



# CANDLEWOOD LAKE AUTHORITY

P.O. BOX 37 • SHERMAN, CONNECTICUT 06784-0037 • (860) 354-6928 • FAX (860) 350-5611

## Minutes of Regular Meeting November 14, 2018

### Attending:

P. Schaer	Sherman
G. Linkletter	Sherman
D. Cushnie	Sherman
S. Kluge	New Milford
J. Wodarski	New Milford
J. Hodge	New Fairfield
B. Licht	New Fairfield (electronic)
C. Robinson	Danbury
J. Murphy	Brookfield
W. Lohan	Brookfield

### Absent:

E. Siergiej	Danbury
D. Rosemark	Danbury
J. Main	New Fairfield
M. Toussaint	New Milford
B. Brown	Brookfield

M. Howarth, Executive Director

J. Neil Stalter, Director of Ecology and Environmental Education

F. Frattini, CLA Administrative Coordinator

CLAMP – Asst Chief R. Barnard, Capt. N. Mellas, Lieut. Dyson and LPO Whiteside

Recorder: F. Frattini

Guests: three members of the public.

Chairman, Phyllis Schaer, called the regular meeting of the Candlewood Lake Authority to order at 7:32 P.M. at Brookfield Town Hall Brookfield, CT. She welcomed the guests.

**Public Comment:** None

**Secretary's Report:** *Jerry Murphy made a motion to accept the minutes of the October 10, 2018 meeting as written, seconded by Bill Lohan, motion was voted with all in favor, Motion carried, and minutes have been accepted as written.*

**Candlewood Lake Authority Marine Patrol:** Asst. Chief Barnard gave the report of statistics for the 2018 season. This season there were three fatalities, which are being investigated by DEEP, 2 cases are closed and one is still open, there were two fires and two accidents. When called to assist, the CLAMP officers were complimented on their assistance and professionalism. It was a busy season with 1,712 man-hours on the water, there were 28 rainouts, zero cancelled shifts, and the officers had 599 contacts that resulted in 69 infractions, 27 written warnings and 365 verbal warnings. The top five violations were #1 PFD violations, #2 registration decal violations, #3 PWC within 200' of shore, etc, #4 violations for lights and #5 bow riding.

Asst Chief Barnard reported that one LPO has started at the police academy for the Hartford Police Department and will not be coming back next season.

Mrs. Schaer advised that the approval on the appointment of the Chief and Assistant Chief will be finalized at the December meeting. Mr. Wodarski asked Asst Chief Barnard to report on this and he advised that Chief Vane has resigned and is dealing with some serious medical issues. The CLA will honor his years of service with a plaque as they have done for CME's in the past.

Mr. Wodarski noted that replacing the top will mean moving other officers up in the ranked positions. This will all be done in the off-season.

Jerry Murphy noted that the Patrol did a spectacular job this season and they will be thanked at the annual dinner Friday evening.

Mrs. Schaer added that she is still looking into a new patrol boat for the next season.

**Public Safety Committee** was moved here so the CLAMP officers would not need to stay for the whole meeting. Mr. Wodarski noted that the committee had reviewed the recommendation of the Assistant Chief on behalf of the Chief regarding two LPO's who will not be asked back for the 2019 season. The board wanted to discuss this in Executive Session and asked the one gentleman who would be affected if he preferred it to be open, he agreed to the Executive Session. Invited to stay for the Executive Session were the delegates and staff members: Mark Howarth, Frances Frattini, Henry Dyson, Cooper Whiteside, Ron Barnard and Nick Mellas. All others left the room. And the recorder it was discovered had not been turned on, so it remained off. *Bill Lohan moved to go into Executive Session to discuss the two LPO's who would not be asked back for the 2019 season, seconded by Joe Wodarski and voted with all in favor. The Executive Session began at 7:47PM.* The Board voted to come out of Executive Session at 7:59PM those who had left were invited back and the recorder was turned on. *Mr. Wodarski made a motion to accept the recommendation of the Chief per the Assistant Chief regarding the two LPO's who will not be asked back for the 2019 season, motion seconded by Jerry Murphy and voted with all in favor.*

R. Barnard H. Dyson, N. Mellas and C. Whiteside left the meeting at 8:03 PM.

**Chairman's Report:** Chairman Phyllis Schaer reported that she, Executive Director Mark Howarth and Director of Ecology and EE Neil Stalter spent a week at the annual North American Lakes Management Society conference in Cincinnati, Ohio. It was a great experience and they brought back much useful information. One very interesting talk she attended had to do with the use of sodium chloride (road salts) which was very informative and learned that there is a BMP for its use to protect waterways, they noted a program to educate applicators on how to properly use it. Blue Green Algae was a big topic at the conference.

Mrs. Schaer reported on the Nuisance Plant Monitoring weed mapping and is still concerned with the change of vendor and scope of the mapping – she is awaiting the report.

She advised that with the SMP up for review in March of 2019 the CLA would have collaborative meetings with FLPR, they have agreed but no dates are set. She will follow up with a few dates to them. The SMP Review Sub Committee will be meeting on the same night as the Watershed Management Committee to discuss the CLA's concerns on the SMP.

**Vice-Chairman's Report:** In the absence of the Vice Chairman, there was no Vice-Chairman report.

**Treasurer's Report:** Treasurer Bill Lohan noted that we have completed a third of the fiscal year and Profit and Loss Budget vs. Actual for October 31, 2018 has income at 78% of budget and expenses year to date are Admin at 29% of budget, Equipment/Facilities 31% of budget, Public Safety 65% of budget, Public Awareness 20% of budget, and Watershed

Management 30% of budget which puts overall expenses at 34% of budget. In good shape so far this fiscal year. No lines have gone over so there are no adjustments this month. *Mr. Lohan moved that the report for the month ended October 31, 2018 be accepted as presented, seconded by Jerry Murphy and voted with all in favor. Motion carried and report has been filed for audit.*

Mr. Lohan advised the delegates that Mrs. Schaer arranged for her own airfare to the NALMS conference in the amount of \$336.00. *Bill Lohan moved to reimburse Mrs. Schaer for her \$336.00 out-of-pocket expense for airfare to the NALMS conference, seconded by Jerry Murphy and voted with all in favor.* Mrs. Schaer will be reimbursed.

Mr. Lohan shared the work the Finance Committee and Executive Committee had done on the proposed 2019/2020 Budget advising that in the proposed budget Admin has gone down at (-2.5%), Equipment/Facilities up 2.25%, Public Safety up 5.44%, Public Awareness down at (-42.8%) (this is based mostly on the fact that the salary of the Director of Ecology and Environmental Education has been proportioned with 40% in Public Awareness and 60% in Watershed Management) and that is why Watershed Management is up 94%. The total expenses in the proposed budget are \$533,282.00. This budget has a \$2,000.00 (2.5%) increase per Town. On the revenues side, FirstLight has confirmed that they will again contribute \$50,000.00 which is 40% of all other income with the balance coming from donations, sponsorships, merchandise sales, etc.

The proposed budget continues the current programs and includes \$6,600 (line 551) for Grass Carp stocking which may be in the spring of 2020. Mrs. Schaer noted that it is prudent to accumulate funding for the stocking as acres of milfoil based on the weed mapping and age of the fish will determine the number of fish needed to be restocked. She had been advised that the Towns would prefer it in the budget rather than asking for an additional appropriation at a later date. Mr. Lohan added that the Capital Line (#261) has also been funded with \$5,000.00 in the proposed budget. The budget proposal will be forwarded to the delegates and it will be voted on at the December meeting.

**Executive Director's Report:** Mark Howarth advised his report is attached to these minutes and then noted the highlights.

- NALMS workshops and seminars listed in his report and spoke briefly on some of them.
- The dedication of the Memorial Bench for former New Milford Delegate Harold Mayer at Lynn Deming park was a very nice event – the bench overlooks Vaughn's Neck
- He participated at a breakout session at the Connecticut Federating of Lakes Western Lakes Forum
- He and Neil Stalter met with the New Fairfield Environmental Corps for an end of the year wrap up breakfast and talk, they thanked the Seniors for all their help collecting water samples for the Authority's e-coli bacteria testing.
- The Annual Appeal letter is in the works and should be going out in December
- He and Mrs. Frattini met with John Howard, head of CT Hydro for FirstLight Power for coffee and conversation.
- He would like to host a focus session for the delegates and staff, noting with new staff and a number of new delegates this might be a good time for all to get together to focus on what the CLA does, what direction should it be taking, should something be eliminated, and others added. He hopes to do this after the New Year.

**Director of Ecology and Environmental Education:** Neil Stalter noted his report is attached to these minutes. Highlights from his report are:

- Shoreline mapping is almost done – this will allow him to compare the present with 2007 – Thank you to Mark Howarth and Steve Kluge for their help.
- NALMS conference learned much and happy to disuses with any delegate.
- Had two articles – one was the seasonal newsletter and the other on lake turnover which received many compliments and the newsletter garnered about a dozen new license plate application requests
- Finished up the grass carp tracking – hoping the batteries may still work next season.
- He was out one day to assist in buoy removal – good to get out and see what the CLA does.
- He is still reviewing the SMP
- Summarized the October Water Quality Report

**Committee Reports**

**Public Safety Committee:** Reported earlier.

**Equipment/Facilities Committee:** Doug Cushnie, Committee Chairman, reported that the CLA is all packed up for the season. He will be assessing all equipment going forward in the off-season. Mr. Cushnie was thanked for his help with the buoy retrieval this fall.

**Public Awareness Committee:** Committee Chairman George Linkletter noted that Mr. Howarth and Mr. Stalter covered it in their reports.

**Watershed Management Committee:** With Committee Chair absent there was no report.

**Old/New Business:** Mrs. Schaer spoke about the Homeowners Guide Brochure – Mr. Howarth advised that he had been to the Post Office checking on a Bulk Mail Permit, he is getting a price from the printer and is checking on getting street-by-street list of the shoreline residents. Chris Robinson will check on how best to get the guides to the local realtors.

*With no other business, Jerry Murphy moved to adjourn the meeting, seconded by Chris Robinson, meeting adjourned at 8:49 P.M.*

Respectfully submitted,

Jerry Murphy, Secretary  
 Frances Frattini, Administrative Coordinator  
 r/b/mh

***These minutes are not considered official until they have been approved at  
 The next regularly scheduled meeting of the Candlewood Lake Authority.***



# CANDLEWOOD LAKE AUTHORITY

P.O. BOX 37 • SHERMAN, CONNECTICUT 06784-0037 • (860) 354-6928 • FAX (860) 350-5611

**November 14, 2018**  
**Executive Director**  
**Mark Howarth**

## **Monthly Report:**

- **NALMS Conference:** We attended the 2018 North American Lake Management Society's Annual Conference from October 30<sup>th</sup> through November 2<sup>nd</sup>. This annual conference is a great opportunity to learn the latest in lake science, management techniques and also meet and network with some of the best "lake minds" in North America and beyond.

Below are some of the highlights and talks I attended.

- **Workshop "Lake Management Best Practices – Managing Algae":** This informative half day workshop was led by Dick Osgood and included Dr. Harry Gibbons. The focus of this workshop was blue-green algae and covered different potential causes as well as the pros and cons of a variety of management techniques.
- **Bridging the Gap Between Public Expectations and Realistic Management Solutions in Shallow MN Lakes:** I have been in touch with the speaker about her talk since returning and look forward to learning more about the video they produced as well as the program they have implemented to reduce road salt use in their watershed.
- **Social Marketing Maneuvers, Magic and Measurable Change:** This talk was of interest to me for the CLA and proved to be not only informative, but it also detailed a program that we may want to investigate implementing here for Candlewood. I have contacted the speaker for a follow up conversation and look forward to developing this further.
- Vertical Distribution of Cyanobacteria Toxins in Willow Creek Reservoir
- Structural Changes to Lake Ecosystems Due to Long-Term Browning
- A Tale of Two Species: Aquatic Invasives in Butterfield NY
- Principles of Aquatic Plant Management
- The Role of Morphometry and Hydrology in Promoting Eutrophication and CyanoHAB's in Reservoirs
- Maximum Microcystin Concentrations in Western Lake Erie Predicted by Early Season Nutrient Concentrations
- The Importance of Nutrient Supply by Fish Excretion & Watershed Streams to a Eutrophic Lake Varies with Temporal Scale Over 19 Years
- Nutrient Issues Affecting Ohio's Inland Lakes: Evolution of a Program and Lessons Learned
- Kentucky Lake Is Undergoing "A Change of State": Tipping Points in Water Quality May Require New Approaches for Lake Management

- Managing Large Inland Lakes: The Need for an Integrated Management Approach for Successful Lake Management
- Pacification: The New Narrative on Lake Management
- Development of the Mill Pond Remediation Plan
- A Model-Based Approach for Developing A Lake Management Plan
- A Method to Reduce Septic System Impact on Lake
- Lake Champlain's Cost Effective and Successful Cyanobacteria Monitoring Program
- Potential Linkage Between Zebra Mussel Establishment, Cyanobacterial Community Establishment and Microcystin Levels in the United States lakes
- The State of the Lake: Communicating Watershed Science and Engaging Stakeholders in the Lake Champlain Basin
- Structure of Physiological Activity of Cyanobacterial Communities in a Freshwater Lake: A Three-Year Study Using 16S rRNA Gene Sequencing Analysis
- Winter Road Maintenance: Identifying and Lowering Private Companies Barriers to Adopting Best Management Practices

- **Harold Mayer Bench Dedication:** Phyllis Schaeer organized and held a very nice memorial bench dedication for long-time delegate, Harold Mayer who had passed away.



Several CLA staff

and delegates were in attendance, along with Mayor Bass from New Milford, at the event held in Lynn Deming Park.

- **Connecticut Federation of Lakes - Western Lakes Forum:** On Saturday, October 13<sup>th</sup> at Western Connecticut State University I attended the Western Lakes Forum, hosted by the Connecticut Federation of Lakes. There I led a breakout group, titled "Communicating With Your Community". I enjoyed meeting with people from other lakes, sharing my experiences here at the CLA and working with them on their communication efforts. I also attended two talks, one led by Dr. Wong about the WCSU cyanobacteria monitoring program and the other led by Sean Hayden from Lake Waramaug.
- **New Fairfield Senior Center Environmental Corps:** I visited with the New Fairfield Senior Center Environmental Corps with Neil for their annual end-of-season breakfast and wrap-up. The group had the opportunity to meet Neil and we spoke with the seniors about the season we had on the lake and observations we had made, as well as updated them on other current lake topics. We thanked them for their hard work collecting the e-coli samples and helping at the Clean Up again this year. We sincerely appreciate this partnership and their help throughout the years.

- **FLPR Meeting:** Fran and I met for coffee with John Howard, the new Station Manager here at FirstLight and Stuart Piermarini's successor. We got to know each other a little and had a friendly meeting. We have requested to meet with FirstLight to begin collaborating on potential changes to the Shoreline Management Plan. They intend to get back to us with proposed dates.
- **Appeal Letter:** We have been busy writing and working on our annual appeal letter and expect to have this completed, printed and in the mail soon. We will mail this letter to area residents, as in the past. This is our most important fundraising effort each year.
- **FERC Letter Filed:** The letter that the CLA board approved to be submitted to the FERC was done so after the October CLA board meeting. That letter, as submitted electronically, is attached to the end of my report.
- **Buoy Removal Assistance:** Thank you to Doug Cushnie who worked with Nic to remove the buoys this fall.
- **Holiday Items:** We are working on some new items for the holidays for the Candlewood Lake Authority's online store.





# CANDLEWOOD LAKE AUTHORITY

Member Municipalities: *Brookfield • Danbury • New Fairfield • New Milford • Sherman*

PO BOX 37 • SHERMAN, CT 06784 • P (860) 354-6928 • F (860) 350-5611

October 10, 2018

T.J. LoVullo, Chief  
Aquatic Resources Branch  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

Dear Chief LoVullo:

We are writing to express the Candlewood Lake Authority's concerns and disappointment regarding recent unilateral actions taken by FirstLight Power Resources involving the Nuisance Plant Monitoring Plan (NPMP). This past season the CLA learned that FirstLight hired a new consulting firm to conduct the FERC mandated nuisance plant monitoring on Candlewood Lake. We are concerned because under the current NPMP, the consultant must be approved by the FERC established Technical Committee. The approval process is clearly articulated in the Nuisance Plant Monitoring Plan but it was not followed. The members of the committee were not consulted and did not have a chance to review the modified scope and survey methodology, nor did the committee have a chance to vote on any change in consultant.

The previous consultant has conducted the nuisance plant monitoring program for roughly ten (10) years. The CLA has come to rely on the consistent data, program scope and methodology to underpin our nuisance plant management practices including our successful Sterile Grass Carp Program.

In good faith we met with FirstLight to discuss our disappointment, in the hopes of coming up with a resolution. No resolution was agreed to. It is the CLA's position that FirstLight should be accountable to comply with the collaborative process and spirit described within the NPMP.

We look forward to finding a local resolution with FirstLight, however, we ask that our written concerns be included in the FERC public record for Project Number 2576-058.

Regards,

**Candlewood Lake Authority**

Phyllis Schaer  
Chairman





# CANDLEWOOD LAKE AUTHORITY

Member Municipalities: *Brookfield • Danbury • New Fairfield • New Milford • Sherman*

PO BOX 37 • SHERMAN, CT 06784 • P (860) 354-6928 • F (860) 350-5611

**J. Neil Stalter**

**Director of Ecology and Environmental Education**

**Candlewood Lake Authority**

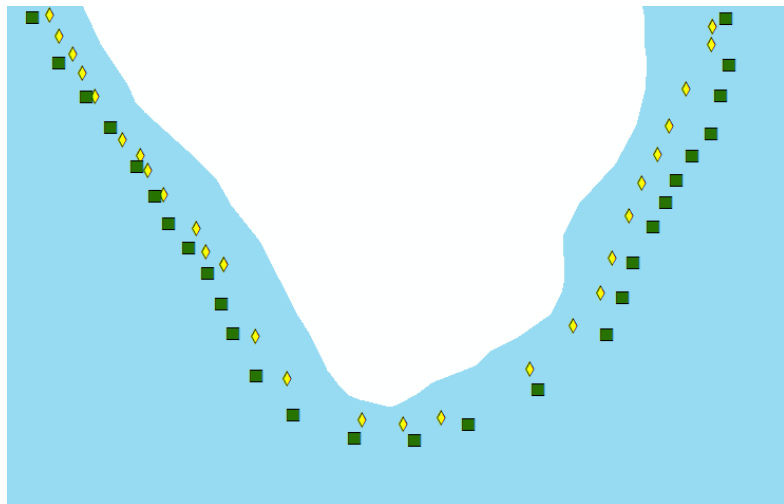
**Re:** November Meeting: Monthly Report

**Date:** 11/14/18

- **Shoreline Mapping:** Finished photographing entire occupied shoreline in all five town around Candlewood Lake.

- Finished Creating maps of New Milford, Danbury, and Brookfield,
- New Maps allow georeferenced photos from 2007 to be directly compared to georeferenced photos from 2018 in the same location.

Potentially useful for examining how the lake has changed in the past decade – particularly for evaluating any shoreline buffer zone progress!



- **NALMS:** Thoroughly enjoyed my first trip to NALMS and learned a lot while making a lot of really interesting and potentially useful connections.
  - Finished a brief summary of some of the more relevant workshops, as well as a few to-do items following some new understanding that can be made available for anyone interested.
- **Articles:** Sent out a fall newsletter as well as a lake turnover science article for the community.

- Have similar science (and other interesting topic) articles both completed and planned that we will send out at times during the year where people might be most interested in the topic.
  - Will also plan to continue the newsletter, and will likely stick to a seasonal schedule, depending on how many activities the CLA has to report in a season.
- **Grass Carp Monitoring:** Joined delegate Steve Kluge for a day of Grass carp tracking and Shoreline monitoring.
    - We were able to complete the last portion of the lake that remained unsampled for grass carp tracking in 2018.
    - Hoping that some fish batteries remain for potential tracking next year, but they are already past their expected expiration date.
- A man wearing a grey beanie, glasses, and a brown jacket is kneeling on the edge of a boat. He is holding a long, thin metal pole or netting equipment. The boat is on a body of water, and there are trees in the background. The man is looking down at the equipment he is holding.
- **Buoy Removal:** Joined Nic and Doug Cushnie on the Ark for a day of Buoy Removal!
    - Though some stains will never come off my boots, it was a great day for some dirty work!
  - **SMP:** Continuing review of all relevant documents to prepare for SMP review and update in Spring 2019.
    - Working also to expand shoreline buffer zone program with educational drone video and reviewing grant opportunities for funding homeowner's buffer zone installation and expansion.
  - November's Water Quality Report summary is attached!
    - This is the last report of 2018, but I will absolutely plan to continue to write summaries every month for the water quality report that can be included and archived on the website.



# CANDLEWOOD LAKE AUTHORITY

- Preserving and Protecting Candlewood Lake Since 1972 -

Candlewood Lake Authority | PO Box 37 Sherman, CT 06784 | [www.candlewoodlakeauthority.org](http://www.candlewoodlakeauthority.org)

---

## WATER QUALITY OBSERVATIONS

### October 2018

---

Sampling was conducted on October 4th and 8th. This is the last month of water quality monitoring for the 2018 season. **Secchi depth, a measure of water clarity, decreased modestly this month** compared to September (with the exception of New Milford, which increased to an impressive 4.43m). This is to be expected around October though, as the water in the lake begins to “turn over” or mix as it becomes one temperature. Despite the decrease, all clarity measures are still very good compared to historical measurements, with an average for the year being 3.12m. In our record, **the only years with clearer water on average than 2018 have been 1989 (3.63m) and 1998 (3.19m).**

Nutrient loading (particularly the concentration of important compounds like Nitrogen and Phosphorus in the water) has important effects on lake health. High concentrations of these nutrients can lead to algal growth and blue-green algae blooms that can harm water quality, as well as lead to greater growth of nuisance plant species like milfoil. In October, **phosphorus levels increased slightly** on the surface, while phosphorus measurements at the bottom of the lake decreased substantially. The **temperatures at the surface and bottom of the lake have begun to converge**, which could explain this phosphorous level change. As the layers of lake water become a uniform temperature, they will begin to mix, and the phosphorus levels in both layers will likely be similar.

**Chlorophyll-a measurements**, which are often used to measure how much algal material is in the lake, **have increased since August and September, but remain low compared to historic values.** Without diving too deep into statistics, about 80% of historic October values for Chlorophyll-a have been higher than this month's. All this to say **that water quality this year has been very good compared to past years**, and we want to thank all of you who are working hard in the community to protect the lake for that!

Dissolved oxygen plays an important role in allowing organisms to thrive in the lake, particularly certain sport fish species. **Dissolved oxygen in the water decreased** modestly or remained roughly the same compared to September, but oxygen was also found at deeper depths than in September, another sign that the lake is beginning to mix. There were also **no Zebra Mussel veligers** (larva) found during sampling at this month (or year!).

**Summary:** Transparency decreased slightly at all sites except New Milford this month. Phosphorus levels increased modestly on the surface, but decreased significantly on the bottom, signaling that the lake is likely beginning to mix. Temperatures on the surface and bottom converging, as well as dissolved oxygen being found in deeper water, also indicate this lake mixing. This has been the third best year for water clarity since monitoring began and has had similarly low chlorophyll-a values. There is no sign of any Zebra Mussels or larva in the lake. This is the last month of monitoring for 2018; we can't wait to continue working with you to help preserve our beautiful lake!



# CANDLEWOOD LAKE AUTHORITY

- Preserving and Protecting Candlewood Lake Since 1972 -

## Water Quality Monitoring: What You Need to Know

**Temperature:** Often measured in Celsius, different layers (surface vs. very deep water) of the lake often have very different temperatures! A larger difference between the temperature of shallow and deep water can mean that those two layers are less likely to mix, since colder water is denser and sits at the bottom. A diagram of the various lake layers is illustrated below!

**Dissolved Oxygen:** This is measured in milligrams per liter (mg/L) and is a measure of how much oxygen the water has, which many fish species and other organisms rely on.

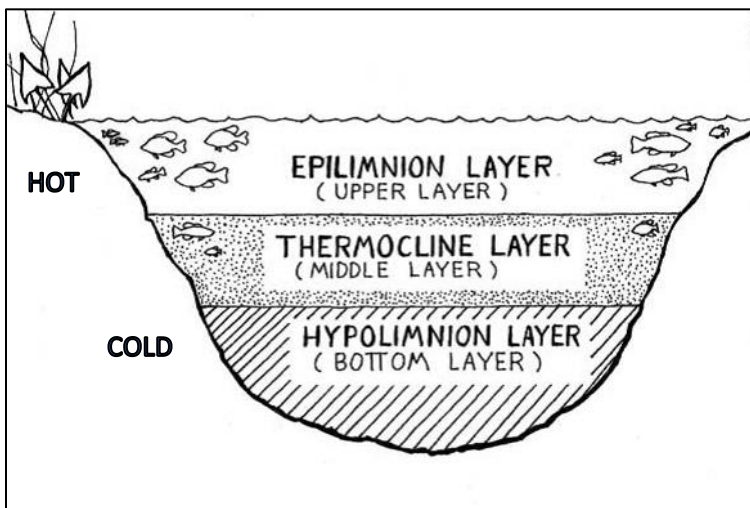
**Total Phosphorus:** This is measured in micrograms per liter ( $\mu\text{g/L}$ ) which is the same as "parts per billion" (ppb). This measures the concentration of phosphorus in the water which can feed algae and aquatic plants.

**Total Nitrogen:** This is measured in the same way as total phosphorus, but instead measures nitrogen concentration, which can also feed algae and aquatic plants.

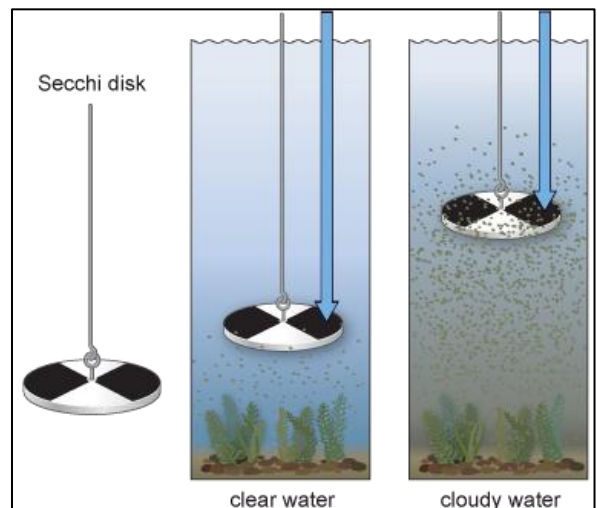
**pH:** This is a measure of how acidic or alkaline (basic) the water in the lake is by measuring hydrogen ions ( $\text{H}^+$ ). This is measured on a scale from 0-14, where zero is the most acidic and 14 is the most basic. Neutral pH is 7, and this measure is of singular importance to organisms living in the water, many of which require a pH that is slightly basic (7-9). However, higher pH can also allow more phosphorus (and other compounds) to dissolve in the water; potentially increasing total phosphorus measurements.

**Secchi Depth:** This is a method used to measure how clear and transparent the lake water is. It is measured by dropping a circular black and white disk on a rope into the water, and the depth at which the disk can no longer be seen is recorded in meters (m). Higher measures mean the disk could be seen longer, and that the water is clearer. This is illustrated in the diagram below!

**Chlorophyll-a:** This is measured in micrograms per liter ( $\mu\text{g/L}$ ) which is the same as "parts per billion" (ppb). Chlorophyll-a is the compound that makes plants green, and what they use for photosynthesis. This measure gives insight into how much green algae is in the water and can decrease transparency (and secchi depth).



Via: Kentucky Fish and Wildlife



Via: Open University