

Notes *from the* FOREST



Lacawac
Sanctuary
Field Station and
Environmental Education
Center

Spring 2021
Newsletter

Lacawac to Build an Environmental Education Center

Lacawac Sanctuary strives to promote awareness and understanding of our environment through education. By providing a variety of environmentally related programming Lacawac encourages responsibility for, and appreciation of all natural resources.

“Environmental education provides important opportunities for students to become engaged in real world issues that transcend classroom walls. They can see the relevance of their classroom studies to the complex environmental issues confronting our planet and they can acquire the skills they’ll need to be creative problem solvers and powerful

advocates” stated Ms. Campbell, California’s Superintendent of San Mateo County Schools.

Lacawac is currently the only environmental education center in Wayne County focusing on Pre-Kindergarten through 12th grades. Over the last 53 years Lacawac’s environmental education programs have grown requiring more appropriate space to meet the needs of larger school groups and the public.

In May 2018 Lacawac purchased a 0.8 parcel of land with a residential building (referred to as the Watres House) to be developed into the new Environmental

Education Center. The building was the former home of Lacawac’s founder Arthur Watres.

Recently Lacawac has received funding from the Department of Conservation and Natural Resources (DCNR), The William E. Chatlos Foundation and various other foundations and supported to renovate/rehabilitate the existing structure into new education classrooms, meeting space and an exhibit hall and construct/develop a new multipurpose education wing. To date Lacawac has raised over \$550,000 to develop the new center.



RIGHT SIDE PERSPECTIVE VIEW
NOT TO SCALE



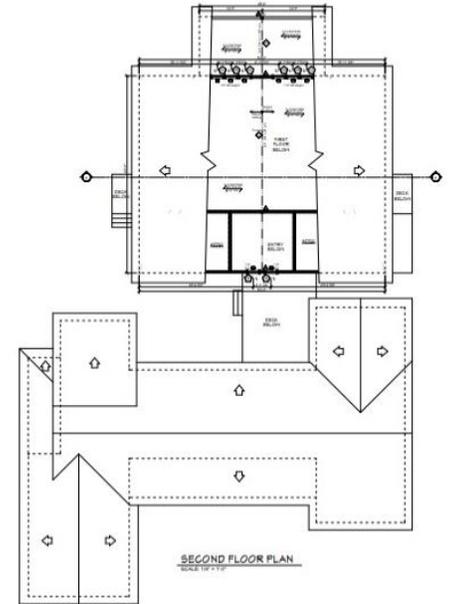
REAR PERSPECTIVE VIEW
NOT TO SCALE

The development of a new Environmental Education Center will increase Lacawac's capacity to serve more students, provide environmental education programs year round both indoors and outdoors for local residents and visitors to the area; and offer a venue where everyone can reconnect to nature and the world around us. In order to establish a new permanent environmental education center Lacawac had to acquire the land and the existing structure to be used for the new center. This milestone was completed in May 2018. The purchase was made possible in part through a grant from the Pennsylvania Department of Conservation and Natural Resources (DCNR) Community Conservation Partnerships Program. The \$111,400 grant was the first step in the development of an Environmental Education Center at Lacawac.

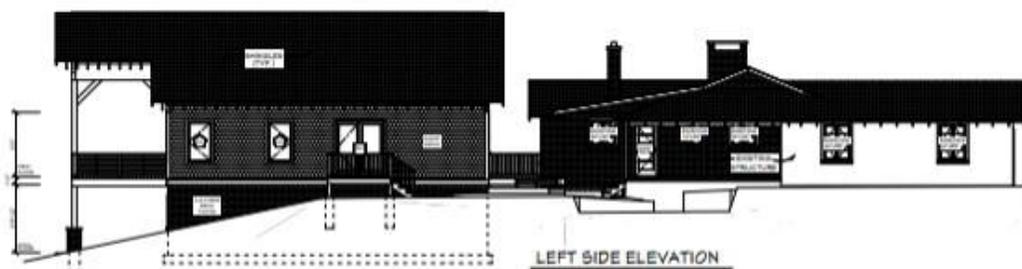
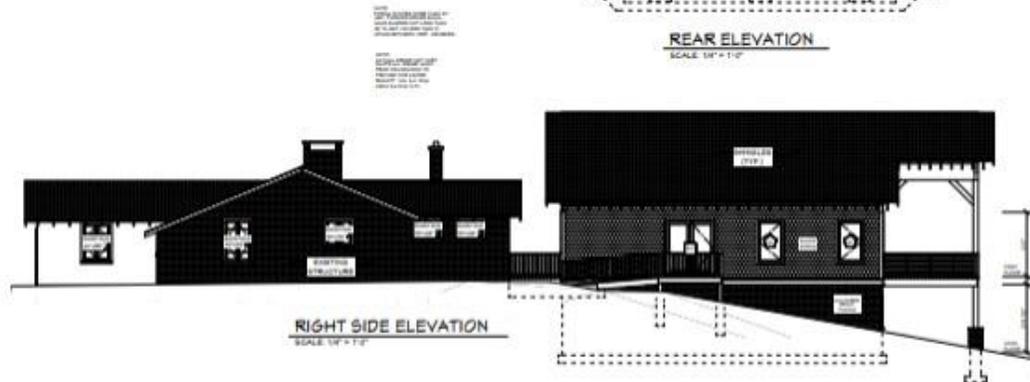
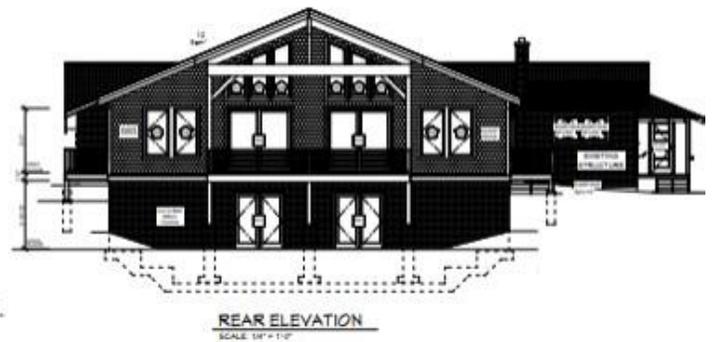
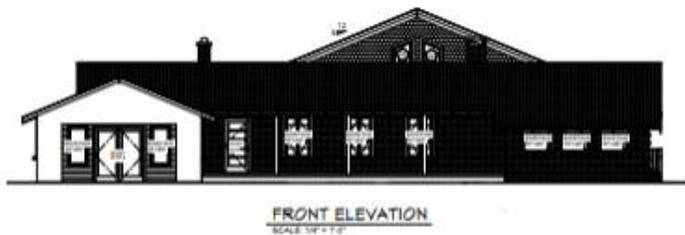
In a 2017 master site plan for Lacawac's new environmental education center, multiple alternative programmatic ideas were discussed for how various rooms and spaces within the Watres House

might be modified for future new uses -- and it was determined that the optimum strategy for adapting existing facilities and creating new facilities was "flexibility." New multipurpose classrooms, exhibit hall and meeting spaces will be developed. In order to fully develop a functioning environmental education center to accommodate larger groups and school classes a multipurpose wing will need to be constructed. The preferred alternative for adapting the Watres House as a multi-use environmental education facility is to add a new south "wing" to the existing structure -- and plan (and ultimately design) for multiple uses to be possible within each space, as needed over time.

Lacawac hopes to begin construction in the fall with completion in early 2022 and is still seeking funding for the project from various sources including private foundations.



If you would like to make a contribution to the new center contact Craig Lukatch at craig.lukatch@lacawac.org or send your contribution to: Lacawac Sanctuary, 94 Sanctuary Road, Lake Ariel PA 18436.



Water Quality Monitoring in Action: Lake Wallenpaupack

Lacawac Sanctuary is not only the steward of Lake Lacawac, but is part of the wider Lake Wallenpaupack community as well. Lake Wallenpaupack is the 3rd largest lake in Pennsylvania and is an important natural and economic resource for the area.

In 2019, Lacawac's PLEON program started a community-led program to monitor the water quality of Lake Wallenpaupack. This program trains lake community members as community scientists in order to collect water quality data from many locations around the lake over many time points. These data can then be used to identify pristine or problem areas and identify changes in water quality over time.

2020 was another successful year for the water quality monitoring program, thanks to the many volunteers who participated despite the challenges posed by the COVID-19 pandemic. Thank you to our 2020 Lake Wallenpaupack community scientists: Bill Leishear, Sheryl McClosky, Sinclair Ogo, the Heck Family, Catherine Bolton, Owen Gillespie, Ben Brunelli, Val Pate, Bill Baines, Rick Shema, Cara Schweitzer, Karen Felix, Maria Drake, and the Kryzan Family! These dedicated volunteers recorded lake temperature, Secchi depth (a measure of water clarity), and water color, and they collected water samples which were analyzed at the Lacawac Environmental Laboratory for algae abundance.

The data these volunteer collected revealed several major findings:

1. A lake-wide algae bloom started in mid-July and lasted through the duration of the program.

The bloom was identified by the rapid increase in chlorophyll a, or the green pigments found in all algae cells. Community scientists also observed a change in water color over the course of the summer, the water became green during the bloom.

2. Water clarity decreased during the bloom.

Community scientists used Secchi depth as a measure of water clarity. Secchi depth is measured by lowering a black and white disk straight down into the water. The depth at which the disk just disappears from view is the Secchi depth. Clear water will have a deeper Secchi depth while murky water will have more shallow Secchi depths. Secchi depth in Wallenpaupack became more shallow during the bloom.

3. The lake-wide bloom observed in 2020 was similar to that observed in 2019.

Although continued monitoring is needed, lake-wide blooms in Wallenpaupack may be an annual occurrence.

The full 2020 Wallenpaupack Community-Led Water Quality Report is available on the PLEON website. As with any research project, these data lead to many more questions. Are summer algae blooms a "normal" condition for Lake Wallenpaupack? If so, are they becoming more severe or lasting longer? What environmental conditions favor blooms on Wallenpaupack?

To answer these questions, we need to keep this monitoring program going...and you can help! We are looking for volunteers for the 2021 monitoring program. The program requires sampling from the same location(s) every Saturday during June, July, and August. Sampling methods are easy to learn and are

appropriate for school age children and adults of all ages. This program makes a great summer school science project or a citizen science participation badge.

Here is how to join:

Attend one of the training workshops hosted by Lacawac Sanctuary. Workshops include a brief introduction to lake ecology, instructions on how to use the Lake Observer app, and hands-on training in proper sampling methods. Workshops are held outside at Lacawac Sanctuary. Masking and social distancing are required. Each participant will receive a sampling kit following the training.

If you have participated previously and already have a kit, PLEON will provide you with a "kit refill", which includes a 2021 sampling schedule and clean bottles, labels, and baggies for water sample collection. The training workshops are free of cost.

We kindly suggest a \$50 donation for new kits and a \$15 donation for kit refills. Donations help offset the cost of sample analysis.

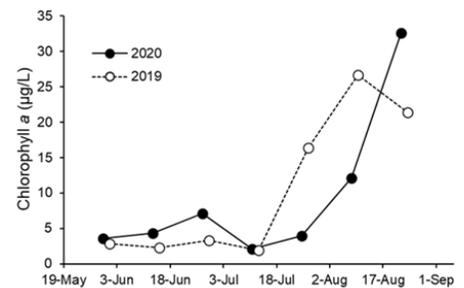


Figure 2: Average 2019 and 2020 chlorophyll a concentration. Not all sites contributed data on all dates and the number and location of sites sampled differ between years.



Figure 1: Photographs from a single site illustrating the change in water color over the course of the summer.

Environmental Education Going Strong at Lacawac

We are continually adapting with the changing times. We are happy to report that our school programs are increasing once again. Although the bus loads of students coming for field trips will not be arriving this year we have been doing programs virtually and in classrooms. We have provided programs for kindergarten through twelfth grade, from Philadelphia to the Poconos. We have become proficient in creating and delivering interactive programs through zoom and google classroom. We have been vaccinated and adapted our programs to teach with masks on and no touching. We interviewed scientists and local conservation professionals, produced YouTube videos, and shared them with high schools to assist in career development. (Check them out on our website: <https://www.lacawac.org/pier-mentoring-program.html>) This year of change has taught us to model nature with resiliency.

Summer is a busy time and we are once again offering a full line-up of all of our camps. We will offer six different day camps over 8 weeks for children ages 5 – 12. We continue to offer a fun camp experience

in a safe environment. Our Covid precautions will continue to be implemented this summer; reduced weekly attendance, all activities will be outdoors, masks will be worn, and extra sanitizing will be in place. We are once again offering our week-long resident camp, Conservation Leadership Academy. Students ages 13 – 17 stay in the historic lodge and spend the week immersed in hands-on science with local conservation professionals. We are reducing the number of campers in order to allow for the safest environment while following ACA and CDC guidelines for residential camps. Camp info: <https://www.lacawac.org/summer-camps.html>.

We will be offering several public programs throughout the year. Check out our calendar of events to see the exciting programs we have scheduled.

<https://www.lacawac.org/programs.html>. All programs will follow safety precautions for Covid and we ask that you wear a mask when attending programs.

The environmental education programs at Lacawac continue to thrive despite the difficult circumstances of the year. We are

happy that schools and families still value the innovative programs offered at Lacawac.

Volunteering Opportunities: You Can Make a Difference

Thank you to all of the volunteers that have been helping at Lacawac this spring. Our trails, gardens, deer fences, and buildings are all in much better shape because of you. Check out the volunteer opportunities available; Adopt-a-Trail, Garden Club, Deer Fence Monitor, and more. If you are interested in becoming part of our volunteer team please fill out the application on our website.

<https://www.lacawac.org/volunteer.html>

Keep Your Eye Out for These Signs of Research This Summer!

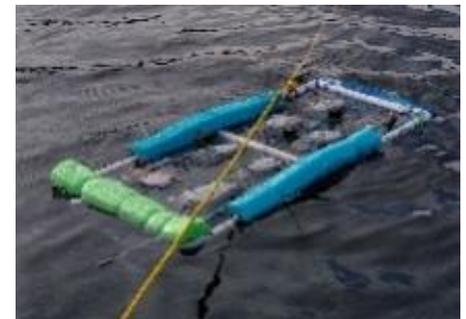
Amphibian census station: Cover boards are placed in the forest to provide refuge for amphibians. Researchers gently lift the boards and record amphibian the number and types of amphibians found.



Soil gas flux monitoring site: PVC collars are pushed into forest soils. Researchers then place a portable gas analyzer on top of the collar to measure how much greenhouse gases the microorganisms in the soil are producing or using.



Bag rack: Lake water is placed in clear ziplock bags and suspended in the lake on floating racks. Researchers can apply different treatments to these "mini lakes".



LACAWAC STAFF

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Gene Shultz, Environmental Educator and PIER Director

Brooke Hallstead, Camp Director

Roy Chesseri, Maintenance Director

Upcoming Events:



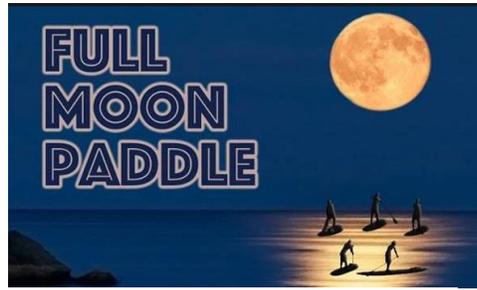
PLEON Free Summer Workshop Series: Harmful Algal Blooms Saturday May 15th 10:00 am

Join PLEON scientists for a discussion of harmful algal blooms (HABs) in freshwater lakes led by Lauren Adkins Knose, a graduate student from Miami University of Ohio specializing in HAB dynamics. We will discuss why blooms form and which algae are harmful, challenges and best practices for detecting blooms and algal toxins, and how PLEON can help you monitor your lake for HABs. Masks and social distancing required. Event will be outdoors. FREE. **Registration appreciated.**



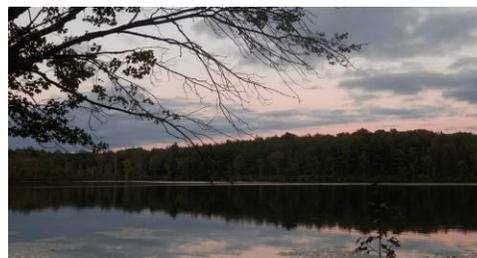
Bird Walk at Lacawac Saturday, May 22nd 8:00 am

Join Northeast PA Audubon Society's expert birders for a walk through the Sanctuary. We will explore the area looking for birds setting up their nests as well as migrants just passing through on their way farther north. Bring binoculars if you have them. Masks and social distancing required. Meet at the Environmental Education Center. \$5.00/person. **Registration required.**



Full Moon Paddle Wednesday, May 26 7:00 pm

Enjoy a quiet evening on the lake as the sun sets then watch as the full moon rises over Lake Lacawac. Paddle and safety instructions will be given prior to launching. Masks and distancing required. Meet at the dock. \$10.00/person. **Registration limited and required.**



PLEON Free Summer Workshop Series: Raining and Pouring – How changing rainfall patterns affect lake ecology and management Saturday June 5th 6:30 pm

Pennsylvania is seeing an increase in the number of extreme rain storms (in some areas of the state, heavy storms are 84% more common than they were in 1948). What does

all this rain mean for the water quality of our local lakes and ponds? Dr. Kristin Strock, an associate professor at Dickinson College, will discuss changing climatic conditions in Pennsylvania, the effects these may have on lakes and ponds, and how networks like PLEON can collect long-term data that help us better understand changes that occur in response to changing weather patterns. Masks and social distancing required. Event will be outdoors. FREE. **Registration appreciated.**



Foraging in the Forest Tuesday, June 8th 6:30 pm

Join renowned herbalist Nathaniel Whitmore, for a walk around Lacawac looking for perennial vegetables, medicinal herbs, mushrooms, and all the edibles in the forest. The forest has sustained our ancestors for generations. Learn how you can add some unusual options to you garden repertoire. Masks and distancing required. Meet at the Environmental Education Center. \$5.00 per person. **Registration required.**

**More Programs and
to REGISTER for
these on our website:**

**[www.lacawac.org/
programs.html](http://www.lacawac.org/programs.html)**



**A special occasion to raise funds for our
preservation and education mission!**

Friday June 25, 2021

6:00-8:30 pm

Lacawac Environmental Education Center

\$45 per non-member or \$40 for members

Hors D'oeuvres by The Mustard Seed Cafe, open bar and smart casual attire.
The charitable contribution for the event is \$25 per reservation and will benefit
education in the local community.

Purchase Tickets at: www.lacawac.org/cocktails-for-conservation.html

*In light of Covid-19 we will be following CDC guidelines with appropriate distancing measures. Ticket sales are limited. No
Refunds Available.*

{special}
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