average of 5.90 meters. The average total phosphorus reading of 7.63 ppb fell into the moderate range and was slightly higher than the long-term average of 7.45 ppb. Deep water phosphorus values were in the low range. The chlorophyll-a average of 2.83 ppb fell into the moderate range and was higher than the long-term average of 2.63 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Crystal Lake are increasing, total phosphorus concentrations are decreasing, and clarity readings are decreasing. The average color reading for 2019 was 28.25 SPU, indicating that water in Crystal Lake is highly colored. Suitable fish habitat was present through September, however low oxygen conditions were present in deep water from August through September.

## Crystal Lake 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Coldwater Fish Habitat	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll Trend
<b>Analysis Result</b>	10	Unsuitable	49	Decreasing	Decreasing	Increasing
<b>Interpretation</b>	Low deep water phosphorus	Less than 2 m of fish habitat present	Water was highly colored	Shallower clarity readings over time	Less phosphorus in water over time	More Chlorophyll in water over time

## Duck Pond



**Duck Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Duck Pond. The line represents the long-term average value and the dot represents 2019's average value.

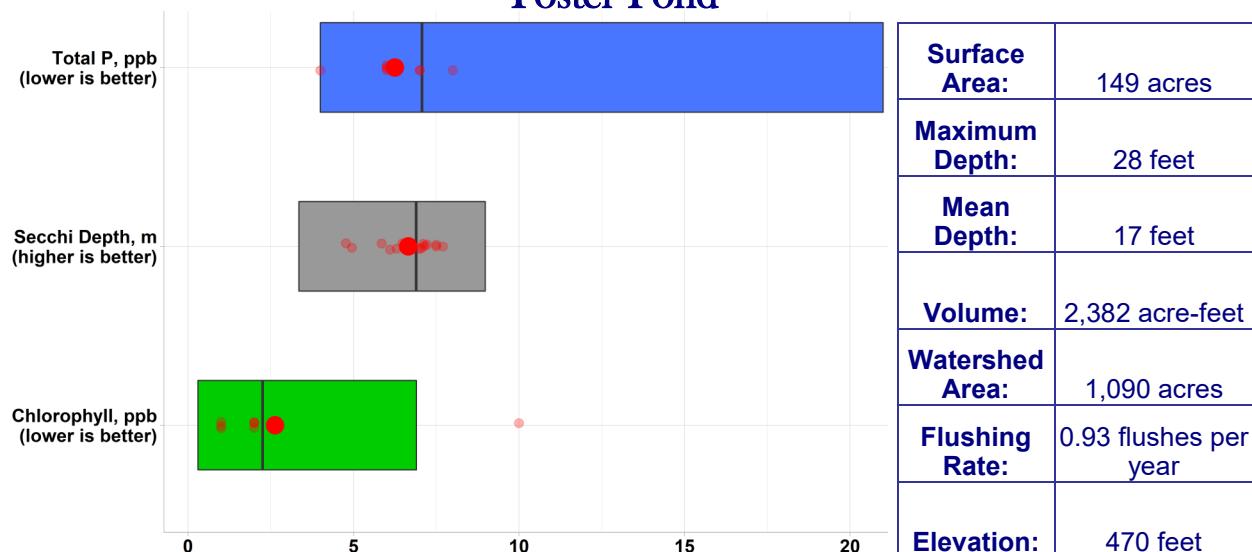
## 2019 Water Quality Highlights

Duck Pond is sampled by LEA once per year in August. The long-term average reflects data from 2013 to 2019. The Secchi disk reading for 2019 was 1.40 meters, fell into the low clarity range, and was significantly different than the long-term average of 2.74 meters. The Secchi disk did not hit the bottom this year but has in years past, indicating that long-term average Secchi depth may not a reliable indicator of historic water clarity. The total phosphorus reading of 45.00 ppb fell into the very high range and was higher than the long-term average of 20.67 ppb. The chlorophyll-a reading of 39.00 ppb fell into the very high range and was higher than the long-term average of 8.50 ppb. The color reading for 2019 was 40 SPU, indicating that water in Duck Pond is highly colored.

## Duck Pond 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	40	1.40	14.00	15.00
<b>Interpretation</b>	Water was highly colored	Low clarity water	High concentrations of phosphorus in surface water	Very high concentrations of chlorophyll in surface water

## Foster Pond



### Foster Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Woods Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

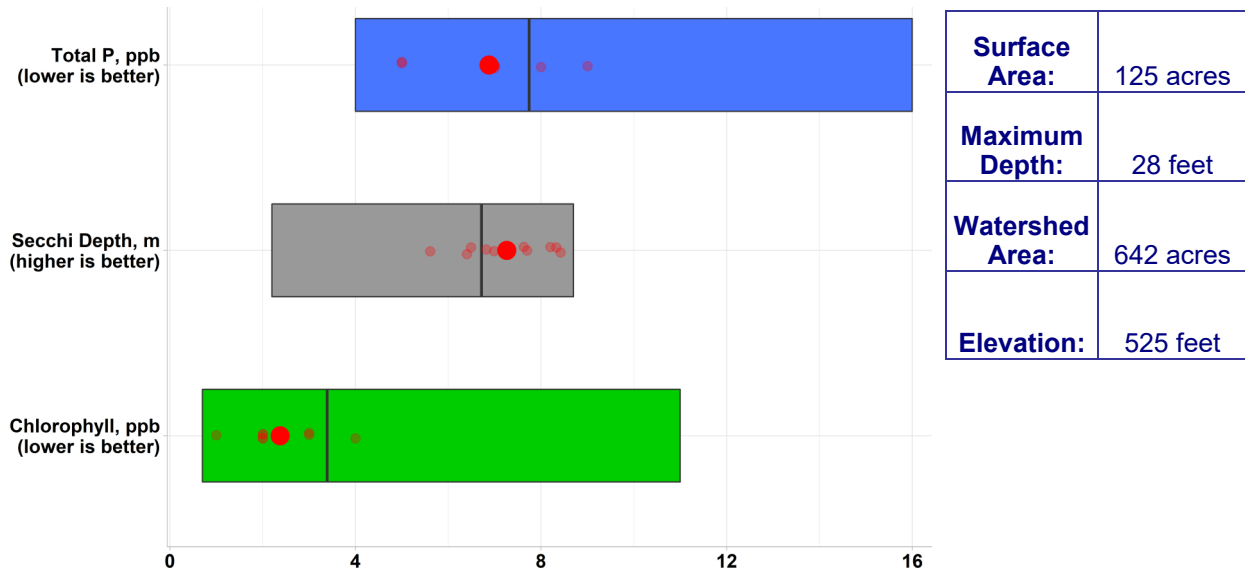
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 6.69 meters, fell into the moderately clear range, and was shallower than the long-term average of 6.83 meters. The average total phosphorus reading of 6.25 ppb fell into the moderate range and was less than the long-term average of 7.05 ppb. The chlorophyll-a average of 2.71 ppb fell into the moderate range and was higher than the long-term average of 2.27 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Foster Pond are stable, total phosphorus concentrations are stable, and clarity readings are increasing. The average color reading for 2019 was 23.29 SPU, indicating that water in Foster Pond is moderately colored. Suitable fish habitat was present through June and transitioned to marginal during the months of July and August. Fish habitat became unsuitable in September.

## Foster Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Coldwater Fish Habitat	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	N/A	Unsuitable	23.29	Increasing	Stable	Stable
<b>Interpretation</b>	Deep water phosphorus not measured	Less than 2 meters of suitable fish habitat present	Water was moderately colored	Deeper clarity readings over time	Neither more nor less phosphorus in water over time	Neither more nor less Chlorophyll in water over time

## Granger Pond



**Granger Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Granger Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

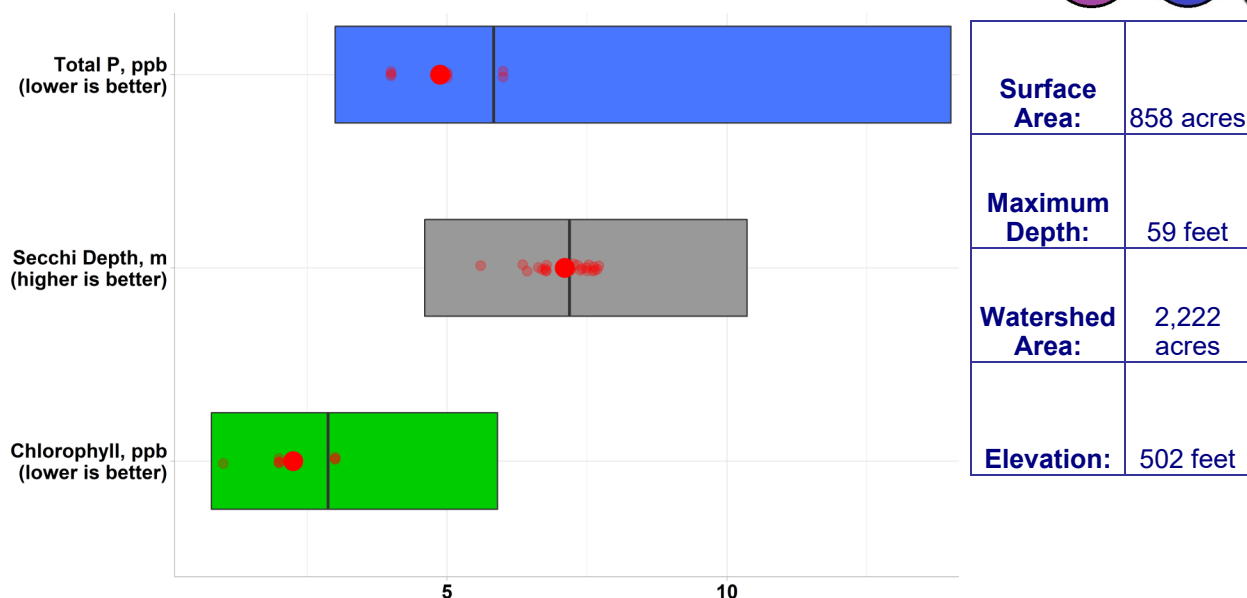
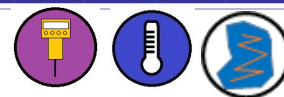
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 7.26 meters, fell into the high range, and was deeper than the long-term average of 6.74 meters. The average total phosphorus reading of 6.88 ppb fell into the moderate range and was lower than the long-term average of 7.67 ppb. The chlorophyll-a average of 2.38 ppb fell into the moderate range and was lower than the long-term average of 3.38 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Granger Pond are stable, total phosphorus concentrations are decreasing, and clarity readings are stable. The average color reading for 2019 was 19.63 SPU, indicating that water in Granger Pond is moderately colored. Suitable fish habitat was present through June, however quickly transitioned to marginal and then unsuitable habitat in July. Unsuitable habitat persisted through September.

## Granger Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Coldwater Fish Habitat	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	N/A	Unsuitable	19.63	Stable	Decreasing	Stable
<b>Interpretation</b>	Deep water phosphorus not measured	Less than 2m of suitable fish habitat	Water was moderately colored	Neither shallower nor deeper clarity readings	Less phosphorus in water over time	Neither more nor less Chlorophyll in water over time

## Hancock Pond



**Hancock Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Hancock Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

### 2019 Water Quality Highlights

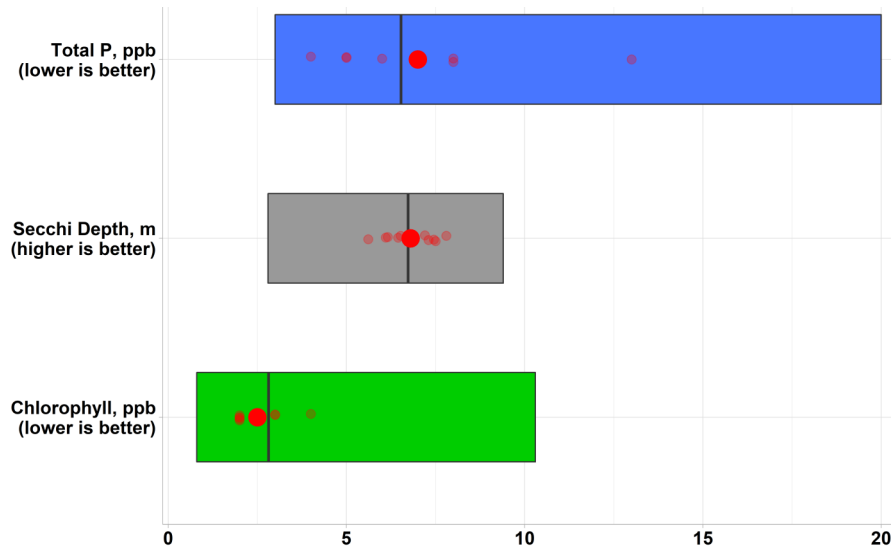
The average Secchi disk reading for 2019 was 6.92 meters, fell into the moderately clear range, and was shallower than the long-term average of 7.13 meters. The average total phosphorus reading of 4.88 ppb fell into the low range and was less than the long-term average of 5.73 ppb. Deep water phosphorus values did reach into the high range. The chlorophyll-a average of 2.25 ppb fell into the moderate range and was lower than the long-term average of 2.83 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Hancock Pond are decreasing, total phosphorus concentrations are stable, and clarity readings are stable. The average color reading for 2019 was 14.14 SPU, indicating that water in Hancock Pond is moderately colored. Suitable fish habitat was present from June through September, however low oxygen conditions were present in deep water in August and September.

### Hancock Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Coldwater Fish Habitat	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	7.33	Suitable	14.14	Stable	Stable	Decreasing
<b>Interpretation</b>	Low deep water phosphorus	At least 2m of suitable habitat	Water was moderately colored	Neither shallower nor deeper clarity readings	Neither more nor less phosphorus in water over time	Less chlorophyll in water over time



## Highland Lake



<b>Surface Area:</b>	1,334 acres
<b>Maximum Depth:</b>	50 feet
<b>Mean Depth:</b>	20 feet
<b>Volume:</b>	44,030 acre-feet
<b>Watershed Area:</b>	5,178 acres
<b>Flushing Rate:</b>	0.94 flushes per year
<b>Elevation:</b>	426 feet

**Highland Lake surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Highland Lake. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

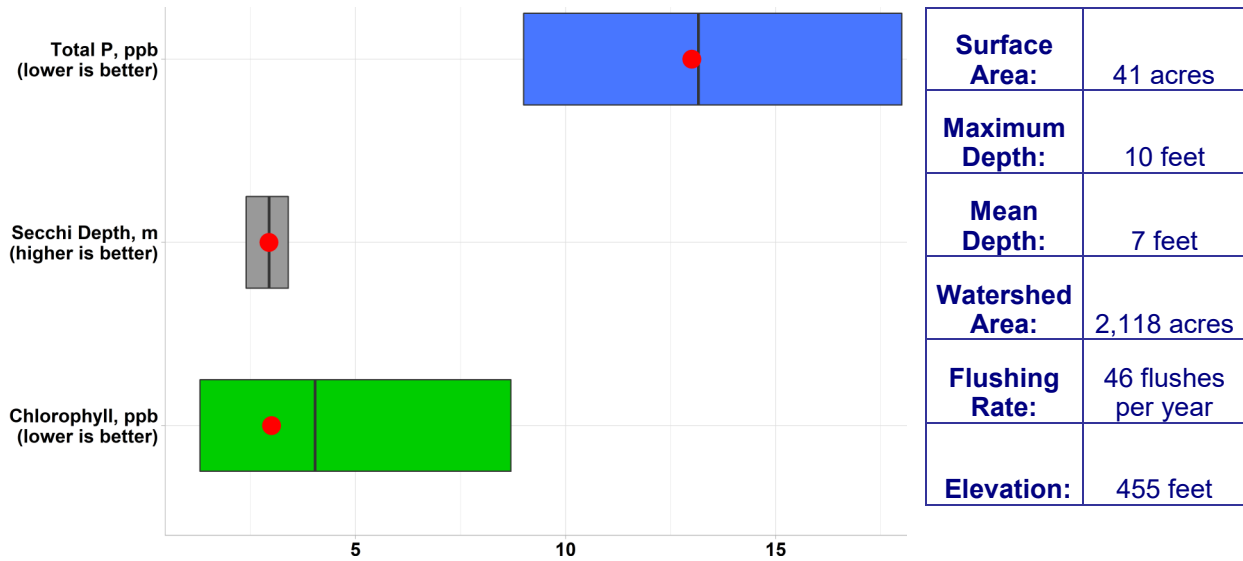
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 6.73 meters, fell into the moderately clear range, and was slightly shallower than the long-term average of 6.74 meters. The average total phosphorus reading of 7.00 ppb fell into the moderate range and was higher than the long-term average of 6.57 ppb. Deep water phosphorus values reached into the moderate range. The chlorophyll-a average of 2.43 ppb fell into the moderate range and was less than the long-term average of 2.83 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Highland Lake are decreasing, total phosphorus concentrations are stable, and clarity readings are increasing. The average color reading for 2019 was 15.45 SPU, indicating that water in Highland Lake is moderately colored. Suitable fish habitat was present through June before transitioning to marginal and then unsuitable habitat in July through September.

## Highland Lake's 2019 Quick Stats

	<b>Deep Water Phosphorus (average in PPB)</b>	<b>Coldwater Fish Habitat</b>	<b>Water Color (SPU)</b>	<b>Clarity Trend</b>	<b>Phosphorus Trend</b>	<b>Chlorophyll-a Trend</b>
<b>Analysis Result</b>	10	Unsuitable	15.45	Increasing	Stable	Decreasing
<b>Interpretation</b>	Low deep water phosphorus	Less than 2m of suitable fish habitat	Water was moderately colored	Deeper clarity readings over time	Neither more nor less phosphorus in water over	Less Chlorophyll in water over time

## Holt Pond



### Holt Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Holt Pond. The line represents the long-term average value and the dot represents 2019's average value.

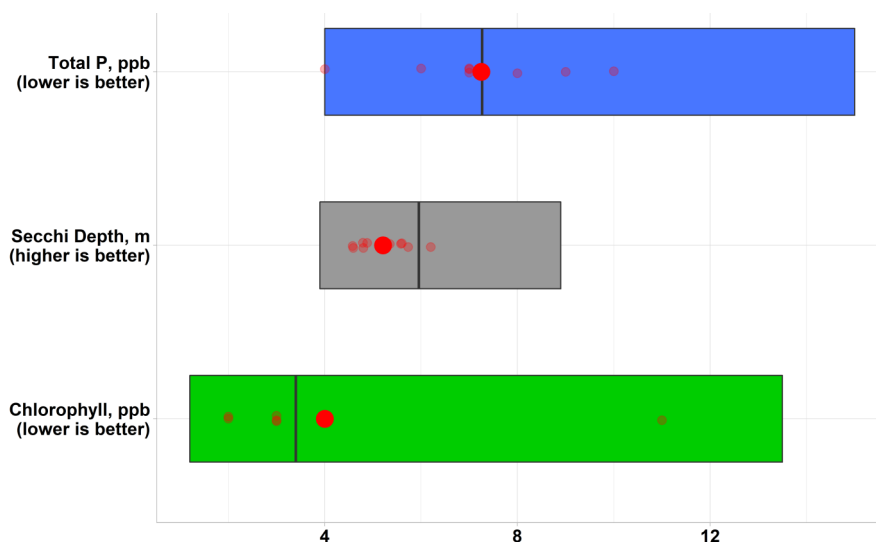
## 2019 Water Quality Highlights

Holt Pond is sampled by LEA once per year in August. The long-term average reflects data from 2000 to 2019. The Secchi disk reading for 2019 was 2.94 meters, fell into the low clarity range, and was about the same as the long-term average of 2.95 meters. The Secchi disk did not hit the bottom in 2019 but has in years past, indicating that average Secchi depth may not be a reliable indicator of historic water clarity. The total phosphorus reading of 13.00 ppb fell into the high range and was not significantly different than the long-term average of 13.16 ppb. The chlorophyll-a reading of 3.00 ppb fell into the moderate range and was not significantly different than the long-term average of 3.98 ppb. The color reading for 2019 was 45 SPU indicating that water in Holt Pond is highly colored.

### Holt Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	45	2.94	13.00	3.00
<b>Interpretation</b>	Water was highly colored	Low clarity water	High concentrations of phosphorus in surface water	Moderate concentrations of chlorophyll in surface water

## Island Pond



<b>Surface Area:</b>	115 acres
<b>Maximum Depth:</b>	48 feet
<b>Mean Depth:</b>	16 feet
<b>Volume:</b>	1,626 acre-feet
<b>Watershed Area:</b>	1,128 acres
<b>Flushing Rate:</b>	1.3 flushes per year
<b>Elevation:</b>	448 feet

### Island Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Island Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

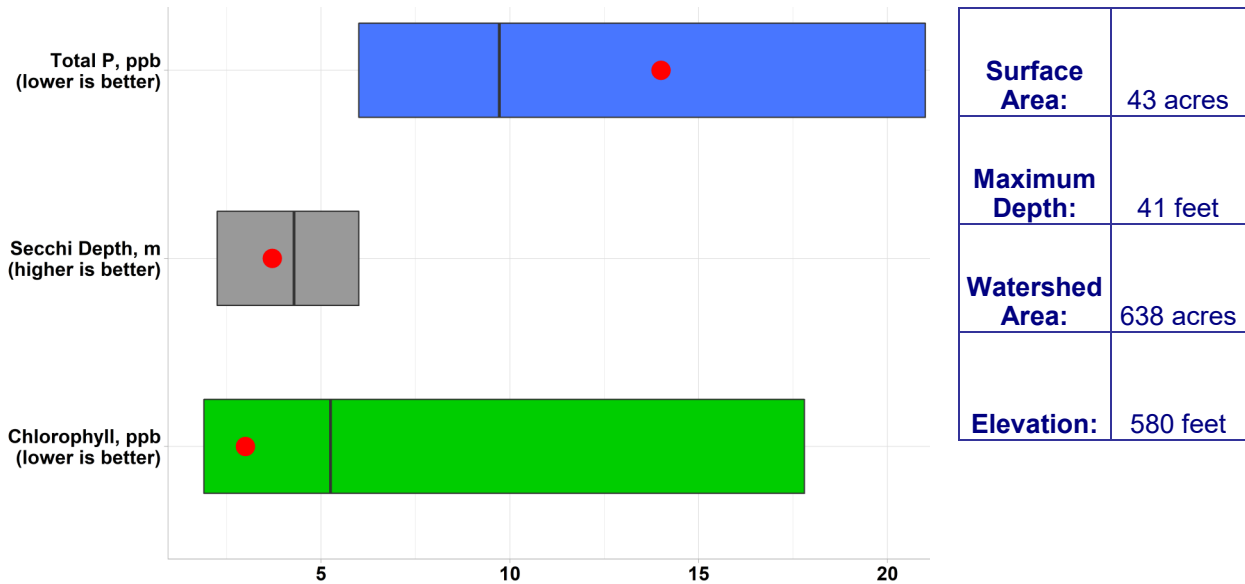
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 5.21 meters, fell into the moderately clear range, and was shallower than the long-term average of 5.92 meters. The average total phosphorus reading of 7.25 ppb fell into the moderate range and was slightly higher than the long-term average of 7.24 ppb. Deep water phosphorus values fell into the low range. The chlorophyll-a average of 4.00 ppb fell into the moderate range and was higher than the long-term average of 3.43 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Island Pond are stable, total phosphorus concentrations are stable, and clarity readings are decreasing. The average color reading for 2019 was 26.38 SPU, indicating that water in Island Pond is highly colored. Suitable fish habitat was present into July. However, conditions became unsuitable in mid-July and persisted through September. Low oxygen conditions were present in deep water from June through September.

## Island Pond's 2019 Quick Stats

	<b>Deep Water Phosphorus (average in PPB)</b>	<b>Coldwater Fish Habitat</b>	<b>Water Color (SPU)</b>	<b>Clarity Trend</b>	<b>Phosphorus Trend</b>	<b>Chlorophyll-a Trend</b>
<b>Analysis Result</b>	12	Unsuitable	26.38	Decreasing	Stable	Stable
<b>Interpretation</b>	Low deep water phosphorus	Less than 2 meters of suitable habitat	Water was highly colored	Shallower clarity readings over time	Neither more nor less phosphorus in water over	Neither more nor less chlorophyll in water over time

## Jewett Pond



**Jewett Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Jewett Pond. The line represents the long-term average value and the dot represents 2019's average value.

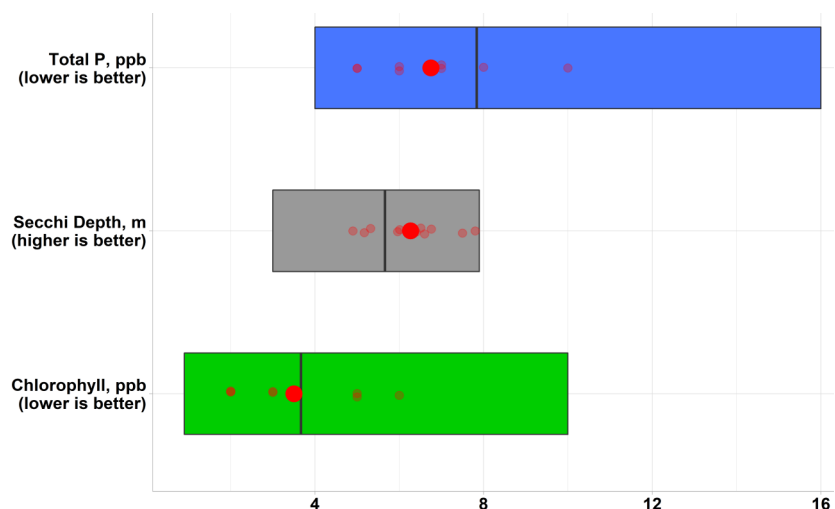
### 2019 Water Quality Highlights

Jewett Pond is sampled by LEA once per year in August. The long-term average reflects data from 1997 to 2019. The Secchi disk reading for 2019 was 3.71 meters, fell into the moderately clear range, and was less than the long-term average of 4.28 meters. The total phosphorus reading of 14.00 ppb fell into the high range and was higher than the long-term average of 9.72 ppb. The chlorophyll-a reading of 3.00 ppb fell into the moderate range and was less than the long-term average of 5.25 ppb. The color reading for 2019 was 40 SPU, indicating that water in Jewett Pond is highly colored.

### Jewett Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	40	3.71	14.00	3.00
<b>Interpretation</b>	Water was highly colored	Moderately clear water	High concentrations of phosphorus in surface water	Moderate concentrations of chlorophyll in surface water

## Keoka Lake



Surface Area:	460 acres
Maximum Depth:	42 feet
Mean Depth:	25 feet
Volume:	10,569 acre-feet
Watershed Area:	3,808 acres
Flushing Rate:	0.7 flushes per year
Elevation:	492 feet

### Keoka Lake surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Keoka Lake. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

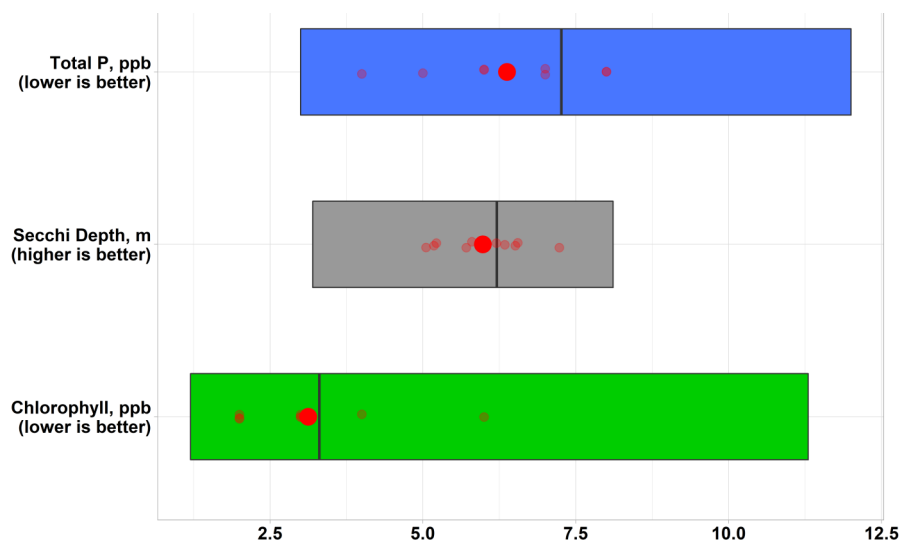
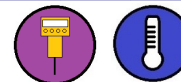
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 6.27 meters, fell into the moderately clear range, and was deeper than the long-term average of 5.95 meters. The average total phosphorus reading of 6.75 ppb fell into the moderate range and was less than the long-term average of 7.70 ppb. Deep water phosphorus values reached into the high range. The chlorophyll-a average of 3.50 ppb fell into the moderate range and was lower than the long-term average of 3.67 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Keoka Lake are stable, total phosphorus concentrations are decreasing, and clarity readings are increasing. The average color reading for 2019 was 23.25 SPU, indicating that water in Keoka Lake is moderately colored. Suitable fish habitat was present through June and July, however habitat became unsuitable from August through September. Low oxygen conditions were present in deep water from June through September.

## Keoka Lake 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Coldwater Fish Habitat	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	18	Unsuitable	23.25	Increasing	Decreasing	Stable
<b>Interpretation</b>	High deep water phosphorus	Less than 2m of fish habitat	Water was moderately colored	Deeper clarity readings over time	Less phosphorus in water over time	Neither more nor less chlorophyll over time

## Keyes Pond



Surface Area:	191 acres
Maximum Depth:	42 feet
Mean Depth:	17 feet
Volume:	3,333 acre-feet
Watershed Area:	1,213 acres
Flushing Rate:	0.8 flushes per year
Elevation:	508 feet

**Keyes Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Keyes Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

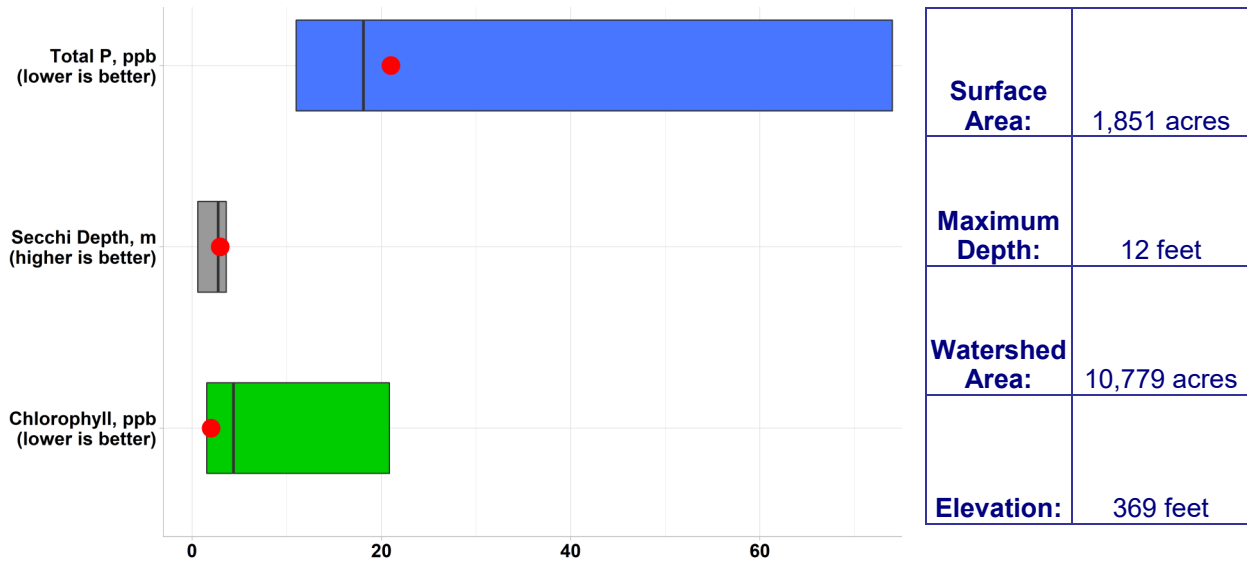
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 5.98 meters, fell into the moderately clear range, and was shallower than the long-term average of 6.20 meters. The average total phosphorus reading of 6.38 ppb fell into the moderate range and was lower than the long-term average of 7.22 ppb. Deep water phosphorus values fell within the low range. The chlorophyll-a average of 3.13 ppb fell into the moderate range and was less than the long-term average of 3.33 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Keyes Pond are stable, total phosphorus concentrations are decreasing, and clarity readings are increasing. The average color reading for 2019 was 24.38 SPU, indicating that water in Keyes Pond is moderately colored. Suitable fish habitat was present through mid-July but became unsuitable August through September. Low oxygen conditions were present in deep water from June through September.

## Keyes Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Coldwater Fish Habitat	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	10.67	Unsuitable	23.25	Increasing	Decreasing	Stable
<b>Interpretation</b>	Low deep water phosphorus	Less than 2 meters of fish habitat available	Water was highly colored	Deeper clarity readings over time	Less phosphorus in water over time	Neither more nor less chlorophyll in water over time

## Kezar Pond



Kezar Pond surface water chlorophyll, phosphorus, and Secchi depth data summary. Colored boxes represent the long-term range of values, from minimum to maximum obtained on Kezar Pond. The line represents the long-term average value and the dot represents 2019's average value.

## 2019 Water Quality Highlights

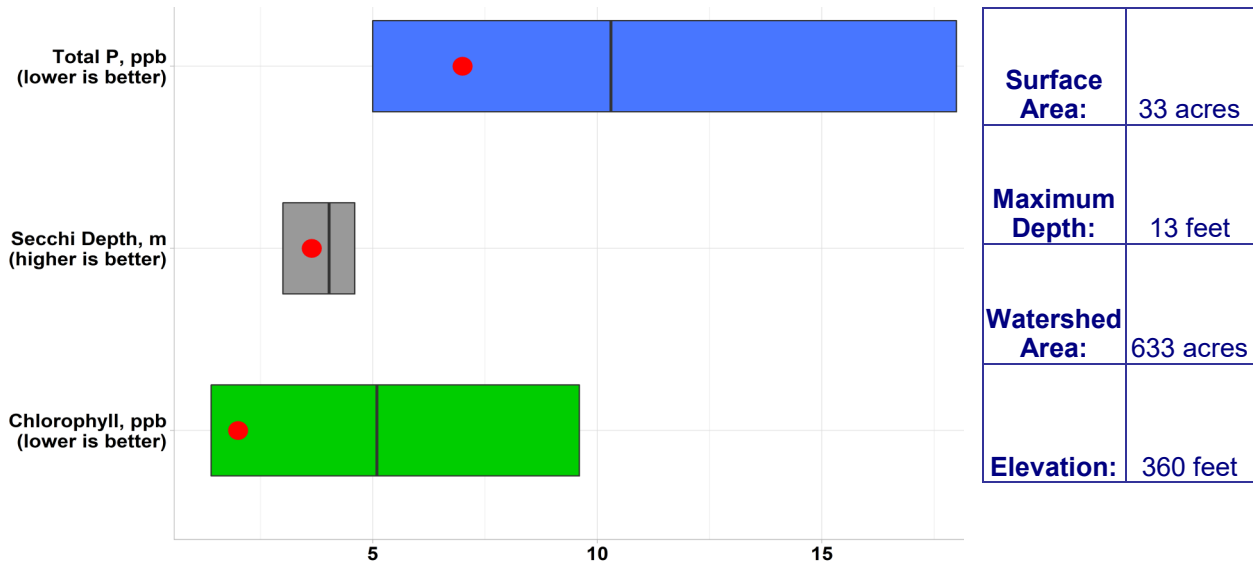
Kezar Pond is sampled by LEA once per year in August. The long-term average reflects data from 1996 to 2019. The Secchi disk reading for 2019 was 2.97 meters, fell into the low clarity range, and was deeper than the long-term average of 2.75 meters. The Secchi disk did not hit the bottom this year however it has in years past, indicating that average Secchi depth may not be a reliable indicator of historic water clarity. The total phosphorus reading of 21 ppb fell into the very high range and was higher than the long-term average of 18.09 ppb. The chlorophyll-a reading of 2.00 ppb fell into the low range and was less than the long-term average of 4.36. The color reading for 2019 was 55 SPU indicating that water in Kezar Pond is highly colored.

## Kezar Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	55	2.97	21.00	2.00
<b>Interpretation</b>	Water was highly colored	Low clarity water	Very high concentrations of phosphorus in surface water	Low concentrations of chlorophyll in surface water



## Little Pond



### Little Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Little Pond. The line represents the long-term average value and the dot represents 2019's average value.

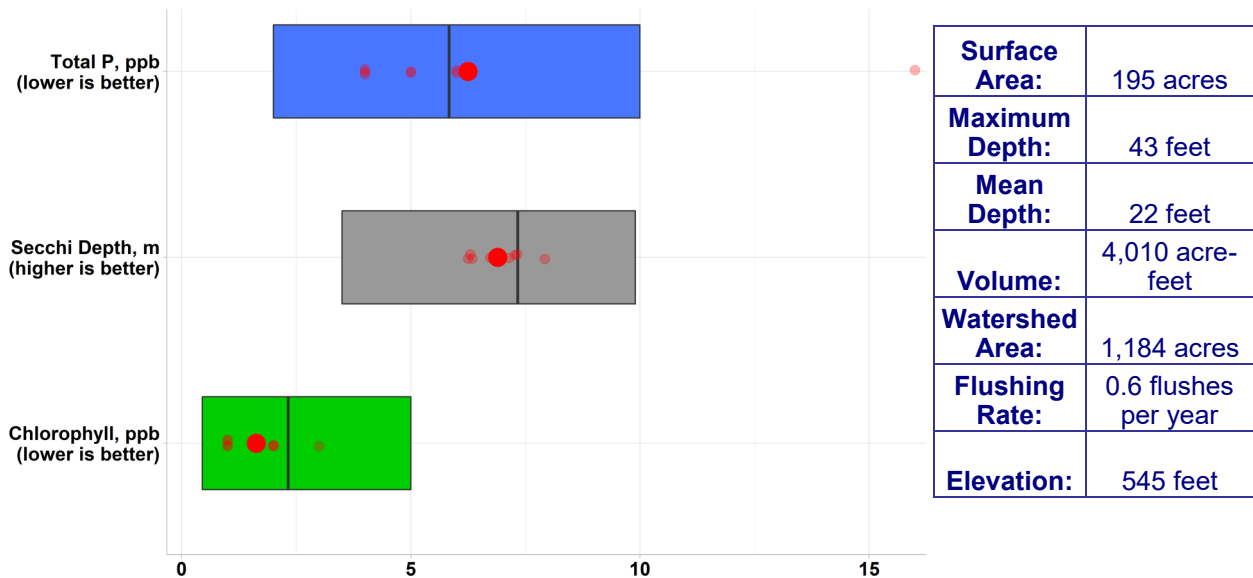
## 2019 Water Quality Highlights

Little Pond is sampled by LEA once per year in August. The long-term average reflects data from 1997 to 2019. The Secchi disk reading for 2019 was 3.64 meters and was deeper than the long-term average of 4.03 meters. The Secchi disk did hit the bottom indicating that Secchi depth is not a reliable indicator of water clarity. The total phosphorus reading of 7.00 ppb fell into the moderate range and was lower than the long-term average of 10.31 ppb. The chlorophyll-a reading of 2.00 ppb fell into the low range and was lower than the long-term average of 5.09 ppb. The color reading for 2019 was 25 SPU, indicating that water in Little Pond is moderately colored.

## Little Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	25	3.64	7.00	2.00
<b>Interpretation</b>	Water was moderately colored	Moderately clear water	Moderately concentrations of phosphorus in surface water	Low concentrations of chlorophyll in surface water

## Little Moose Pond



### Little Moose Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Little Moose Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

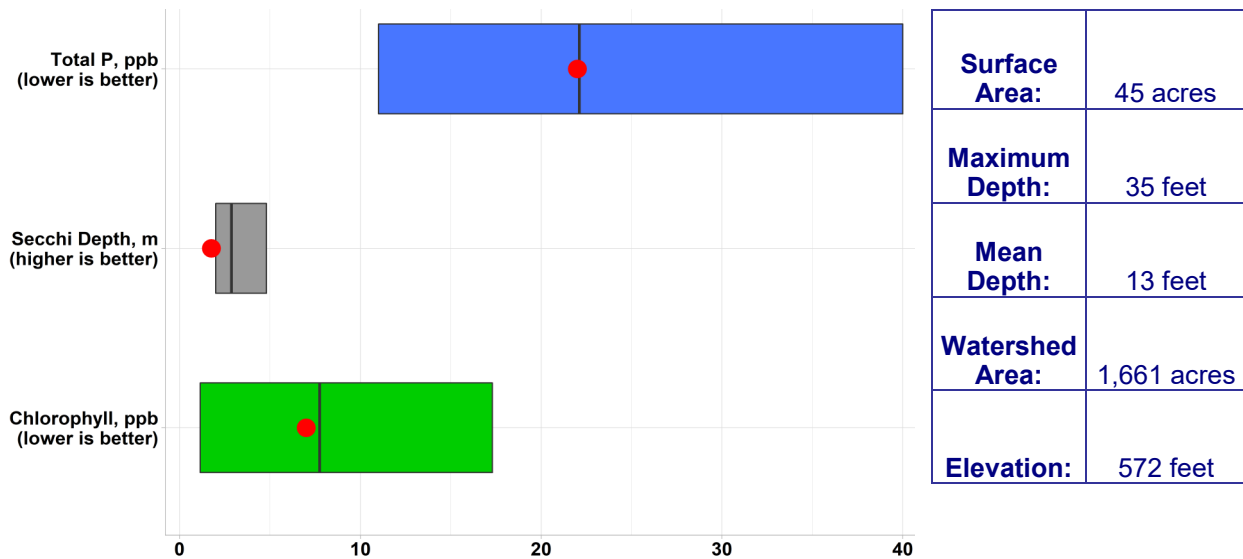
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 6.90 meters, fell into the moderately clear range, and was shallower than the long-term average of 7.33 meters. The average total phosphorus reading of 6.25 ppb fell into the moderate range and was higher than the long-term average of 5.83 ppb. Deep water phosphorus values stayed within the low range. The chlorophyll-a average of 1.63 ppb fell into the low range and was less than the long-term average of 2.29 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Little Moose Pond are stable, total phosphorus concentrations are stable, and clarity readings are stable. The average color reading for 2019 was 21.71 SPU, indicating that water in Little Moose Pond is moderately colored. Suitable fish habitat was present from June through August when fish habitat transitioned to marginal. Low oxygen conditions were present in deep water from June through September.

## Little Moose Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Coldwater Fish Habitat	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	14.33	Suitable	21.71	Stable	Stable	Stable
<b>Interpretation</b>	Low deep water phosphorus	At least 2 meters of suitable habitat	Water was moderately colored	Neither deeper nor shallower Secchi readings	Neither more nor less phosphorus in water over time	Neither more nor less chlorophyll in water over time

## Little Mud Pond



**Little Mud Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Little Mud Pond. The line represents the long-term average value and the dot represents 2019's average value.

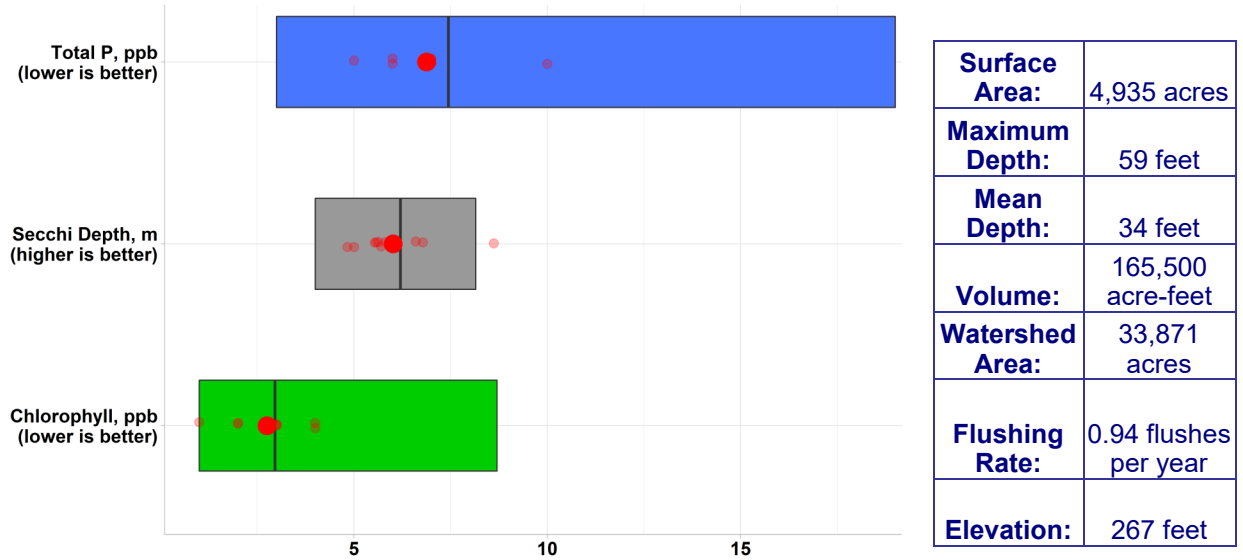
## 2019 Water Quality Highlights

Little Mud Pond is sampled by LEA once per year in August. The long-term average reflects data from 1997 to 2019. The Secchi disk reading for 2019 was 1.80 meters, fell into the low clarity range, and was shallower than the long-term average of 2.86 meters. The total phosphorus reading of 22.00 ppb fell into the very high range and was not significantly different than the long-term average of 22.11 ppb. The chlorophyll-a reading of 7.00 ppb fell into the moderate range and was not significantly different than the long-term average of 7.75 ppb. The color reading for 2019 was 100 SPU, indicating that water in Little Mud Pond is very highly colored.

## Little Mud Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	100	1.80	22.00	7.00
<b>Interpretation</b>	Water was very highly colored	Low clarity water	Very high concentrations of phosphorus in surface water	Moderate concentrations of chlorophyll in surface water

## Long Lake (North Basin)



**Long Lake north basin surface water chlorophyll, phosphorus, and Secchi depth data summary.**  
Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Long Lake's north basin. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

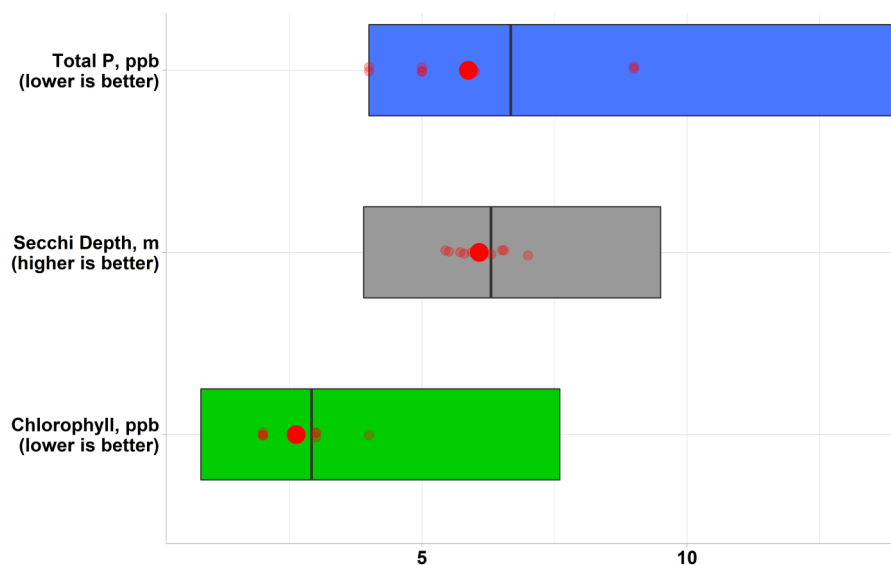
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 6.02 meters, fell into the moderately clear range, and was shallower than the long-term average of 6.19 meters. The average total phosphorus reading of 6.88 ppb fell into the moderate range and was less than the long-term average of 7.46 ppb. Deep water phosphorus values fell into the low range. The chlorophyll-a average of 2.75 ppb fell into the moderate range and was less than the long-term average of 3.01 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Long Lake's north basin are stable, total phosphorus concentrations are stable, and clarity readings are stable. The average color reading for 2019 was 26 SPU, indicating that water in Long Lake's north basin is highly colored. Suitable fish habitat was present through July but became unsuitable in August through September.

## Long Lake North Basin's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	6.75	26	Stable	Stable	Stable
<b>Interpretation</b>	Low deep water phosphorus	Water was highly colored	Neither deeper nor shallower Secchi readings over	Neither more nor less phosphorus in water over time	Neither more nor less chlorophyll in water over time

## Long Lake (Middle Basin)



<b>Surface Area:</b>	4,935 acres
<b>Maximum Depth:</b>	59 feet
<b>Mean Depth:</b>	34 feet
<b>Volume:</b>	165,500 acre-feet
<b>Watershed Area:</b>	33,871 acres
<b>Flushing Rate:</b>	0.94 flushes per year
<b>Elevation:</b>	267 feet

**Long Lake middle basin surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Long Lake's middle basin. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

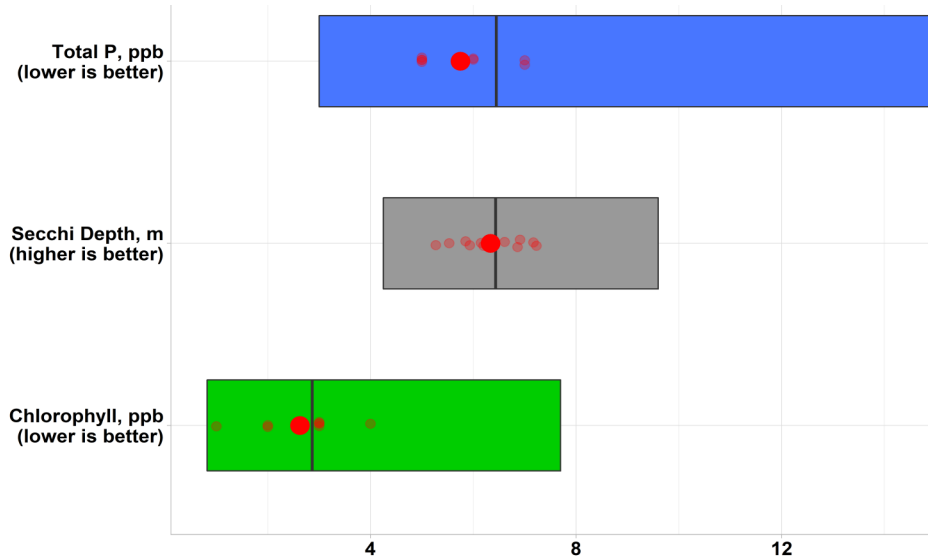
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 6.11 meters, fell into the moderately clear range, and was shallower than the long-term average of 6.30 meters. The average total phosphorus reading of 5.88 ppb fell into the moderate range and was less than the long-term average of 6.67 ppb. Deep water phosphorus values fell into the low range. The chlorophyll-a average of 2.63 ppb fell into the moderate range and was less than the long-term average of 2.92 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Long Lake's middle basin are stable, total phosphorus concentrations are stable, and clarity readings are stable. The average color reading for 2019 was 27.89 SPU, indicating that water in Long Lake's middle basin is highly colored. Suitable fish habitat was present through June but transitioned to marginal and then unsuitable habitat in July. Unsuitable fish habitat persisted through September.

## Long Lake Middle Basin's 2019 Quick Stats

	<b>Deep Water Phosphorus (average in PPB)</b>	<b>Water Color (SPU)</b>	<b>Clarity Trend</b>	<b>Phosphorus Trend</b>	<b>Chlorophyll-a Trend</b>
<b>Analysis Result</b>	6.25	27.89	Stable	Stable	Stable
<b>Interpretation</b>	Low deep water phosphorus	Water was highly colored	Neither shallower nor deeper clarity readings over	Neither more nor less phosphorus in water over time	Neither more nor less chlorophyll in water over time

## Long Lake (South Basin)



<b>Surface Area:</b>	4,935 acres
<b>Maximum Depth:</b>	59 feet
<b>Mean Depth:</b>	34 feet
<b>Volume:</b>	165,500 acre-feet
<b>Watershed Area:</b>	33,871 acres
<b>Flushing Rate:</b>	0.94 flushes per year
<b>Elevation:</b>	267 feet

**Long Lake's south basin surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Long Lake's south basin. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

## 2019 Water Quality Highlights

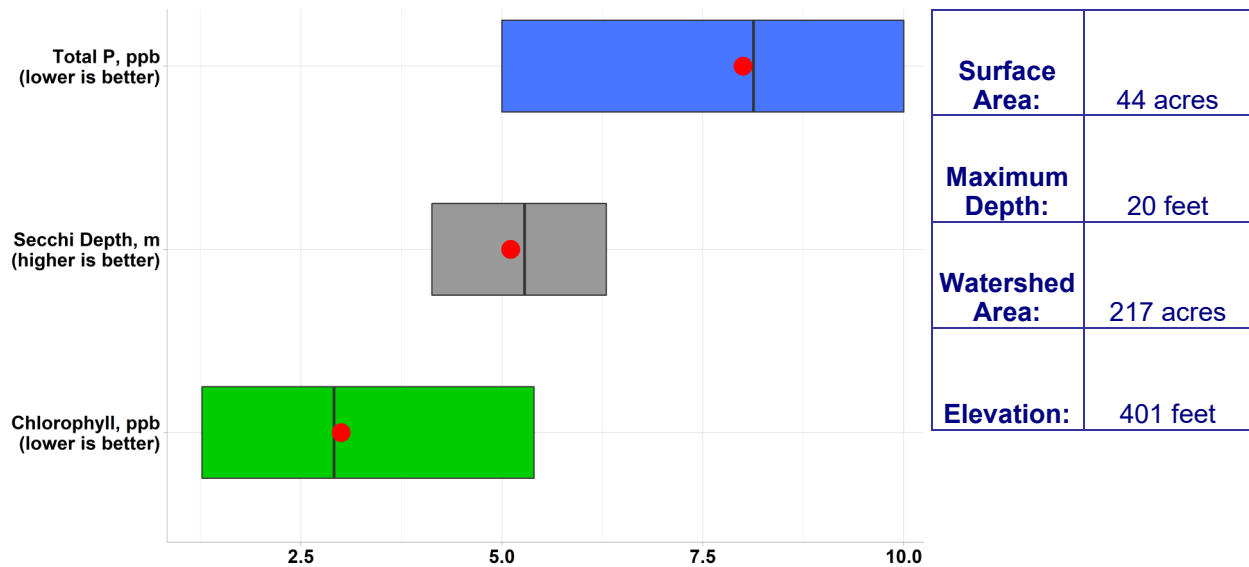
The average Secchi disk reading for 2019 was 6.34 meters, fell into the moderately clear range, and was shallower than the long-term average of 6.43 meters. The average total phosphorus reading of 5.75 ppb fell into the moderate range and was less than the long-term average of 6.32 ppb. Deep water phosphorus values fell into the low range. The chlorophyll-a average of 2.63 ppb fell into the moderate range and was less than the long-term average of 2.89 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Long Lake's south basin are stable, total phosphorus concentrations are decreasing, and clarity readings are increasing. The average color reading for 2019 was 26.88 SPU, indicating that water in Long Lake's south basin is highly colored. Suitable fish habitat was present through June, transitioned to marginal in July, and became unsuitable in August through September.

## Long Lake South Basin's 2019 Quick Stats

	<b>Deep Water Phosphorus (average in PPB)</b>	<b>Water Color (SPU)</b>	<b>Clarity Trend</b>	<b>Phosphorus Trend</b>	<b>Chlorophyll-a Trend</b>
<b>Analysis Result</b>	5.75	26.33	Increasing	Decreasing	Stable
<b>Interpretation</b>	Low deep water phosphorus	Water was highly colored	Deeper clarity readings over time	Less phosphorus in water over time	Neither more nor less chlorophyll in water over time



## Long Pond



### Long Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Long Pond. The line represents the long-term average value and the dot represents 2019's average value.

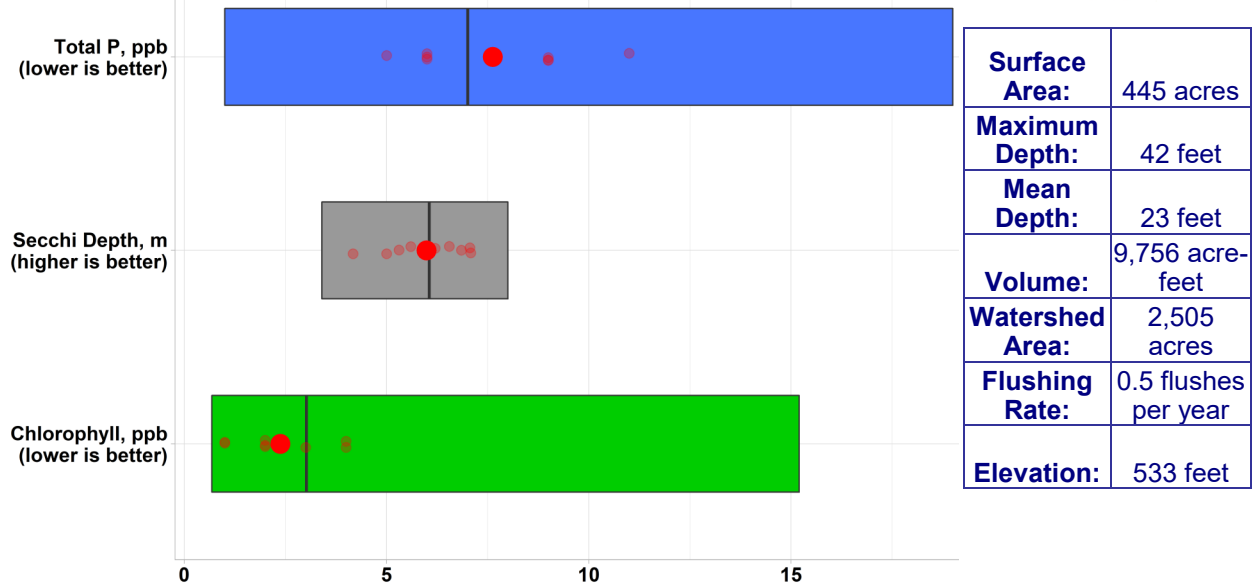
## 2019 Water Quality Highlights

Long Pond is sampled by LEA once per year in August. The long-term average reflects data from 1997 to 2019. The Secchi disk reading for 2019 was 5.11 meters, fell into the moderate clarity range, and was not significantly different than the long-term average of 5.28 meters. The Secchi disk did not hit the bottom this year but has in years past, indicating that Secchi depth may not be a reliable indicator of historic water clarity. The total phosphorus reading of 8.00 ppb fell into the moderate range and was not significantly different than the long-term average of 8.13 ppb. The chlorophyll-a reading of 3.00 ppb fell into the moderate range and was not significantly different than the long-term average of 2.91 ppb. The color reading for 2019 was 18 SPU, indicating that water in Long Pond is moderately colored.

## Long Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	18	5.11	8.00	3.00
<b>Interpretation</b>	Water was moderately colored	Moderately clear water	Moderate concentrations of phosphorus in surface water	Moderate concentrations of chlorophyll in surface water

## McWain Pond



### McWain Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on McWain Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

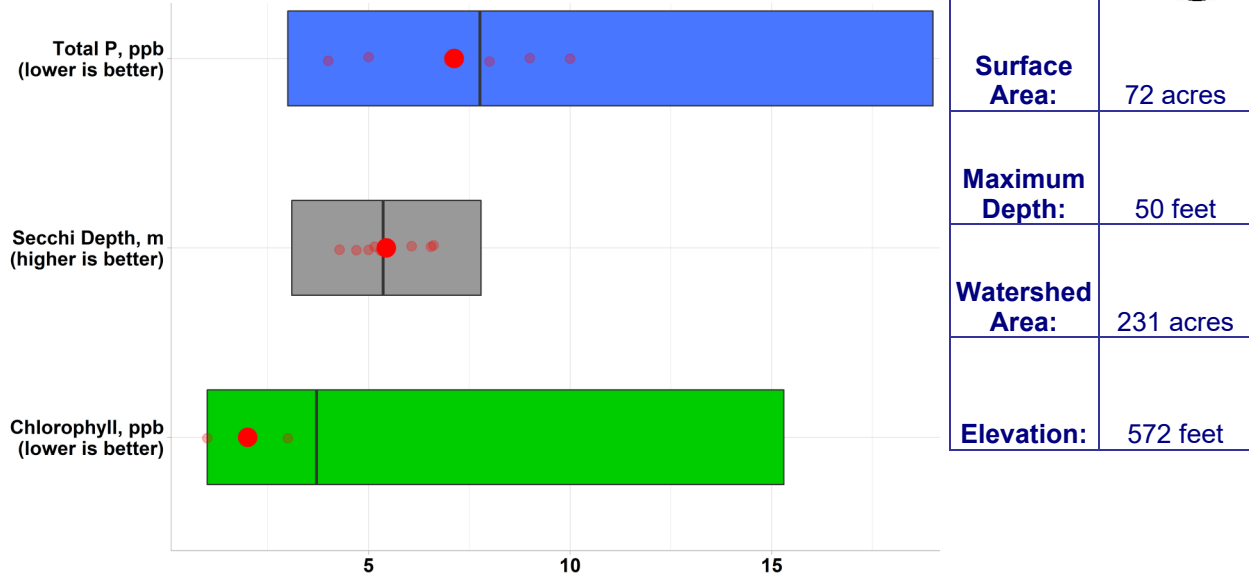
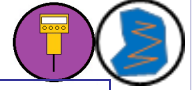
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 5.96 meters, fell into the moderately clear range, and was shallower than the long-term average of 6.06 meters. The average total phosphorus reading of 7.14 ppb fell into the moderate range and was higher than the long-term average of 6.96 ppb. Deep water phosphorus values fell into the low range. The chlorophyll-a average of 2.14 ppb fell into the moderate range and was less than the long-term average of 2.89 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in McWain Pond are decreasing, total phosphorus concentrations are decreasing, and clarity readings are stable. The average color reading for 2019 was 22.57 SPU, indicating that water in McWain Pond is moderately colored. Suitable fish habitat was present through June, transitioned to marginal habitat in July, and became unsuitable in August through September.

## McWain Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	7.5	22.57	Stable	Decreasing	Decreasing
<b>Interpretation</b>	Low deep water phosphorus	Water was highly colored	Neither shallower nor deeper clarity readings over time	Less phosphorus in water over time	Less chlorophyll in water over time

## Middle Pond



### Middle Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Middle Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

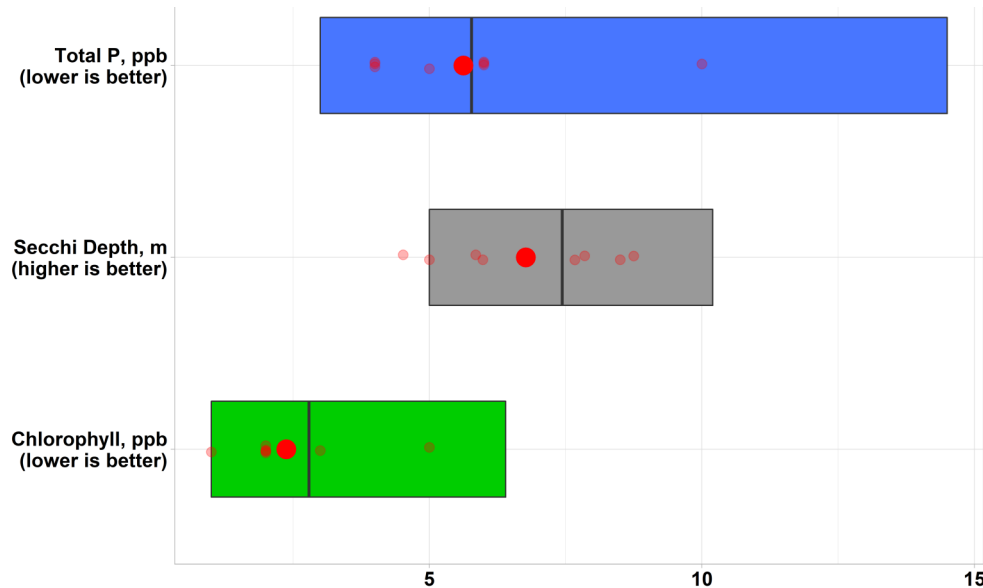
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 5.57 meters, fell into the moderately clear range, and was deeper than the long-term average of 5.36 meters. The average total phosphorus reading of 7.14 ppb fell into the moderate range and was less than the long-term average of 7.70 ppb. Deep water phosphorus values did reach into the high range. The chlorophyll-a average of 1.86 ppb fell into the low range and was less than the long-term average of 3.63 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Middle Pond are decreasing, total phosphorus concentrations are stable, and clarity readings are increasing. The average color reading for 2019 was 27.57 SPU, indicating that water in Middle Pond is highly colored. Suitable fish habitat was present into July, became unsuitable in mid-July and through August before becoming suitable again in September.

## Middle Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	25.5	27.57	Increasing	Stable	Decreasing
<b>Interpretation</b>	Low deep water phosphorus	Water was highly colored	Deeper clarity readings over time	Neither more nor less phosphorus in water over time	Less chlorophyll in water over time

## Moose Pond (Main Basin)



Surface Area:	941 acres
Maximum Depth:	77 feet
Mean Depth:	32.8 feet
Volume:	23,423 acre-feet
Watershed Area:	2,061 acres
Flushing Rate (whole pond):	3.69/year
Elevation:	418 feet

Moose Pond's main basin surface water chlorophyll, phosphorus, and Secchi depth data summary. Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Moose Pond's main basin. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

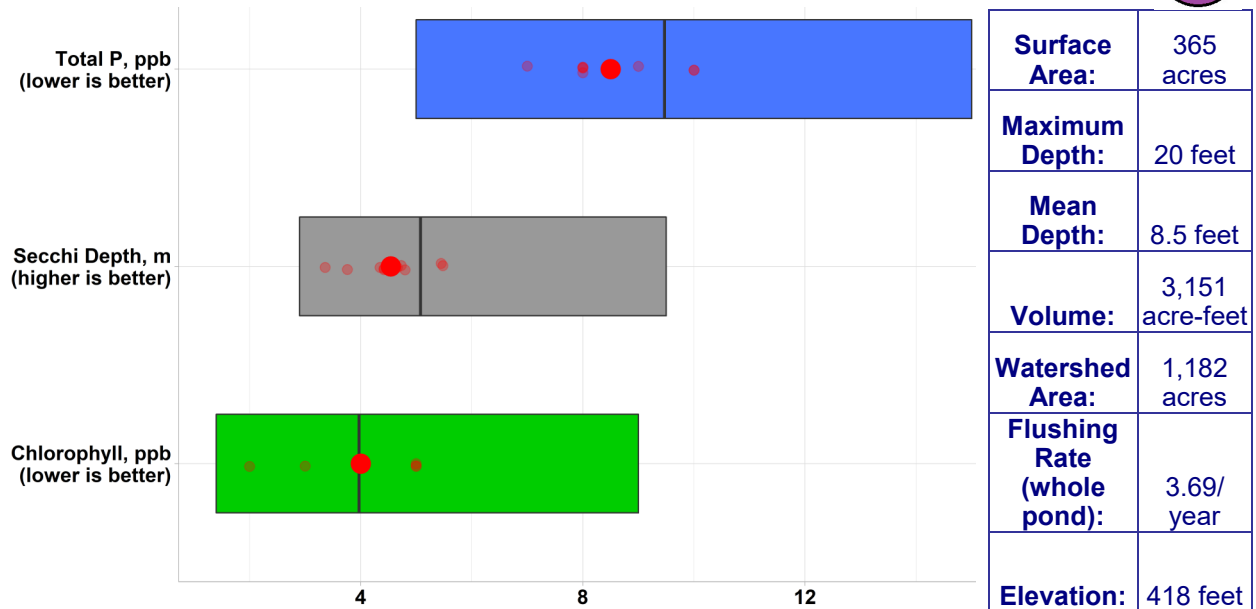
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 6.77 meters, fell into the moderate range and was shallower than the long-term average of 7.42 meters. The average total phosphorus reading of 5.63 ppb fell into the moderate range and was slightly less than the long-term average of 5.70 ppb. Deep water phosphorus values fell into the low range. The chlorophyll-a average of 3.5 ppb fell into the moderate range and was higher than the long-term average of 2.85 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Moose Pond's main basin are stable, total phosphorus concentrations are decreasing, and clarity readings are stable. The average color reading for 2019 was 22.50 SPU, indicating that water in Moose Pond's main basin is moderately colored. Suitable fish habitat was present from June through August and transitioned into marginal habitat in September.

## Moose Pond Main Basin's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	6.43	22.50	Stable	Decreasing	Stable
<b>Interpretation</b>	Low deep water phosphorus	Water was highly colored	Neither shallower nor deeper clarity readings over	Less phosphorus in water over time	Neither more nor less chlorophyll in water over time

## Moose Pond (North Basin)



Moose Pond's north basin surface water chlorophyll, phosphorus, and Secchi depth data summary. Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Moose Pond's north basin. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

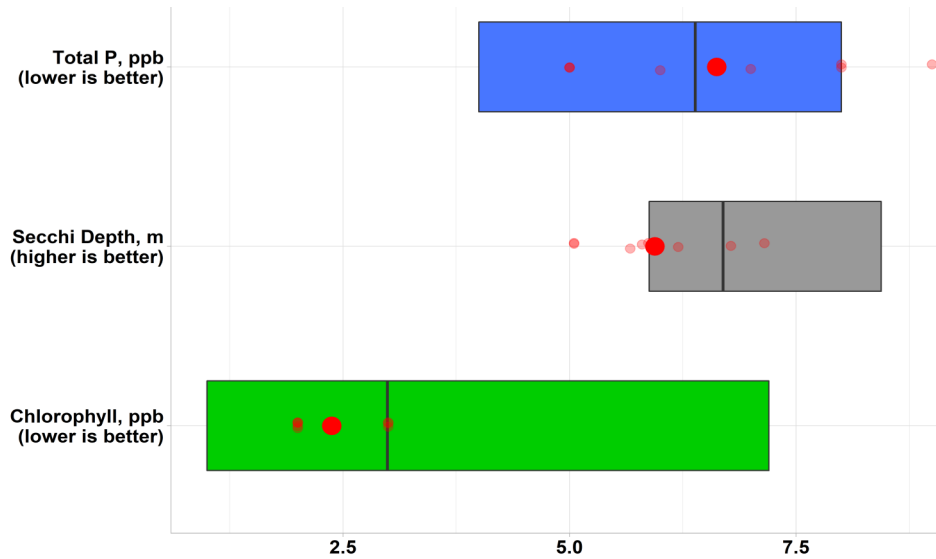
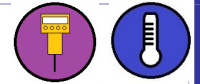
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 4.54 meters, fell into the moderately clear range, and was shallower than the long-term average of 5.06 meters. The average total phosphorus reading of 8.50 ppb fell into the moderate range and was less than the long-term average of 9.31 ppb. The chlorophyll-a average of 4.00 ppb fell into the moderate range and was slightly less than the long-term average of 4.11 ppb. Long-term trend analysis indicates chlorophyll-a concentrations are stable, total phosphorus concentrations are stable, and clarity readings are stable. The average color reading for 2019 was 32.13 SPU, indicating that water in Moose Pond's north basin is highly colored. Suitable fish habitat was present for a few weeks in June but became unsuitable by July and remained that way through September.

## Moose Pond North Basin's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	N/A	32.13	Stable	Stable	Stable
<b>Interpretation</b>	Deep water phosphorus not measured	Water was highly colored	Neither more nor less clarity in water over time	Neither more nor less phosphorus in water over time	Neither more nor less chlorophyll in water over time

## Moose Pond (South Basin)



<b>Surface Area:</b>	388 acres
<b>Maximum Depth:</b>	39 feet
<b>Mean Depth:</b>	15.7 feet
<b>Volume:</b>	6,105 acre-feet
<b>Watershed Area:</b>	1,964 acres
<b>Flushing Rate (whole pond):</b>	3.69/year
<b>Elevation:</b>	418 feet

**Moose Pond's south basin surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained in Moose Pond's south basin. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

## 2019 Water Quality Highlights

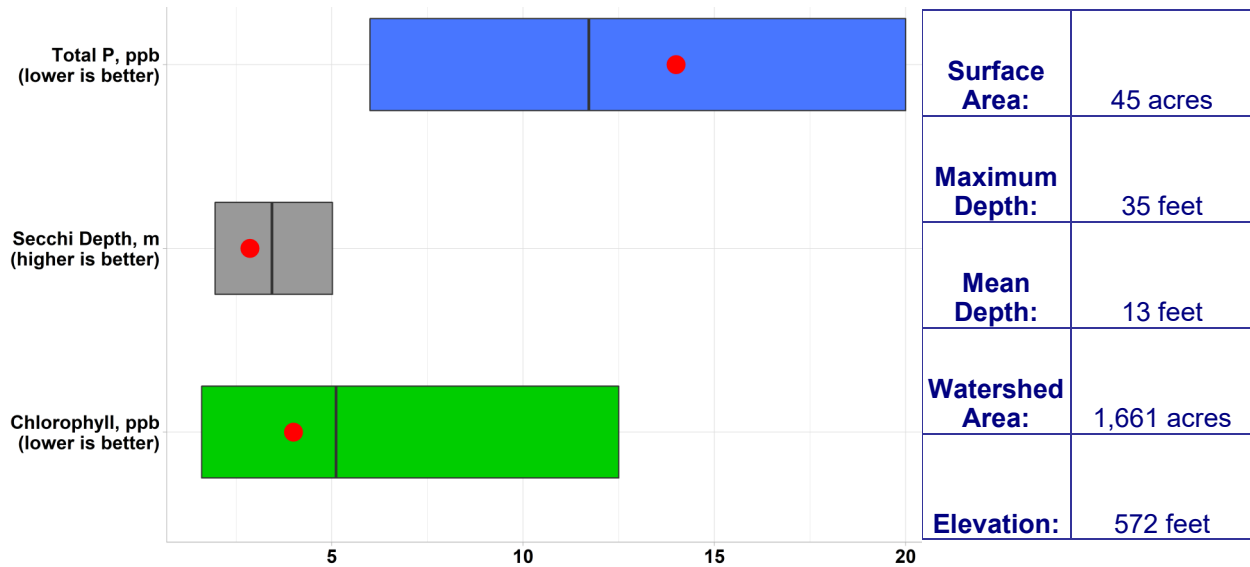
The average Secchi disk reading for 2019 was 5.94 meters, fell into the moderately clear range, and was shallower than the long-term average of 6.55 meters. The average total phosphorus reading of 6.00 ppb fell into the moderate range and was less than the long-term average of 6.31 ppb. Deep water phosphorus values did reach into the high range. The chlorophyll-a average of 2.38 ppb fell into the moderate range and was less than the long-term average of 2.86 ppb. Long-term trend analysis indicates chlorophyll-a concentrations are decreasing, total phosphorus concentrations are stable, and clarity readings are decreasing, however we only have 5 years of data. The average color reading for 2019 was 21.25 SPU, indicating that water in Moose Pond's south basin is moderately colored. Suitable fish habitat was present for a few weeks in June but became unsuitable by July and through September.

## Moose Pond South Basin 2019 Quick Stats

	<b>Deep Water Phosphorus (average in PPB)</b>	<b>Water Color (SPU)</b>	<b>Clarity Trend</b>	<b>Phosphorus Trend</b>	<b>Chlorophyll-a Trend</b>
<b>Analysis Result</b>	15.5	21.25	Decreasing	Stable	Decreasing
<b>Interpretation</b>	High deep water phosphorus	Water was highly colored	Shallower clarity readings over time	Neither more nor less phosphorus in water over time	Less chlorophyll in water over time



## Mud Pond



Mud Pond surface water chlorophyll, phosphorus, and Secchi depth data summary. Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Mud Pond. The line represents the long-term average value and the dot represents 2019's average value.

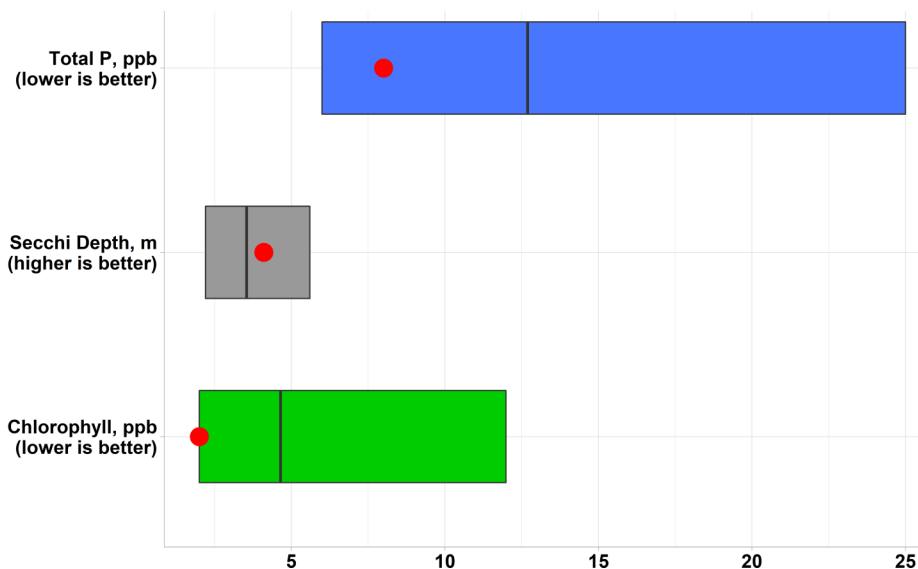
## 2019 Water Quality Highlights

Mud Pond is sampled by LEA once per year in August. The long-term average reflects data from 1997 to 2019. The Secchi disk reading for 2019 was 2.86 meters, fell into the low clarity range, and was shallower than the long-term average of 3.43 meters. The total phosphorus reading of 14.00 ppb fell into the high range and was higher than the long-term average of 11.76 ppb. The chlorophyll-a reading of 4.00 ppb fell into the moderate range and was less than the long-term average of 5.09 ppb. The color reading for 2019 was 71 SPU, indicating that water in Mud Pond is very highly colored.

## Mud Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	71	2.86	14.00	4.00
<b>Interpretation</b>	Water was very highly colored	Low clarity water	High concentrations of phosphorus in surface water	Moderate concentrations of chlorophyll in surface water

## Otter Pond



Surface Area:	90 acres
Maximum Depth:	21 feet
Mean Depth:	10 feet
Volume:	814 acre-feet
Watershed Area:	790 acres
Flushing Rate:	0.7 flushes per year
Elevation:	392 feet

**Otter Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Otter Pond. The line represents the long-term average value and the dot represents 2019's average value.

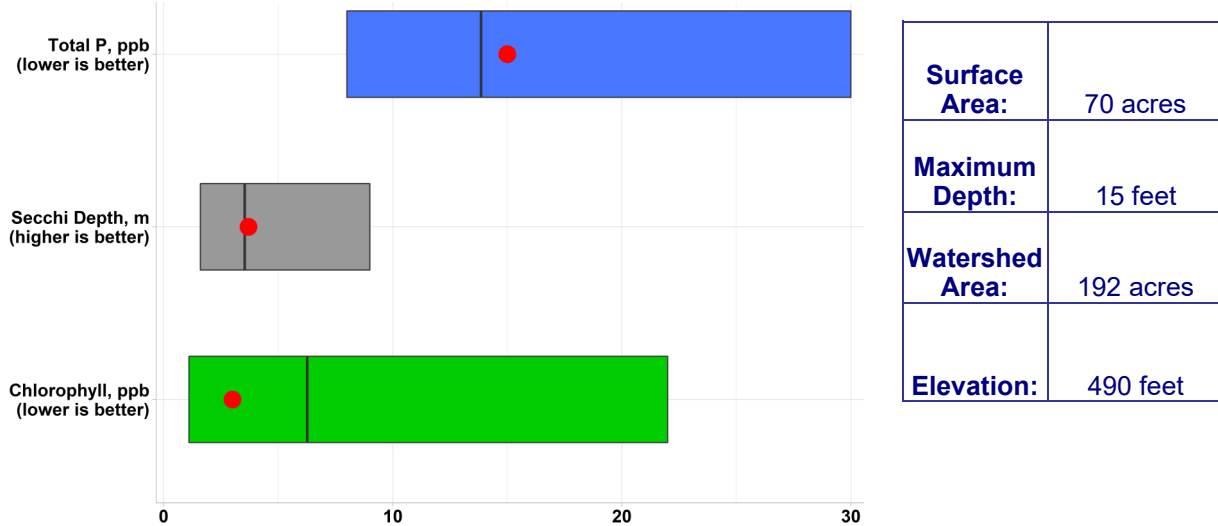
## 2019 Water Quality Highlights

Otter Pond is sampled by LEA once per year in August. The long-term average reflects data from 1988 to 2019. The Secchi disk reading for 2019 was 4.10 meters, fell into the moderate clarity range, and was not significantly different than the long-term average of 3.54 meters. The total phosphorus reading of 8.00 ppb fell into the moderate range and was not significantly different than the long-term average of 12.51 ppb. The chlorophyll-a reading of 2.00 ppb fell into the low range and was not significantly different than the long-term average of 4.57 ppb. The color reading for 2019 was 46 SPU, indicating that water in Otter Pond is highly colored.

## Otter Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	46	4.10	8.00	2.00
<b>Interpretation</b>	Water was highly colored	Moderately clear water	Moderate concentrations of phosphorus in surface water	Low concentrations of chlorophyll in surface water

## Papoose Pond



**Papoose Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Papoose Pond. The line represents the long-term average value and the dot represents 2019's average value.

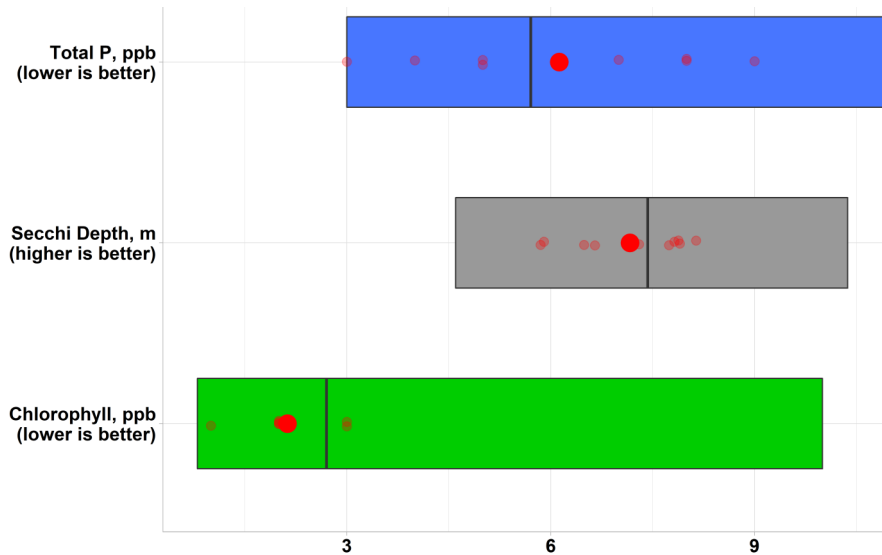
## 2019 Water Quality Highlights

Papoose Pond is sampled by LEA once per year in August. The long-term average reflects data from 1990 to 2019. The Secchi disk reading for 2019 was 3.70 meters, fell into the moderate range, and was deeper than the long-term average of 3.53 meters. The Secchi disk did not hit the bottom this year but has in the past, indicating that Secchi depth may not a reliable indicator of historic water clarity. The total phosphorus reading of 15.00 ppb fell into the high range and was higher than the long-term average of 13.85 ppb. The chlorophyll-a of 3.00 ppb fell into the moderate range and was less than the long-term average of 6.22 ppb. The color reading for 2019 was 31 SPU, indicating that water in Papoose Pond is highly colored.

## Papoose Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	31	3.70	15.00	3.00
<b>Interpretation</b>	Water was highly colored	Moderately clear water	High concentrations of phosphorus in surface water	Moderate concentrations of chlorophyll in surface water

## Peabody Pond



<b>Surface Area:</b>	740 acres
<b>Maximum Depth:</b>	64 feet
<b>Mean Depth:</b>	45 feet
<b>Volume:</b>	24,510 acre-feet
<b>Watershed Area:</b>	2,522 acres
<b>Flushing Rate:</b>	0.3 flushes per year
<b>Elevation:</b>	460 feet

### Peabody Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Peabody Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

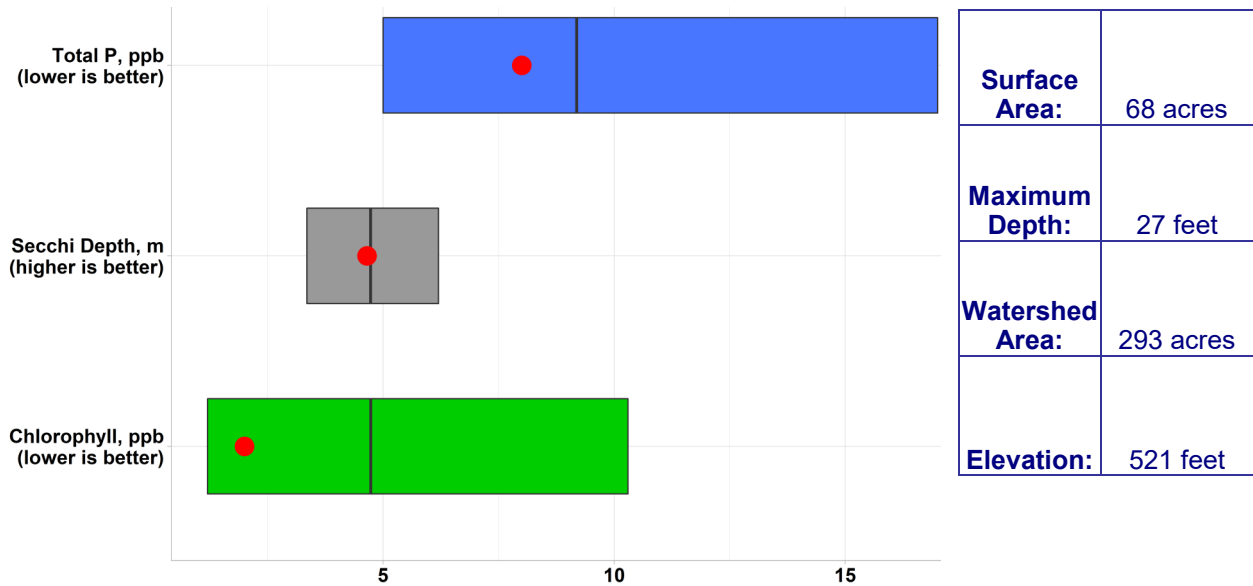
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 7.17 meters, fell into the high clarity range, and was shallower than the long-term average of 7.42 meters. The average total phosphorus reading of 6.13 ppb stayed within the moderate range and was higher than the long-term average of 5.68 ppb. Deep water phosphorus values fell into the low range. The chlorophyll-a average of 2.13 ppb fell into the moderate range and was less than the long-term average of 2.61 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Peabody Pond are stable, total phosphorus concentrations are stable, and clarity readings are stable. The average color reading for 2019 was 22.38 SPU, indicating that water in Peabody Pond is moderately colored. Suitable fish habitat was present from June through September.

## Peabody Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	6.8	22.38	Stable	Stable	Stable
<b>Interpretation</b>	Low deep water phosphorus	Water was moderately colored	Neither shallower nor deeper Secchi readings over time	Neither more nor less phosphorus in water over time	Neither more nor less chlorophyll in water over time

## Perley Pond



**Perley Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Perley Pond. The line represents the long-term average value and the dot represents 2019's average value.

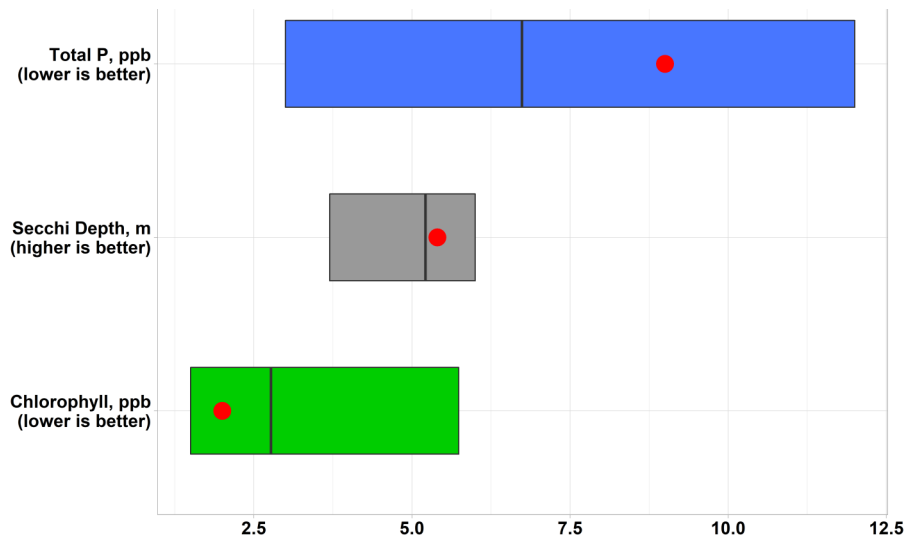
## 2019 Water Quality Highlights

Perley Pond is sampled by LEA once per year in August. The long-term average reflects data from 1994 to 2019. The Secchi disk reading for 2019 was 4.65 meters, fell into the moderate clarity range, and was less than the long-term average of 4.72 meters. The total phosphorus reading of 8.00 ppb fell into the moderate range and was less than the long-term average of 9.19 ppb. The chlorophyll-a reading of 2.00 ppb fell into the low range and was less than the long-term average of 4.82 ppb. The color reading for 2019 was 29.00 SPU, indicating that water in Perley Pond is highly colored.

## Perley Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	29	4.65	8.00	2.00
<b>Interpretation</b>	Water was highly colored	Moderately clear water	Moderate concentrations of phosphorus in surface water	Low concentrations of chlorophyll in surface water

## Pickerel Pond



<b>Surface Area:</b>	17 acres
<b>Maximum Depth:</b>	18 feet
<b>Watershed Area:</b>	290 acres
<b>Elevation:</b>	515 feet

### Pickerel Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Pickerel Pond. The line represents the long-term average value and the dot represents 2019's average value.

## 2019 Water Quality Highlights

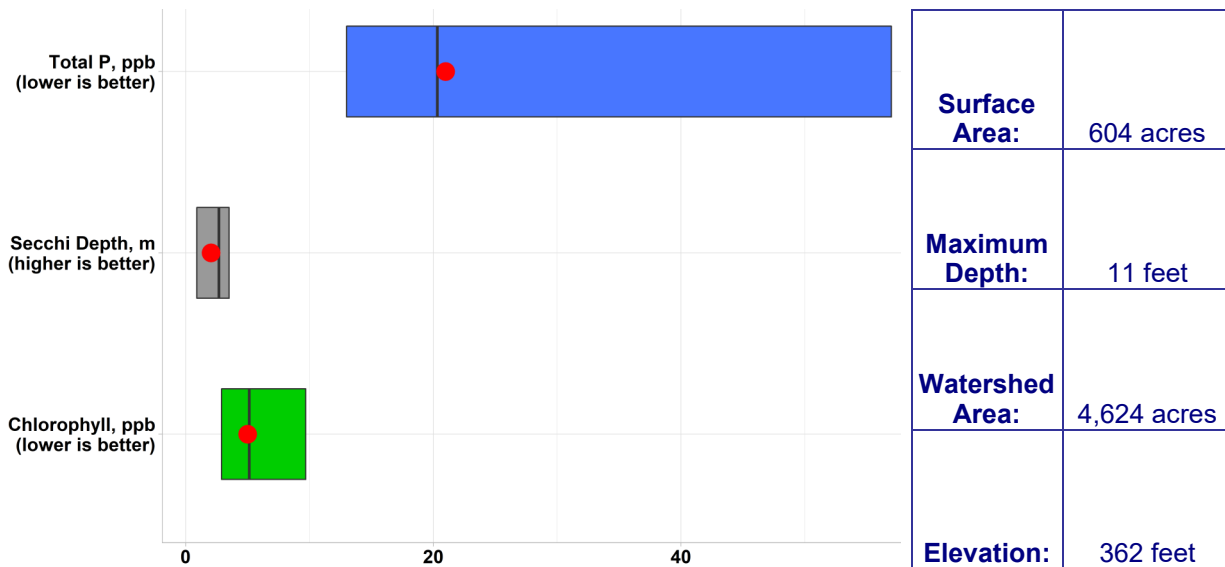
Pickerel Pond is sampled by LEA once per year in August. The long-term average reflects data from 1994 to 2019. The Secchi disk reading for 2019 was 5.40 meters, fell into the moderate clarity range, and was deeper than the long-term average of 5.21 meters. The total phosphorus reading of 9.00 ppb fell into the moderate range and higher than the long-term average of 6.74. The chlorophyll-a reading of 2.00 ppb fell into the low range and was lower than the long-term average of 2.77 ppb. The color reading for 2019 was 28 SPU, indicating that water in Pickerel Pond is highly colored.

## Pickerel Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	28	5.40	9.00	2.00
<b>Interpretation</b>	Water was highly colored	Moderately clear water	Moderate concentrations of phosphorus in surface water	Low concentrations of chlorophyll in surface water



## Pleasant Pond



Pleasant Pond surface water chlorophyll, phosphorus, and Secchi depth data summary. Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Pleasant Pond. The line represents the long-term average value and the dot represents 2019's average value.

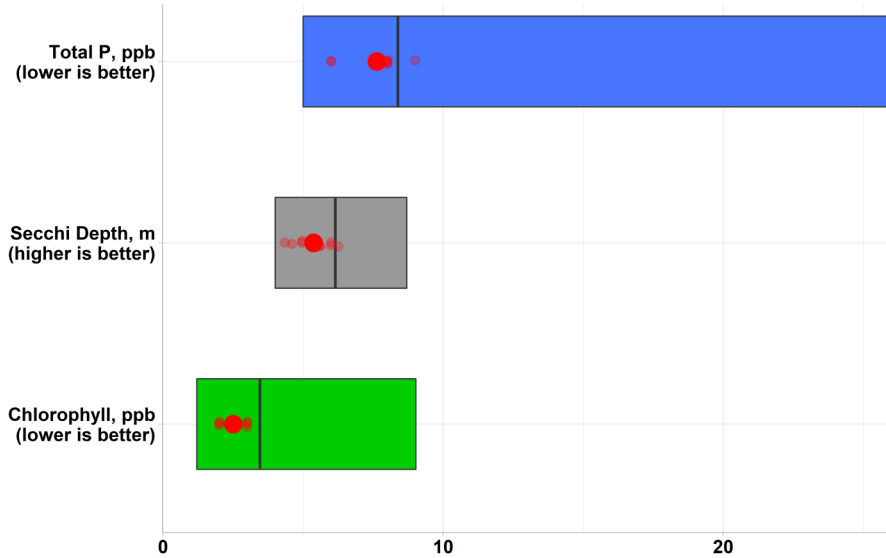
## 2019 Water Quality Highlights

Pleasant Pond is sampled by LEA once per year in August. The long-term average reflects data from 1997 to 2019. The Secchi disk reading for 2019 was 2.05 meters, fell into the moderately clear range, and was shallower than the long-term average of 2.68 meters. The total phosphorus reading of 21.00 ppb fell into the very high range and was higher than the long-term average of 20.32 ppb. The chlorophyll-a reading of 5.00 ppb fell into the moderate range and was less than the long-term average of 5.13 ppb. The color reading for 2019 was 65 SPU, indicating that water in Pleasant Pond is very highly colored.

## Pleasant Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	65	2.05	21.00	5.00
<b>Interpretation</b>	Water was very highly colored	Moderately clear water	Moderate concentrations of phosphorus in surface water	Moderate concentrations of chlorophyll in surface water

## Sand Pond



<b>Surface Area:</b>	256 acres
<b>Maximum Depth:</b>	49 feet
<b>Watershed Area:</b>	1394 acres
<b>Elevation:</b>	502 feet

### Sand Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Sand Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

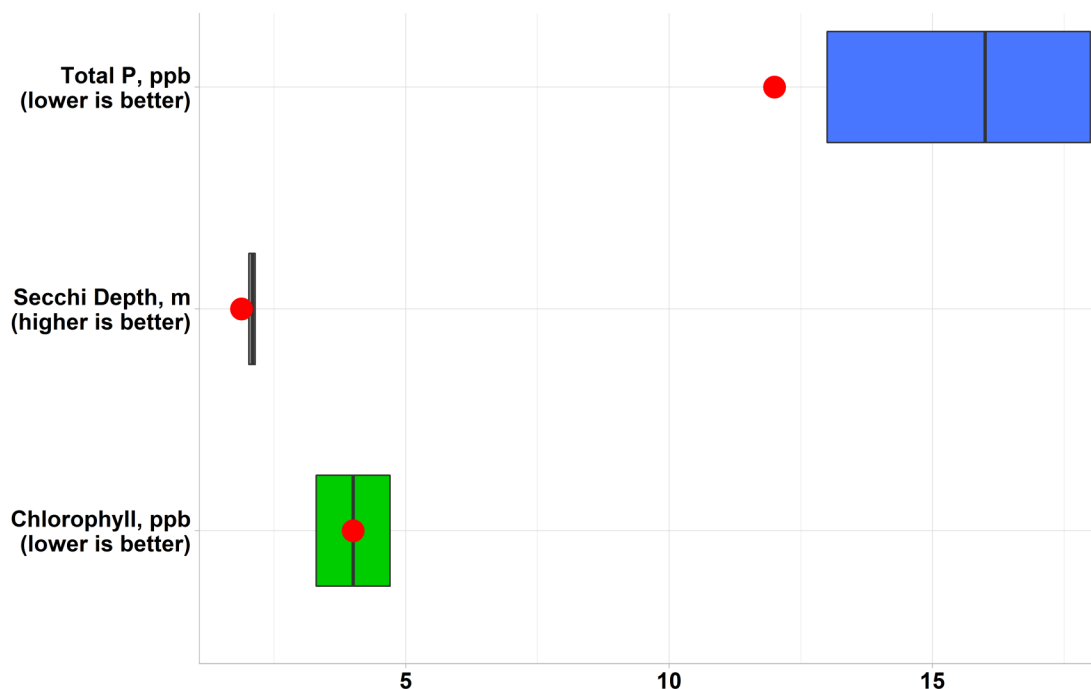
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 5.37 meters, fell into the moderately clear range, and was shallower than the long-term average of 6.12 meters. The average total phosphorus reading of 7.63 ppb fell into the moderate range and was less than the long-term average of 8.23 ppb. Deep water phosphorus values did reach into the high range. The chlorophyll-a average of 2.5 ppb fell into the moderate range and was less than the long-term average of 3.43 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Sand Pond are stable, total phosphorus concentrations are stable, and clarity readings are stable. The average color reading for 2019 was 21.50 SPU, indicating that water in Sand Pond is moderately colored. Suitable fish habitat was present from June through July, transitioned to marginal habitat in August, and became unsuitable in September.

## Sand Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	12	21.50	Stable	Stable	Stable
<b>Interpretation</b>	High deep water phosphorus	Water was moderately colored	Neither shallower nor deeper clarity readings over	Neither more nor less phosphorus in water over time	Neither more nor less chlorophyll in water over time

## Sebago Cove



**Sebago Cove surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Sebago Cove. The line represents the long-term average value and the dot represents 2019's average value.

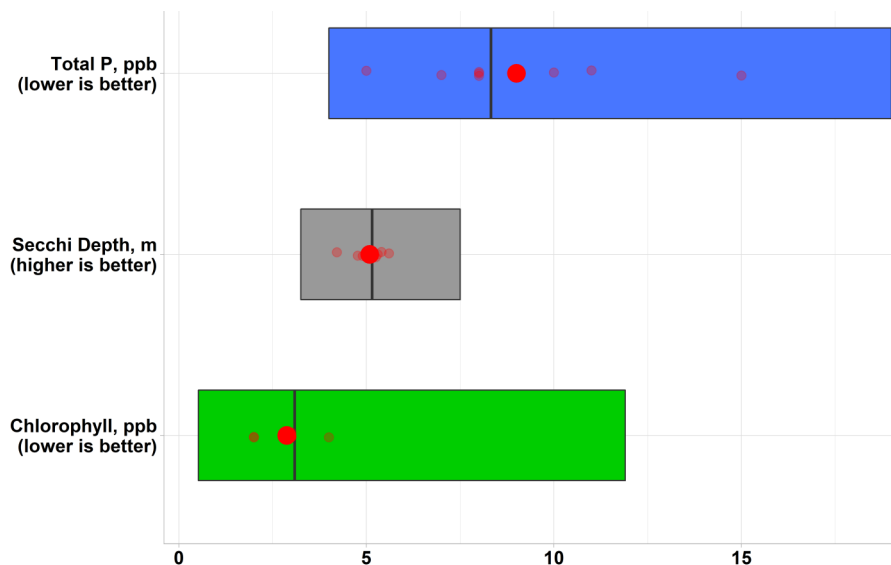
## 2019 Water Quality Highlights

Sebago Cove is sampled by LEA once per year in August. The long-term average reflects data from 2016 to 2019. The Secchi disk reading for 2019 was 1.88 meters and was less than the long-term average of 2.09 meters. The Secchi disk hit the bottom, indicating that Secchi depth is not a reliable indicator of water clarity. The total phosphorus reading of 12.00 meters fell into the moderate range and was less than the long-term average of 16.00 ppb. The chlorophyll-a reading of 4.00 ppb fell into the moderate range and was the same as the long-term average of 4.00 ppb. The color reading for 2019 was 40 SPU, indicating that water in Sebago Cove is highly colored.

## Sebago Cove's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	40	1.88	12.00	4.00
<b>Interpretation</b>	Water was highly colored	Secchi disk hit bottom, clarity indeterminate	Moderate concentrations of phosphorus in surface water	Moderate concentrations of chlorophyll in surface water

## Stearns Pond



Surface Area:	248 acres
Maximum Depth:	48 feet
Mean Depth:	27 feet
Volume:	6,585 acre-feet
Watershed Area:	4,116 acres
Flushing Rate:	1.6 flushes per year
Elevation:	444 feet

### Stearns Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Stearns Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

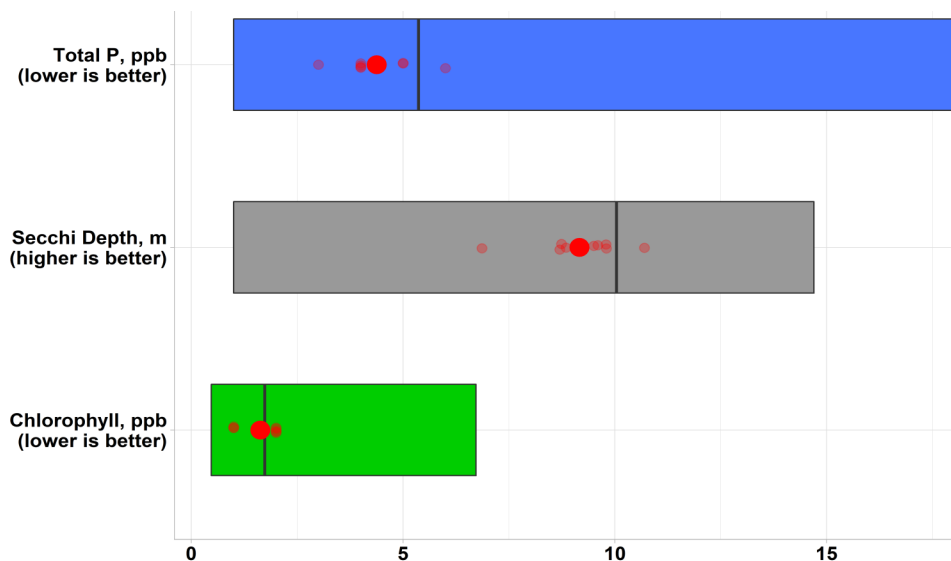
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 5.09 meters, fell into the moderate range, and was slightly shallower than the long-term average of 5.15 meters. The average total phosphorus reading of 9.00 ppb fell into the moderate range and was higher than the long-term average of 8.35 ppb. Deep water phosphorus values did reach into the high range. The chlorophyll-a average of 2.88 ppb fell into the moderate range and was less than the long-term average of 3.16 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Stearns Pond are decreasing, total phosphorus concentrations are stable, and clarity readings are increasing. The average color reading for 2019 was 33.50 SPU, indicating that water in Stearns Pond is highly colored. Suitable fish habitat was present from June through July, became marginal in August, and became unsuitable in September.

## Stearns Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	12	33.5	Increasing	Stable	Decreasing
<b>Interpretation</b>	High deep water phosphorus	Water was highly colored	Deeper clarity readings over time	Neither more nor less phosphorus in water over	Less chlorophyll in water over time

## Trickey Pond



<b>Surface Area:</b>	315 acres
<b>Maximum Depth:</b>	57 feet
<b>Mean Depth:</b>	34 feet
<b>Volume:</b>	10,108 acre-feet
<b>Watershed Area:</b>	555 acres
<b>Flushing Rate:</b>	0.1 flushes per year
<b>Elevation:</b>	360 feet

### Trickey Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Trickey Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

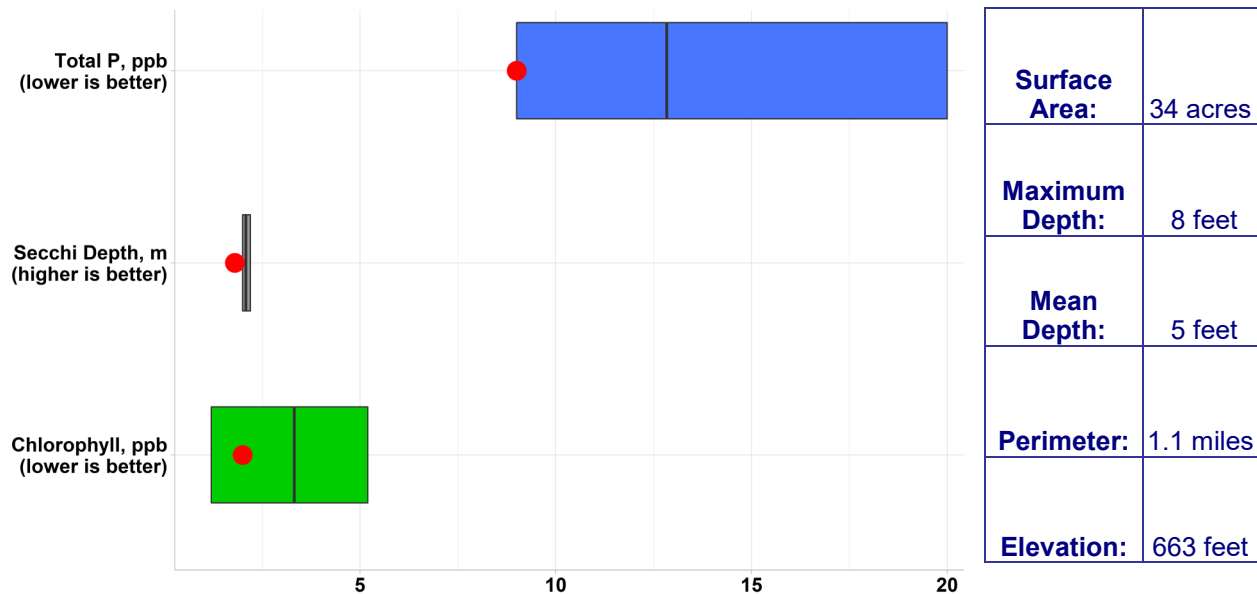
## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 9.16 meters, fell into the high clarity range, and was shallower than the long-term average of 10.03 meters. The average total phosphorus reading of 4.38 ppb fell into the low range and was less than the long-term average of 5.27 ppb. Deep water phosphorus values stayed within the low range. The chlorophyll-a average of 1.63 ppb fell into the low range and was less than the long-term average of 1.82 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Trickey Pond are increasing, total phosphorus concentrations are stable, and clarity readings are decreasing. The average color reading for 2019 was 13.25 SPU, indicating that water in Trickey Pond is moderately colored. Suitable fish habitat was present from June through September, however low oxygen conditions were present in deep water from July through September.

## Trickey Pond's 2019 Quick Stats

	Deep Water Phosphorus (average in PPB)	Water Color (SPU)	Clarity Trend	Phosphorus Trend	Chlorophyll-a Trend
<b>Analysis Result</b>	10	13.25	Decreasing	Stable	Increasing
<b>Interpretation</b>	Low deep water phosphorus	Water was moderately colored	Shallower clarity readings over time	Neither more nor less phosphorus in water over time	More chlorophyll in water over time

## Webber Pond



### Webber Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.

Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Webber Pond. The line represents the long-term average value and the dot represents 2019's average value.

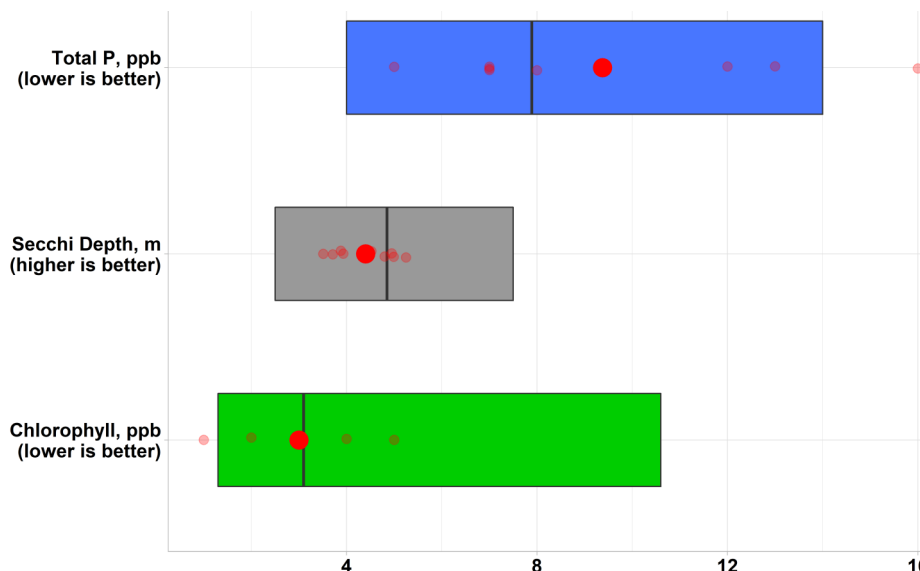
## 2019 Water Quality Highlights

Webber Pond is sampled by LEA once per year in August. The long-term average reflects data from 2013 to 2019. The Secchi disk reading for 2019 was 1.80 meters and was shallower than the long-term average of 2.08 meters. The Secchi disk did hit the bottom, indicating that Secchi depth is not a reliable indicator of water clarity. The total phosphorus reading of 9.00 ppb fell into the moderate range and was less than the long-term average of 12.83 ppb. The chlorophyll-a reading of 2.00 ppb fell into the low range and was less than the long-term average of 3.12 ppb. The color reading for 2019 was 40 SPU, indicating that water in Webber Pond is highly colored.

## Webber Pond's 2019 Quick Stats

	Water Color (SPU)	Clarity Measure (meters)	Phosphorus Measure (ppb)	Chlorophyll-a Measure (ppb)
<b>Analysis Result</b>	40	1.80	9.00	2.00
<b>Interpretation</b>	Water was highly colored	Secchi disk hit bottom, clarity indeterminate	Moderate concentrations of phosphorus in surface water	Low concentrations of chlorophyll in surface water

## Woods Pond



<b>Surface Area:</b>	462 acres
<b>Maximum Depth:</b>	29 feet
<b>Mean Depth:</b>	17.5 feet
<b>Volume:</b>	7,890 acre-feet
<b>Watershed Area:</b>	3,329 acres
<b>Flushing Rate:</b>	0.77 flushes per year
<b>Elevation:</b>	456 feet

**Woods Pond surface water chlorophyll, phosphorus, and Secchi depth data summary.** Colored boxes represent the long-term range of values, from minimum to maximum, obtained on Woods Pond. The line represents the long-term average value and the large dot represents 2019's average value. The small red dots represent individual readings taken in 2019.

## 2019 Water Quality Highlights

The average Secchi disk reading for 2019 was 4.40 meters, fell into the moderately clear range, and was shallower than the long-term average of 4.84 meters. The average total phosphorus reading of 9.71 ppb fell into the moderate range and was higher than the long-term average of 8.13 ppb. Deep water phosphorus values stayed within the low range. The chlorophyll-a average of 3.00 ppb fell into the moderate range and was slightly less than the long-term average of 3.07 ppb. Long-term trend analysis indicates chlorophyll-a concentrations in Woods Pond are stable, total phosphorus concentrations are increasing, and clarity readings are increasing. The average color reading for 2019 was 49 SPU, indicating that water in Woods Pond is highly colored. Suitable fish habitat was present through June, became marginal in July, and became unsuitable in August and September.

## Woods Pond's 2019 Quick Stats

	<b>Deep Water Phosphorus (average in PPB)</b>	<b>Water Color (SPU)</b>	<b>Clarity Trend</b>	<b>Phosphorus Trend</b>	<b>Chlorophyll-a Trend</b>
<b>Analysis Result</b>	9	49	Increasing	Increasing	Stable
<b>Interpretation</b>	Low deep water phosphorus	Water was highly colored	Deeper clarity readings over time	More phosphorus in water over time	Neither more nor less chlorophyll in water over time