



CANDLEWOOD LAKE AUTHORITY

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

Minutes of Regular Meeting September 12, 2018

Attending:

P. Schaer	Sherman
G. Linkletter	Sherman
J. Hodge	New Fairfield
J. Main	New Fairfield
C. Robinson	Danbury
M. Toussaint	New Milford
J. Wodarski	New Milford
D. Rosemark	Danbury (electronic)
E. Siergiej	Danbury
J. Murphy	Brookfield
W. Lohan	Brookfield

Absent:

B. Licht	New Fairfield
D. Cushnie	Sherman
S. Kluge	New Milford
B. Brown	Brookfield

M. Howarth, Executive Director
J. Neil Stalter, Director of Ecology and Environmental Education
F. Frattini, CLA Administrative Coordinator
Recorder: F. Frattini

Guests: five members of the public.

Chairman, Phyllis Schaer, called the regular meeting of the Candlewood Lake Authority to order at 7:30 P.M. at Brookfield Town Hall Brookfield, CT. She welcomed the guests.

Mrs. Schaer reported that the first item of business would be the Annual Audit and asked the Treasurer to report. Mr. Lohan advised that the auditor, Sandra Welwood was unable to attend but did dial in and he turned it over to Ms. Welwood. Ms. Welwood began that this was a turning point year, record keeping, has consistency; restricted funds and grants are being tracked separately and everything is running more smoothly. There were no errors found and everything is moving in the right direction. She advised that the year ended with a positive unassigned balance due partly to not having an Executive Director for part of the fiscal year. She did mention that the delegates may want to set a policy for a target for the unassigned balance it can be any amount the delegates think is appropriate it could be 50% of annual budget, 3 months of budget. You need to determine what type of emergencies would require funds quickly and then decide on a number from there. This is just a suggestion. She did note that she found good consistency in the books, good internal control that means less chance of errors; there were no surprises when she did this audit. Mr. Lohan asked about the Capital Assets which now lists everything over one thousand dollars on the Fixed Asset List, it was suggested that the Authority may want to increase that to everything over twenty-five hundred dollars. This will relieve the burden of additional recordkeeping and accounting for assets. Mr. Lohan asked if there were any questions for Ms. Welwood. There were none and he thanked Ms. Welwood for her time this evening. She left the meeting. *Mr. Lohan made a motion to accept the audit of Sandra E. Welwood LLC for the fiscal year ended June 30, 2018, seconded by Jerry Murphy and voted with all in favor. The audit has been accepted by the delegates and will be forwarded to the Towns in a timely manner.* Mr. Siergiej noted that regarding the increase in the amount for the asset

list he noted that although one buoy does not meet the criteria the large number that the CLA owns does and that it is wise to keep them on the list. Mr. Hodge questioned the money for the CO2 project – Mrs. Schaer advised that there is hope to reinstate the project and now with our new Director of Ecology and Environmental Education he will be researching the feasibility of moving this project forward.

Public Comment: Khrist Hall, Selectman from New Fairfield spoke on behalf of herself and First Selectman Pat DelMonico (who was not in attendance) regarding their concern on the vendor change of FirstLight Power Resource from The Connecticut Agricultural Experiment Station (Greg Bugbee) to Northeast Aquatic Research (Dr. George Knoecklein) to do the annual weed mapping of Candlewood Lake. She questioned was the proper procedure followed, will it affect the Carp program or the deep drawdown which is good for milfoil control – was there a good reason for the change?

Carolyn Rowan of Candlewood Voices and New Fairfield spoke that she was distressed that FLPR had chosen Dr. Knoecklein to do the mapping as he was the proponent of chemical use in the lake which was something that Candlewood Voices was instrumental in getting the Town of New Fairfield to adopt an ordinance that the residents must approve any chemical treatment in the lake and suggested that the other four towns should do the same.

Sue Slater, Selectman from Brookfield, spoke that she believes that the carp are doing a good job and that Brookfield is against the use of chemicals in Candlewood.

Mrs. Schaer advised she had been receiving thank you's from residents this year regarding the weeds. Ed Siergiej noted that it is much improved by his dock area (Lattins Cove). Mrs. Schaer noted that there are many less weed patches this year.

Secretary's Report: Jerry Murphy, Secretary, noted there were no changes to the minutes of August 8, 2018, *Bill Lohan made a motion to accept the minutes of the August 8, 2018 meeting as written, seconded by Jerry Murphy, motion was voted with all in favor, George Linkletter abstained. Motion carried, and minutes have been accepted as written.*

Ms. Schaer noted that it is still not too late to ride with a CLAMP officer – call the office to schedule.

Chairman's Report: Chairman Phyllis Schaer reported that at the Executive Committee they had discussed the change in the weed mapping vendor by FLPR this year and that the committee approved sending a letter to FLPR about the concern that this change was made without the approval of the Technical Committee. A draft letter had been sent to the delegates in advance of the meeting for their review. Discussion followed. It was noted that those who were at the Technical Committee meeting did not recall this change of contractor being approved and the CLA wants to advise FLPR of their concern over this stating that if the scope is not the same then it causes concern about the data collected. It appears that the scope is different than what had been done in the past and it can have some effect on the Grass Carp program and the drawdown. FLPR has agreed to meet with the CLA to discuss this change of vendor. Discussion continued, it was suggested to meet first and then send the letter. Ms. Schaer noted that the Executive Committee agreed that the CLA should go on record about these concerns. Mark Toussaint advised that the Nuisance Plant Monitoring Plan was very clear on the process. *Mr. Toussaint made a motion to approve the letter and send it to FLPR and then meet with them to discuss this issue. Seconded by Bill Lohan. Discussion – Mrs. Schaer read letters from delegates Bill Licht and Steve Kluge who were not at the meeting but voiced their concerns on this issue. Mr. Linkletter believed that sending the letter was premature. Mrs. Schaer called for the vote, motion was voted with all in favor and George Linkletter and John Hodge opposed. Motion carried.* Letter will be emailed to FLPR followed by a hard copy sent by land mail. Someone asked if the letter should be sent to FERC – discussion followed, and it was decided that at this time it should go only to FLPR.

Mrs. Schaer reported that Mr. Stalter will be getting out to do GPS photos of the shoreline. Speakers for the CLA – Bill Hyatt DEEP fisheries will be invited to speak, Dr. Kortman will be invited to speak at a Watershed Management Committee meeting.

Mrs. Schaer reported that she had received correspondence on noise complaints on the lake; she looked back and found that this has been ongoing since 2008. Mr. Stalter has been researching noise ordinances on other lakes to see if they have anything that may work at Candlewood. If anything is found it will be shared with all CL towns. Discussion followed. It was noted that the loud music could be dangerous when it prevents a distress (whistle) signal from being heard.

She noted that Causeway Marina had been visited as a possible new location for the CLA offices and operation.

Vice-Chairman's Report: Vice Chairman, Mark Toussaint advised he had no Vice- Chairman report.

Treasurer's Report: Treasurer Bill Lohan noted that Profit and Loss Budget vs. Actual for August 31, 2018 has income at 74% of budget with \$69,000+ due from the Towns and the balance mainly from sponsorships, donations and merchandise. Expenses year to date are 17% of budget – Administration is at 11.8%, Equipment/Facilities 18%, Public Safety 35.5% this is high because of the seasonality of this department, Public Awareness 7% and Watershed management 14.7% with overall expenses at 15.9% of budget. He noted that the money for the donated boat is in the bank. There are no adjustments or transfers this month. *Mr. Lohan moved that the report for the month ended August 31, 2018 be accepted as presented, seconded by Dan Rosemark and voted with all in favor. Motion carried, and report has been filed for audit.*

Mr. Lohan reminded the committee chairmen to start thinking about their 2019/2020 budget proposals, he hopes to have worksheets out to the chairs this month with them back in time to have preliminary numbers in October, review in November and approval in December. If any committee has any high value items that they will be requesting, please let the treasurer know ASAP for budgeting purposes.

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

- Partnership with Lake Hopatcong
- Blue Green Algae testing – this season, no regular weekly tests came in above the recommended threshold for Candlewood.
- Clean Up – October 6th Rain or Shine
- NALMS will be in Cincinnati the end of October to November 2
- Boating Courtesy campaign begun
- Weed Mapping concerns
- Grass Carp tracking – met with Dr Pinou to introduce Mr. Stalter
- DEEP meeting on Boat Wash Station
- New Fairfield Day – September 15th- Mr. Stalter will be there with the Enviroscope
- Thank you to CLAMP Sgt Dunkerton for representing CLAMP at Brookfield VFD Kids Day
- Boat Count – boats are up this year from 5925 last year to 6240 this year a 5.3% increase
- Homeowner's Guide is done and available on the website. Printing will be done shortly.

Director of Ecology and Environmental Education: J. Neil Stalter noted his report is attached to these minutes. He advised that it has been a busy month learning more each day. Highlights from his report are:

- He has been working on watershed modeling, reviewed the Saw Mil Brook study, identified projects for stream-bank stability and other items, which may be a component of a future Lake Management Plan.
- Written some public awareness articles to have ready to send in the future
- He has been reviewing relevant policy and plans regarding Candlewood
- Updated the ESRI collector
- Met with delegates – he would like to meet with more.
- Compiled the Blue Green Algae data and also the Zebra Mussel Hotel monitoring data (still no guests)
- Lake Community directory – updating to give CLA a point of contact for as many lake communities as possible
- Helping with Clean Up organization
- Updated Grass Carp Tracking maps
- Enjoyed multiple trips out on the lake
- Summarized the AER monthly Water Quality report.

Committee Reports:

Public Safety Committee: Committee Co-Chairman, Joe Wodarski reported that the Annual dinner would be Friday, November 16th at the Candlewood Lake Club, he asked the delegates to mark their calendars and try to attend. Ms. Schaer asked the delegates to personally invite their CEO's.

Equipment/Facilities Committee: in the absence of the Committee Chairman Ed Siergiej reported that the roof on the ARK II would be replaced this fall.

Pubic Awareness Committee: Committee Chairman George Linkletter reported that Mr. Stalter is off to a great start. They are working on an ongoing stream of content for publication, more outreach with the lake communities and Mr. Stalter will be producing the content for a Drone Video on buffer gardens.

Watershed Management Committee: Committee Chairman, Mark Toussaint noted they are pleased to have Mr. Stalter on board; he is currently familiarizing himself with the FERC license, the SMP, NPMP, Carp Program, and Water Quality etc. They plan on inviting Dr. Kortman to consult and review the Water Quality testing methods from an outside perspective.

The SMP reopens in the spring and they will now be reviewing for areas that may need action, they plan to work with FLPR on mutually agreeable changes the SMP.

Mrs. Schaer reminded the delegates that the bench for Harold Mayer still needs to be dedicated and suggested Saturday October 13th 10:30/11:00 AM at Lynn Deming, a number of delegates advised they could attend.

Old/New Business: Mrs. Schaer noted the noise issue was taken up earlier.

She reported that she had a call on the Solar Farm on Candlewood Mountain and was advised that there was no provision for removal at the end of the lease, if this was an oversight it should be corrected.

John Hodge moved to adjourn the meeting, seconded by Bill Lohan, meeting adjourned at 9:05 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***



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September 12, 2018
Executive Director
Mark Howarth

Monthly Report:

- **Lake Hopatcong and Candlewood Lake:** After we visited Lake Hopatcong in early August and met with members of the Lake Hopatcong Foundation, at the last CLA Board Meeting we voted to become official sister lakes with Lake Hopatcong so that we could collaborate and work together on common issues and best management practices.

We have already begun to exchange ideas and information with the Lake Hopatcong Foundation to benefit our lakes and we look forward to continuing to do so for many years.

To read the notice we sent out on this new collaborative partnership, visit <http://www.icontact-archive.com/HJfY9I0NQYSQqba7g97DvjB3inCD19Jk?w=3>



- **Weekly BGA Testing:** Dr. Wong's lab at Western Connecticut State University has completed the weekly BGA testing program for the season. Neil has been working with and compiling the data since the beginning of the program in 2016.

Of note, for the 2018 season none of the weekly tests done on Candlewood Lake by Dr. Wong's lab came back above the State of CT recommended threshold for cyanobacteria.

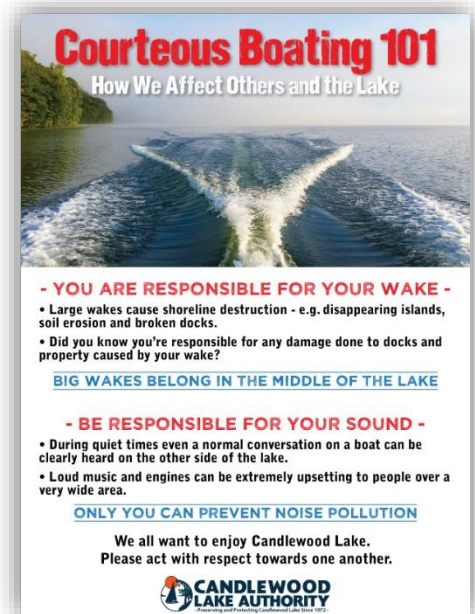
- **Clean Up:** The 2018 Candlewood Lake Clean Up is scheduled for October 6, 2018. We are currently planning for the event.
 - We continue to need volunteers to clean up as well as volunteer boat captains.
 - As with our traditional spring clean-up we will have a picnic lunch for the volunteers and all volunteers will receive a commemorative t-shirt, and this year a hat as well donated to the event.
 - In order to participate, volunteers and Volunteer Boat Captains must register via our online registration form at https://www.jotform.com/CandlewoodLakeAuthority/Clean_Up_Registration



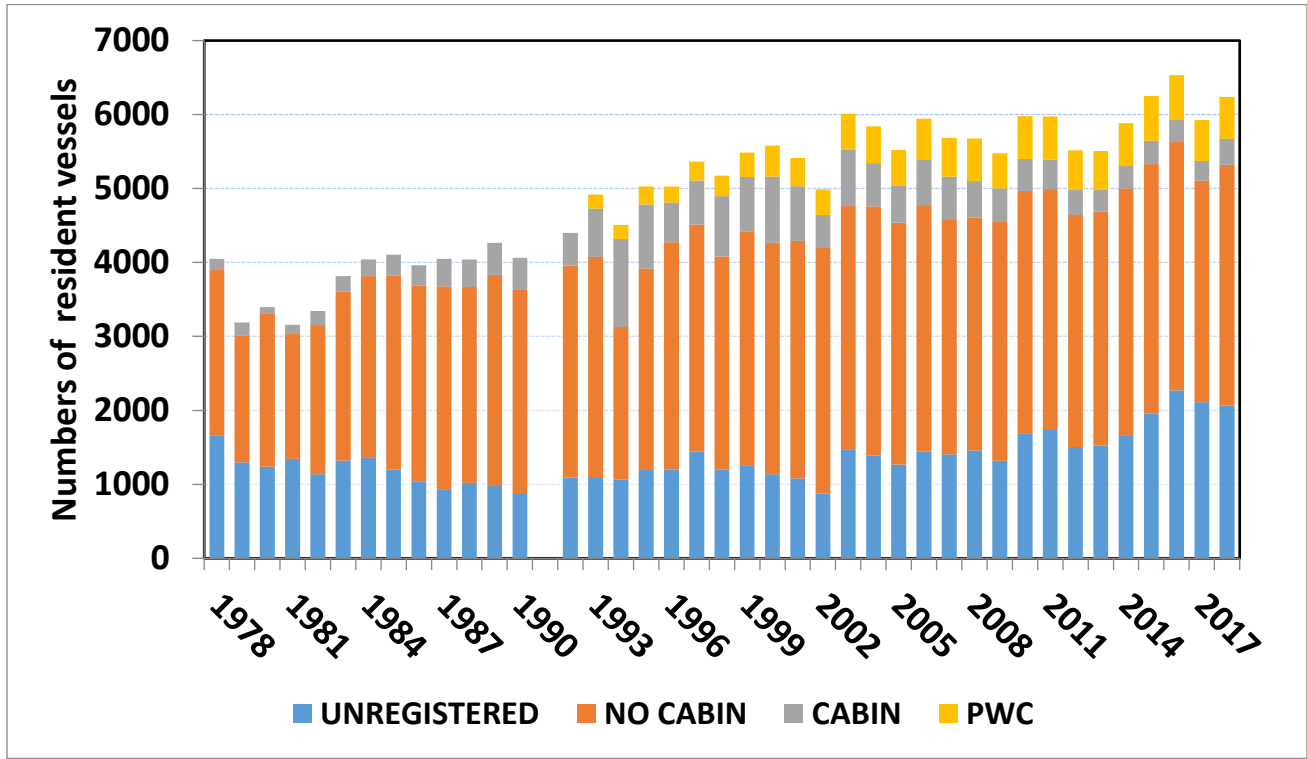
- **NALMS:** We will be attending the 2018 North American Lakes Management Society's Annual Symposium this year in Cincinnati, OH beginning at the end of October. Once

again, we are looking forward to learning about the latest lake science and best management practices. We hope to apply what we learn here at Candlewood Lake.

- **New Office Space:** We continue to explore options for new office space, preferably a spot that will allow us to have our full organization and operation back in one location again on the water.
- **Used Robalo:** We had received notice about a used Robalo at a good price that we were interested in looking into to replace our oldest Patrol boat, McKee I. Unfortunately, it sold quickly after we learned about it, so we will continue that search. We sent out an email to ask which staff and delegates might be available to help look at a boat quickly if another good opportunity should arise and several delegates and staff have agreed to be involved.
- **Boating Courtesy:** We have started working on some courtesy campaigns for boating on Candlewood Lake. We created a Courteous Boating 101 message about wakes and noise and while it's the end of the boating season now, we do hope to expand the reach and scope of this effort next year.
- **Weed Mapping:** The CLA continues to have conversations with FirstLight regarding the change in contractors performing the nuisance plant monitoring this year.
- **Meeting with Dr. Pinout:** Neil and I went down to WCSU to meet with Dr. Pinou so that we could not only introduce Neil and Dr. Pinou, but also to have discussions about the sterile grass carp tracking program.
- **DEEP Boat Wash:** We met with representatives from the CT DEEP about possible boat wash locations for our proposed pilot program on Candlewood Lake. We are in the initial stages of talks but hope to continue the momentum towards this project.
- **New Fairfield Day:** The CLA will have a table at New Fairfield Day on September 15th. We are looking forward to being a part of the day once again this year.
- **Enviroscape:** We are in the process of updating our Enviroscape and we will also be designing a new printed tablecloth to be used with the Enviroscape at events. This is all made possible by a grant awarded to us by the Danbury and New Fairfield Woman's Club.
- **Kid's Day:** Sergeant Dunkerton from the Marine Patrol had a CLA booth up at Kid's Day at the Brookfield Fire Department on Sunday, September 9th. Thank you to Jeff for representing the CLA Marine Patrol that day.



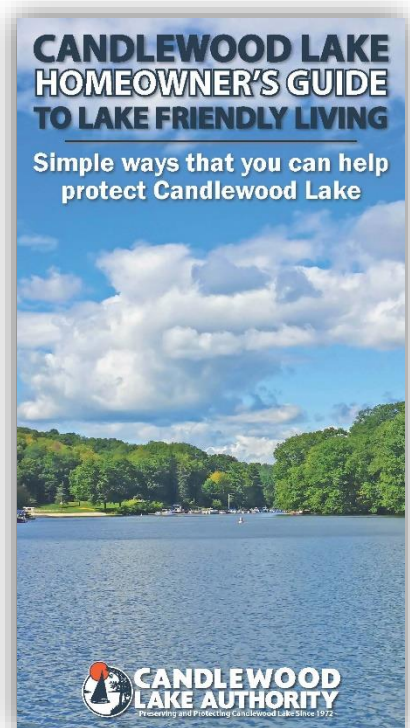
- **Annual Boat Count:** Operations conducted the Annual Boat Count again this year. The total number of vessels was up slightly from last year from 5,925 to 6,240. The chart and breakdown can be seen below.



	UNREGISTERED	NO CABIN	CABIN	PWC	Total Registered	Total Vessels
2018	2068	3252	352	568	4172	6240

- **Homeowner’s Guide:** We have completed the Candlewood Lake Homeowner’s Guide to Lake Friendly Living, which we adapted from one that the Lake George Association had put out. We are excited to now be able to print and distribute this guide to area residents.

We also plan to make it available in electronic format for download.





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

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J. Neil Stalter

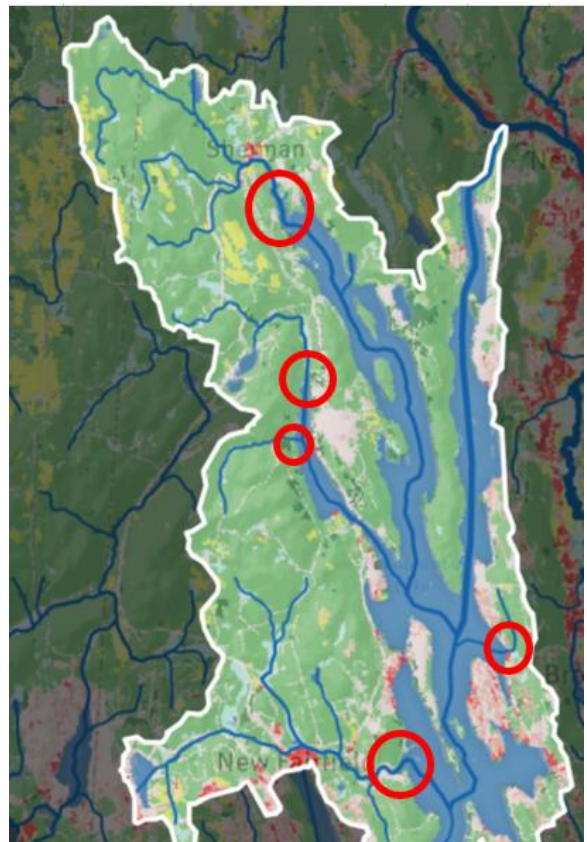
Director of Ecology and Environmental Education

Candlewood Lake Authority

Re: September Meeting: Monthly Report

Date: 9/12/18

- Created Nutrient and Sediment Loading (GWLF) Model to get a picture of how certain non-point sources are contributing to Candlewood Lake Nutrient Loading
 - Model predicted that Streambank Erosion the highest contributor to loading into Candlewood.
 - Reviewed Sawmill Brook Study (2004) and found a very robust list of areas with clear projects to be implemented to improve streambank stability.
 - Includes:
 - Priority
 - Price
 - Photos
 - Designs/drawings/blueprints
 - Locations
 - Nutrient Loading Data
 - Soil Data
 - Hydrological Data
 - This is in preparation to propose potential projects in the coming years to improve sawmill brook stability, and thus nutrient/sediment loading into Candlewood.
 - Plan to include streambank stabilization as a component of any future Lake Management Plan (LMP).



- Wrote a host of public awareness and education articles to have ready to send out to the community at a date to be scheduled so as not to overload everyone's email
 - Blue Green Algae Series
 - What Is It?
 - Where Does It Come From?
 - What Does It Do?
 - How Do We Prevent It?
 - Potential Invasive Plant Species
 - Lake Hopatcong/Candlewood Partnership Article
 - Multiple other longform pieces and articles planned.
 - Including the revival of the "Onboard" newsletter.

- Reviewed all relevant plans and policy regarding Candlewood, Including:
 - FERC License
 - Shoreline Management Plan
 - Nuisance Plant Monitoring Plan
 - Recreation Plan

- Updated ESRI Collector so that our delegates can begin using that again to log Secchi Disk Data.
 - If interested in logging personal Secchi disk data, let me know and I'll happily give you the login info.

- Met with delegate Steve Kluge to continue refining the monthly water quality reporting summaries to make that accessible and understandable for the whole community.
 - The report summary for August is included in this report.

- Had a fantastic meeting with delegates Ed, Dan, and Chris over breakfast to discuss some of their thoughts about direction and focus for the CLA and upcoming projects.
 - Would still love to meet with any delegates who would be interested in sharing a meal, coffee, or a trip on the lake to discuss whatever is on your mind!
 - Would also love to continue to meet on a semi-regular basis, similar to this one with the Danbury delegates so as to make sure all your thoughts and ideas are considered!

- Compiled and organized Blue-Green algae collection data and illustrated Candlewood Lake concentrations on graphs.
 - Will use as community education materials and to monitor long-term trends.

- Compiled and Organized Zebra Mussel Hotel monitoring data.

- Began creation of a lake community directory, giving the CLA a point of contact for as many communities around the lake as possible.
 - Eventually hope to use this information for better reaching entire communities in the event of emergencies or important needs.
 - Considering creating a “lake friendly house” sticker or membership program for community members to show off that they are committing to lake protection best practices.
 - Plan to incorporate into any future LMP
- Worked with Mark to help organize and plan the new Clean-up date on October 6th, 2018.
- Organized the Enviroscope and ordered a new batch of missing or damaged pieces.
- Updated Sterile Grass Carp tracking maps for the 2018 monitoring season.
 - Hoping to get one more round of data in a section of the lake that was missed by the end of the season.
- Enjoyed multiple trips on the Lake
 - Joined Greg Bugbee from CAES for Nuisance Plant Monitoring.
 - Joined Nic for an early morning trip to continue the CLA’s yearly boat count.
 - Took a trip to the New Milford arm with Steve Kluge and Mark for an “on the water meeting.”
 - Joined the Nick and John of the Lake Patrol for a portion of their Friday evening shift.
 - Joined AER for their monthly WQ sampling in September and observed their methods and gave a hand in measuring.





CANDLEWOOD LAKE AUTHORITY

- Preserving and Protecting Candlewood Lake Since 1972 -

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WATER QUALITY OBSERVATIONS

August 2018

Sampling was conducted on August 9th. Secchi depths were significantly higher this month than July, **indicating very clear water**. Secchi depth is a measure of the depth below the surface at which an 8-inch diameter black and white disk can be seen by an observer at the surface and demonstrates the clarity/transparency of the water. Historically, secchi depth has been higher in August than in July, which held true this year. The greatest transparency was in New Fairfield at 3.7m, followed closely by Sherman at 3.65m. The exception was Squantz Pond, which, while not improving (from a July measure of 4.67m), still showed a good secchi depth of 3.02m. To put these measures in perspective, secchi readings in August of 2015 ranged from 1.61-1.95m and from 2.08-2.72m in August of 2016.

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 August, **phosphorus levels were similar to July levels** with only modest increases in Danbury and some deep portions of the lake. However, **nitrogen levels increased significantly at every site**, most likely the result of recent heavy rains bringing nitrogen into the lake via stormwater runoff.

The surface water on the lake had the **highest temperature so far this year**, ranging from 82-84°. This high temperature on the surface water can often prevent mixing between the top layer and the cooler, denser bottom layer of water in the lake. However, calculations done to determine the resistance of water layers to mixing this month revealed that the **layers are actually less resistant to mixing** than they were earlier this year, as well as less resistant than they have been in the past 8 years! This might help explain **why the water is so clear**, as well as the lack of blue-green algae blooms this season.

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 at every site which isn't terribly surprising for August. July measures of blue-green algae are mentioned and show a correlation between lower transparency and higher blue-green algae concentration. However, none of these measures indicate a dangerous level of blue-green algae. There were also **no Zebra Mussel veligers** (larva) found during sampling.

Summary: Transparency improved at every site on the lake with the exception of Squantz Pond (which was still relatively good at 3.02m). Phosphorus levels were similar to July levels, or only modestly increased depending on site, while Nitrogen levels increased noticeably; likely due to runoff from heavy rains. The surface layer of the lake is the warmest it's been this year, but this is not preventing some mixing in the lake between the warm water at the surface and cooler water below. This mixing might be helping to increase water transparency and prevent blue-green algae blooms. Dissolved oxygen decreased slightly, but not to problematic levels, and there is no sign of any Zebra Mussels or larva in the lake.



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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.

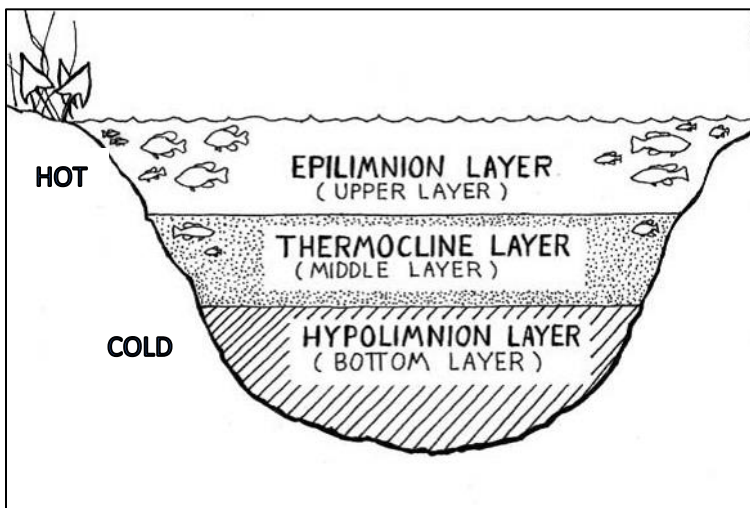
Total Phosphorus: This is measure in micrograms per liter ($\mu\text{g/L}$) which is the same as “parts per billion” (ppb). This measures the concentration of phosphorus in the water which can feed algae and aquatic plants.

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.

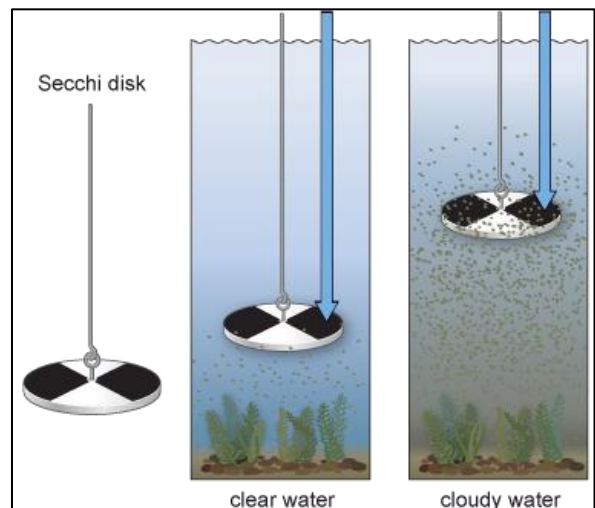
pH: This is a measure of how acidic or alkaline (basic) the water in the lake is by measuring hydrogen ions (H). This is measured on a scale from 0-14, where zero is the most acidic and 14 is the most basic. Neutral pH is 7, and this measure is of singular importance to organisms living in the water, 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 measure 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