



LEA Lake News

A Publication of the Lakes Environmental Association
Protecting Maine Lakes Since 1970

Free

Summer 2020

50 Years of Lake Protection

by Colin Holme

What does your lakefront property mean to you? Do you consider it a valuable asset in your retirement portfolio? Or, is it part of who you and your family are?

For most of us, it is likely the latter. Spending time on the lake has a value that goes beyond monetary metrics. It fills you with experiences and memories that will last a lifetime. Unlike the stock market, what it delivers cannot be measured in percentage points.

This is what the founders of LEA knew 50 years ago and it is still true today. Waterfront life provides something that is priceless and worth protecting.

And while most everyone on the water experiences this value, only some of our lakefront landowners have stepped up to the plate to make sure that beautiful, clean lakes will be passed on from generation to generation. The generous and foresighted people who have stepped up are the members of LEA. It is members like you who have supported LEA's work and efforts over the last half century. Your donations and partnerships have allowed our organization to keep an eye on new projects, emerging threats, and persistent issues that threaten the quality of our waters.

It has not been an easy road to travel. When LEA was first formed on the shores of Long Lake, the founders debated even using the word "environmental" in the organization's name because, for many, it had a negative connotation.

It is hard to believe it now, but at the time raw sewage was piped straight from downtown Bridgton homes and businesses directly into Stevens Brook, where it flowed into Long Lake. Even as rivers across the country were literally on fire, as trucks and bulldozers were turning wetlands into short-lived beaches, and open burning of garbage was commonplace, the term

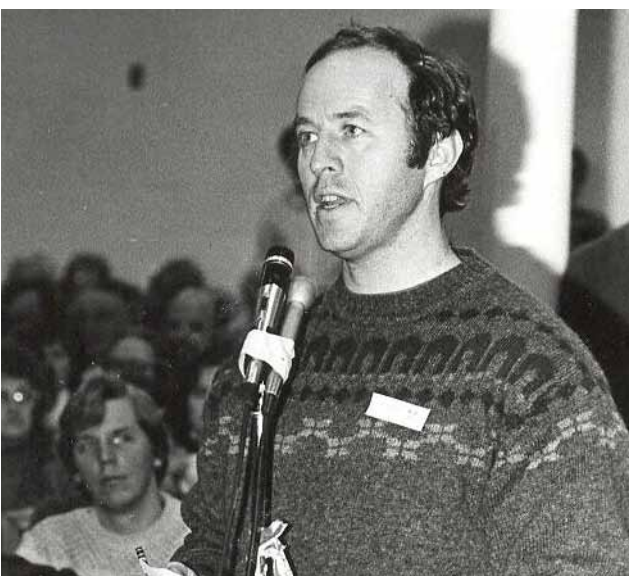
"environmental" was somehow controversial.

But some controversy was also a catalyst for action and LEA's founders not only put it in our organization's name, they immediately set a course to protect our lakes and change the status quo. With Peter Lowell leading the charge, lawsuits were filed and the old way of putting profits above environmental concerns was challenged. It was challenged publicly so many times by LEA and by other groups and individuals across the country that attitudes began to change.

Today, "environmental" is not a dirty word, and even the most reckless individuals are careful to make sure their projects are not viewed by the public as impacting our waters. However, when profits come up against protective measures, there is still a need for someone to stand up for our lakes. And that is exactly what LEA does.

In the next 50 years, we are going to see more development in our area, higher levels of surface

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Peter Lowell speaking in Bridgton in April of 1986 about the proposed nuclear dump

Doubling Down on Milfoil

by Cory Dunning



The 2020 season will be unlike any other for LEA's milfoil team. Thanks to a generous donation from the Bingham Foundation, we will be adding another five to seven divers and expanding our service area to the cove where the Northwest River enters into Sebago Lake. However, the ongoing COVID-19 pandemic has put new challenges in our path, and we have had to reevaluate our operating practices to minimize exposure and the likelihood of transmission. To protect and restore the natural integrity of our lakes, we must first protect the workers who make it possible!

Here is a look into our milfoil removal plans for the summer: three years of dedicated control work after the discovery of the **Mast Cove** infestation in Long Lake has led to successful containment and near eradication of the infestation in this area. LEA plans to continue our extensive surveying and spot removal to make sure that fragments and new growth are not able to gain footing elsewhere in the lake.

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Talking with Science Teacher Kathleen Tragert

What do you teach at the middle school?

I teach 6th grade science; our curriculum includes topics within Earth, Life and Space sciences.

What collaborations have you had with LEA?

LEA has been very important to our family. My daughter, Amy, was a milfoil inspector, a water testing intern, and she did outreach programs. My son, Jack, worked as a milfoil inspector and on the milfoil dive team. I served on the Board of Directors for 3 years and am on the Education Committee. Someday I'd like to work for LEA.

We also had the opportunity to have the LEA Milfoil removal barge at our dock for 3 years. The crews would gather here each day to do their important work of removing and containing milfoil on the Songo River.

I have had the opportunity to have an LEA educator in my classroom since 1996, beginning with Roberta, and then Bridie, Sarah, and now Mary. We have raised trout and salmon. My sixth graders participate in the year-long Living Connections watershed education program.

What's your favorite part about your job?

My job as a teacher is multi-faceted and I enjoy that aspect because I am doing something different with students every day. I feel we have a unique opportunity here in the Lakes Region to teach students to appreciate and take care of the beautiful area we live in. Teaching children first about the water and what they can do themselves will enable them to understand that their actions make a difference. I work closely with LEA's Mary Jewett to create opportunities and hands-on activities that will allow the students to develop a sense of stewardship for their environment.

What has work life been like since the coronavirus hit?

Lake Region school district didn't skip a beat; we started teaching remotely right away because we were prepared for it. There has been a good percentage of student engagement. It has been a very busy time. The teachers are still meeting as a team. It's been hard to turn it off though; emails come in at all times of the day. We've all learned a lot during this period. It is evident that the brick and mortar building is a safe place for many kids. At first, students did schoolwork Monday through Friday, but that was not effective. Now Monday is an advisory day, Tuesday through Thursday are curriculum days, and Friday is a make-up day. This schedule has been so effective!

June 5th is last day for students, June 15th for teachers, to have time to prepare for next school year, which is still up in the air. Perhaps in the fall there will be two days in-school, two days remote learning, and one day for staff work. We will likely have to stagger attendance to keep

numbers done at any given time. Time will tell.

Do you see your students as present and future lake stewards?

I think that it's important that students understand their ecosystems. Students live here and don't always realize the beauty of their environment. They need to take responsibility for themselves; they can think for themselves at this age and make choices. They don't always understand the big picture, so we need to teach them about their environment. The decisions they make affect lakes, and in turn, the economy. Kids can understand about their ecosystems – we raised trout -- they fish year-round. This helps them make the connections.

The lake and ecology concepts which LEA focuses on are the lessons that kids learn the best. Mary teaches the concepts and we reinforce them in other lessons. It's one of the best things they learn. When I see students years later, they ask about the Hey You! Cruise, which is an accumulation of the year's learning where they can see in action what happens with the rules. It's still magical for them. Even younger siblings are excited, despite hearing about it from their older siblings. It is true and authentic learning. Hopefully we will be able to do this cruise in the fall for the current sixth graders who missed out this year because of the virus.

Thankfully, we have had a really supportive administration for the past five years. LEA helps kids prepare for other parts of the environment, for example recycling, that we've been able to implement in our school.

Why did you join LEA?

We as a family belong to LEA because we love the water and lakes in this region and want to do what we can to protect them. We appreciate that LEA is a leader in Maine by researching, educating, and taking action to protect our lakes. It takes money to accomplish these tasks. I think LEA has used membership dues wisely. For instance, it has created important lake science research projects that will enable future decisions concerning lake protection to be beneficial. LEA also has the resources and knowledge to work with our town and the state to help residents be aware and follow water protection guidelines both on and off the waterfront.

I'm worried about LEA and other organizations because people are getting conservative. Non-profits could be in trouble. Even a little bit helps. We didn't understand at first -- we weren't members -- but now we understand and have been members for years. I support LEA because it helps the environment, and LEA needs this funding to pay the people who will do research on and teach others about our lakes and ponds.



Claire Crocker

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YOUR LEGACY, YOUR BEQUEST

by Charles Tarbell, LEA Treasurer

...none of us ever thought there was any place in the world like that lake in Maine. We returned summer after summer. A few weeks ago...I returned to the lake. I took along my son. I wondered how time would have marred this unique, this holy spot – the coves and streams, the hills that the sun set behind, the camps and the paths behind the camps.

“Once More to the Lake” -- E.B. White

I was twelve years old when the Lakes Environmental Association was formed. Like the young boy in E.B. White’s essay, my father and grandfather delighted in showing me the secrets of our Maine lake. It was a magical time in my childhood which I will never, ever forget.

As an adult, I performed the same magic for my own kids, and happily, they are both deeply invested in our lake. I want their kids, and future generations to be able to share that same magic. So now, as the founding members of LEA pass on, the current stewards of LEA want to ensure that the future stewards of Maine lakes will have what they need to protect and preserve the quality of Maine’s inland waterbodies. If you are like me, you feel that your lake is one of your legacies.

The LEA Lakes Legacy League recognizes those individuals who decide to invest in their lake by designating LEA as a beneficiary of their estate. You will join a small but growing cadre of longtime LEA members who recognize the importance and value of passing on pristine

lakes to our children and grandchildren.

LEA Lakes Legacy League Benefits:

- Knowledge that your donated assets will protect Maine lakes into the future
- Peace of mind in designating your life preferences free of stress and pressure
- You join a distinguished group of dedicated LEA supporters who are regularly honored

Will you consider joining me as a founding member of the LEA Lakes Legacy League? The following five steps outline the process:

1. Consider what type of bequest is appropriate for you. LEA’s Executive Director can provide guidance or input if desired.
2. Consult your financial advisor and attorney.
3. Execute the proper documentation.
4. Notify LEA of your completed plans and you will officially become a member of the Lakes Legacy League.
5. Enjoy the personal satisfaction that your gift will help future generations enjoy the magic of your pristine lake.

Thank you for your consideration. Our lakes are our legacy.

Doubling Down on Milfoil

Aside from scattered individual plants and a new patch that we covered with a benthic barrier last year, **Brandy Pond** is going into the season in good shape. However, Brandy has had robust infestations in the past, and we must continue to survey the pond throughout the season.

The **Songo River** had substantial regrowth last year, but after two complete sweeps of the main channel and focused diver harvesting work in the back coves, we left the Songo with very few plants in the boating channel and only small patches in less traversed coves. We will start the 2020 season with a survey and will continue with targeted harvesting of persistent problem areas.

In **Sebago Cove**, we will maintain a channel throughout the waterbody, allowing for passage without plant fragmentation and spread. Particular areas of focus will include the large infestation from the southern island down to the Route 114 bridge and hot spots near residential development from Sebago Cove Estates north on both sides of the cove.

Frye Island’s two major marinas continue to be the focus of our control work on the island. Our milfoil crew will be visiting the island at least twice this season, once in early summer to survey for and clear out any overwinter growth. The crew will then return in prime growing season to address known problem areas. Additional visits to the island may be scheduled depending on how nascent plants overwintered in the marinas and the amount of summer growth.

Kettle Cove is home to a busy marina and numerous private docks. Although there is little milfoil currently in the cove, the shallow water is prime habitat and growth could explode in this area if not regularly swept for new plants. LEA will continue to monitor Kettle Cove and hand pull any plants found before they can establish into colonies.

For some time now, residents of Sebago living near the mouth of the Northwest River have expressed a desire to have LEA’s milfoil crew help with the growing infestation. This high traffic area hosts a private marina, public and private boat launches, and a public beach. Currently, there are large, dense patches of milfoil growing in this cove. In the past, LEA has not expanded to this area because of time and resource limitations. This year, our crew is excited to start operations in this area and help the people who live, work, and play in the Northwest River Cove. We could only take on this new work because of generous funding from the Bingham Foundation, which is allowing us to expand our harvesting fleet and hire more field crew. To sustain this work into the future, we will need regular support from the residents and landowners who will benefit most from control work in the area.

Neil Hiltunen



McWain Pond Association President and long-time member Tony Butterall helping LEA with a project on McWain Pond

Thank You



Last year, clothing and gear provider Patagonia announced that they would match all donations made to LEA in the month of December through Patagonia Action Works. While Patagonia has provided significant grant support for our lake protection and research efforts over the past few years, this announcement was a total surprise.

When we excitedly relayed this message to our members, many jumped on the opportu-

nity to have their donation doubled, and in that one-month time period, this campaign raised over \$48,000 of operational revenue for our programming, of which \$23,300 was match from Patagonia!

This was an amazing and wonderful way to close out 2019! Thank you so much to all our members who took advantage of this opportunity, and of course, thank you Patagonia for supporting our efforts in such a meaningful way!

Lake Association Symposium Postponed

This winter LEA connected with lake association leaders in and around our service area through an online survey, looking to answer questions of what associations need most. What are they interested in learning more about? What can they share with others? And most importantly, do they think getting together with other similar groups is a good idea? Folks responded with a resounding “yes” and we received excellent feedback on topics, issues, and potential presenters.

Then came COVID-19... With so many health questions in the air, we thought it would be in everyone’s best interest to postpone the mid-June meeting until it is again safe for groups to gather. As of press time, we have not set a reschedule date, but based on the amount of interest, we are definitely going to move forward with the event, although it will likely be next year. Thank you so much to all the groups and individuals who responded to our initial survey. If you are interested in attending, participating, or presenting at a future Lake Association Symposium, please contact alanna@mainelakes.org and she will put you on our contact list.



2020 is LEA’s 50th Anniversary



Since our inception back in 1970, our programs and initiatives have grown exponentially to help ensure our lakes remain protected. We had hoped to celebrate this year, but with the coronavirus and economic uncertainty permeating everybody’s lives, we are instead seeing a drop from our primary revenue source, our members. We hope you will help us get through this together by continuing to contribute financially to our organization. It is your donations that will determine how LEA fares through this storm.

Bridge Over the Stream Carsley

This past year, Roger Lowell approached LEA to see if he could build a cross-country ski trail to connect the Highland Research Forest to the existing network of Nordic trails in Bridgton. We were immediately excited about the idea and Roger spent the next few months flagging out potential routes and contacting landowners in between the existing trails and the Highland Research Forest. Roger, who is Peter Lowell’s twin brother, has built a reputation in this area as a local trail expert and guru so we had full confidence in his work from the start.

After evaluating different options for routes and obtaining permission from LEA and other landowners, he blazed a beautiful rustic trail that leads skiers into the heart of the Highland Research Forest and tracks them along the picturesque Carsley Brook.

There was only one problem left to surmount and that was crossing the brook itself so the new trail would connect with our existing network. Carsley Brook is a year-round, coldwater stream that is a spectacular feature and home to native brook trout. To cross it, we needed something substantial that was not going to interfere with the ecological connectivity of the stream.

Roger formulated a plan, ran it by us and then put together a materials inventory while we applied for necessary permitting. Two weeks later the permit

was approved and within one week, Roger had assembled a work party, got the materials on site (no small task considering the location...), and built the bridge.

The bridge is a wonderful addition to the parcel and provides skiers and hikers easy and safe access to the new trail and the whole eastern side of the Research Forest. Thank you so much Roger and fellow bridge builders Brook Sulloway, Nancy Kluck, Will Rhys, Laura Cleveland, and Roger’s grandchildren Cody, Sam, Emily, and Trevor.



Roger Lowell putting the finishing touches on the bridge

Working together to protect our lakes: Sebago

Clean Waters and LEA

It is easy to understand how protecting the watershed of Sebago Lake will help keep Sebago clean. But this giant and iconic waterbody in southern Maine will not be the only beneficiary of land conservation and stewardship within its drainage.

More than 20 lakes in LEA’s service area are within the Sebago Lake watershed. If the most sensitive watershed lands remain forested with functional wetlands and our tributary streams, rivers, and brooks flow in a natural manner, all the lakes within Sebago’s drainage will also benefit.

Long Lake, Crystal Lake, Highland Lake, Keoka Lake, the Crooked River, the list goes on and on. These are just a few of the waterbodies that feed Sebago and eventually provide clean drinking water to one in six Mainers.

The downstream connection to Sebago and greater Portland is significant because it shows how intertwined we all are in this effort. This is good for LEA and our mission because it will attract other partners and entities with similar goals.

This is how we came to join Sebago Clean Waters. This collaborative is made up of nine organizations, including LEA, that want to keep the Sebago watershed forested and healthy so that it can continue to provide clean and pure drinking water to Maine’s largest metropolitan area for generations to come.

With nine other groups working on this initiative, we can set our goals higher and build something together that none of our organizations could do individually.

This is good news for everyone who lives or owns land in the entire Sebago Lake watershed and also for anyone who drinks the clean water that it provides.

To protect the water of Sebago and all the lakes that feed it, it is going to take prudent land conservation, improvements to existing bridges and culverts, and continued oversight and diligence of new development in the watershed. These are big goals and they will be achieved and maintained only if we think long-term and partner

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Photo by Mark Hunt



Bill Haynes - Journalist, Fireman, Land Steward

August 16th, 1949 – March 8th, 2020

by Colin Holme



raised horses. But that was not all he did...

Aside from a lengthy tenure of raising Welch Cobbs on his farm in South Waterford, Bill was an active and long-standing member of the volunteer fire department and served for many terms as the assistant chief. He wore "a few" other hats for the town including: Code Enforcement Officer, Health Officer, Cemetery Sexton, Tree Warden, Fire Warden, Deputy Moderator, Webmaster, Tree Warden, EMA Director, Addressing Officer, and Assistant to the Selectmen. His many hats and ubiquitous presence in town earned him another nickname: "the Mayor of Waterford". But his interests and career extended beyond municipal duties.

Although he eventually retired from raising horses, Bill never stopped growing, cutting, and bailing hay on hundreds of acres each year. He had a very strong connection to the land but was a communicator by trade and took many a phone call while out on his tractor. Of course, the conversation would usually end with "Well, y'know, we gotta make hay while the sun shines..."

A true jack-of-all-trades, Bill began his career as

In the quiet little town of Waterford, William Haynes was someone everyone knew. I called him Bill, but most people simply referred to him as "Dood". Although I never used the nickname, it seemed appropriate for a 6 foot 8 inch-tall man who

a journalist and was astute at passing on the news, whether it be through the *Portland Press Herald*, the *Advertiser-Democrat*, his own *Mutiny Brook Times*, or around the table at Melby's. His ability to quickly and accurately transcribe key information made him a coveted member of local groups, area non-profits, and town committees.

Along with his journalistic prowess, he always had a camera around his neck and was the default photographer for all events in town. Standing a good foot over most everyone else, he had a natural advantage for getting the perfect shot.

And while the daily pulse of Waterford may have pumped through his veins, Bill also saw how the past and the future connect in the green hills and valleys of the town. He was a steward of the land he owned, which extended beyond the hay fields into hundreds of acres of woodlands that he proudly managed sustainably. Bill realized the value of his forested ownings, not only as a source of income, but as an intrinsic part of his family legacy, and something that will help keep Waterford's streams, rivers, and lakes clean for generations to come.

Keeping land as productive forest was something that he not only practiced, but also preached. As a chapter head of Woodland Owners of Maine, Bill hosted numerous workshops on his land and at his portable sawmill, which was built by fellow townsman Dale Sanborn.

When Bill unexpectedly left us this past winter, his land, equipment, and farm passed on to his son Preston and daughter Victoria. In talking with Preston in May, he astutely noted that his father "ran an operation that you would need a small squadron of people to maintain." That said,

he realized the importance and the value of the family land and reminisced about horseback riding through wooded trails up to the lookout on Mount Tire'm. Although he was as unsure of the future, Preston said his family's land would remain in a tree farm and sustainably managed for the coming decade.

Over the winter, I had talked with Bill about "harvesting" some of his expertise to host a workshop for area landowners on sustainable land management. I was extremely excited about our coalescing plans, which involved a demonstration of his Sanborn sawmill and a tour of some recently harvested land. I had a feeling it was going to be a success, and I was confident it would be well attended because, after all, everyone knew Dood.



Working together to protect our lakes: Sebago Clean Waters and LEA continued from page 4

strategically.

This spring, Sebago Clean Waters applied for a large, multi-year grant to help realize this goal. LEA's role in this project, should it be funded, would be to work with local partners to reduce erosion and flooding by improving road-stream crossings. Because our work to remove invasive aquatic plants from Sebago Lake is all done manually and without the use of chemicals which could impact the water supply, our milfoil control efforts may also get a boost in funding.

This large grant proposal with many components is not something that LEA could apply for or manage on its own. This is why LEA joined Sebago Clean Waters. Our missions align and together we can do bigger things.

If only there was also an Upper Saco River Clean Waters...

Jerry Monkman,
Ecophotography.com



COVID-19 and Lakes

by Ben Peierls

This was not the “going viral” we probably had in mind.

In a matter of weeks, the coronavirus pandemic turned our world upside down. Although health professionals and researchers have gone into overdrive devising ways to knock back the virus, many questions still remain unanswered. One particular question has been on the mind of many folks who swim in and enjoy our lakes: Can the coronavirus survive and be transmitted through freshwater?

To start with, what is a virus? Simply put, it is an infectious agent or biological entity that can cause disease; all life forms can be infected by viruses. Viruses are known as “organisms at the edge of life”, since their status as living is subject to debate. Either way, they are extremely diverse and found everywhere there is life, since they need the biochemical machinery in host cells to reproduce and spread.

And there are a lot of them. There are probably 10 million or so viral particles in one teaspoon of lake or seawater. Don't worry, most of them are harmless to humans and only infect aquatic organisms. Most of the viruses in aquatic ecosystems are bacteriophages, or viruses that infect bacteria. Aquatic viruses help regulate lake microbial food webs and nutrient cycling by killing bacteria and algae. Consider also the recent medical case of isolated lake viruses that were used to help cure a human patient infected with antibiotic-resistant bacteria.

Unfortunately, viruses harmful to humans can be found in water as well. Quite a few human diseases are caused by the transmission of pathogenic viruses through water. Diseases like hepatitis and gastroenteritis often spread by people ingesting contaminated water. It can happen anywhere; in 2018, an outbreak of norovirus in Bridgton sickened 97 people with gastrointestinal symptoms, many after swimming at the Woods Pond public beach.

Unlike norovirus, members of the coronavirus family cause respiratory illnesses in humans, like the severe acute respiratory syndrome (SARS) epidemic in 2003 and now COVID-19. Another difference is that coronaviruses have an outer protein-studded, lipid envelope (soap destroys this envelope, which is why washing your hands is so effective). That envelope tends to make them less stable in the environment compared to non-enveloped viruses, but they can still survive on surfaces for hours to days.

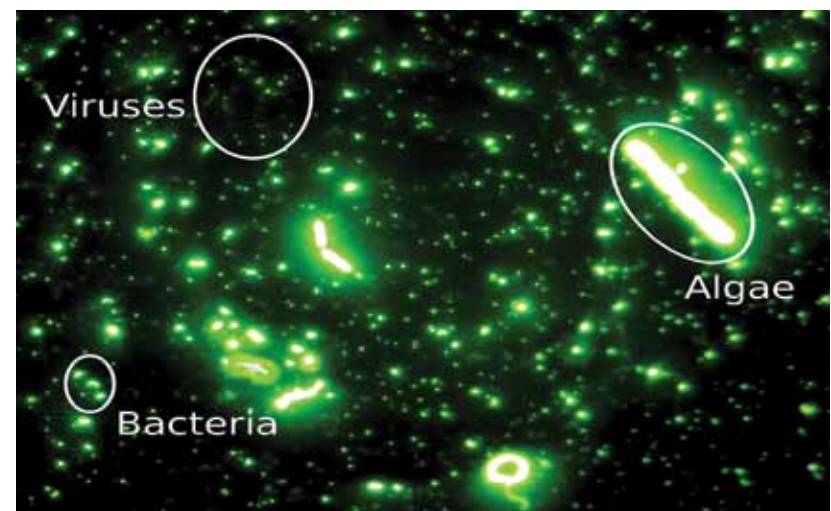
What about survival of coronavirus in untreated water, like a lake? Heat and UV light help reduce the potential for infection, but lab studies have shown that certain coronaviruses can survive in pure water on the order of days to weeks, depending on temperature and other factors. Also, research has shown that viruses in general can be transmitted between water and skin and back again. As to the survival of the novel coronavirus in lake water specifically, neither the CDC nor the World Health Organization

(WHO) provide guidance on this question other than to say there is no evidence so far.

COVID-19 spreads via contact with respiratory droplets or contaminated surfaces, though scientists are still working out all potential transmission routes. The WHO reports that even though the novel coronavirus has appeared in the feces of some infected people, there is no evidence for that as a source of infection. The WHO also states there is no evidence, so far, for that particular virus surviving in sewage. On the other hand, the 2003 SARS virus was believed to have indirectly spread through aerosolized, untreated wastewater. Research results on surrogate coronaviruses indicate short-term (days) survival in untreated sewage.

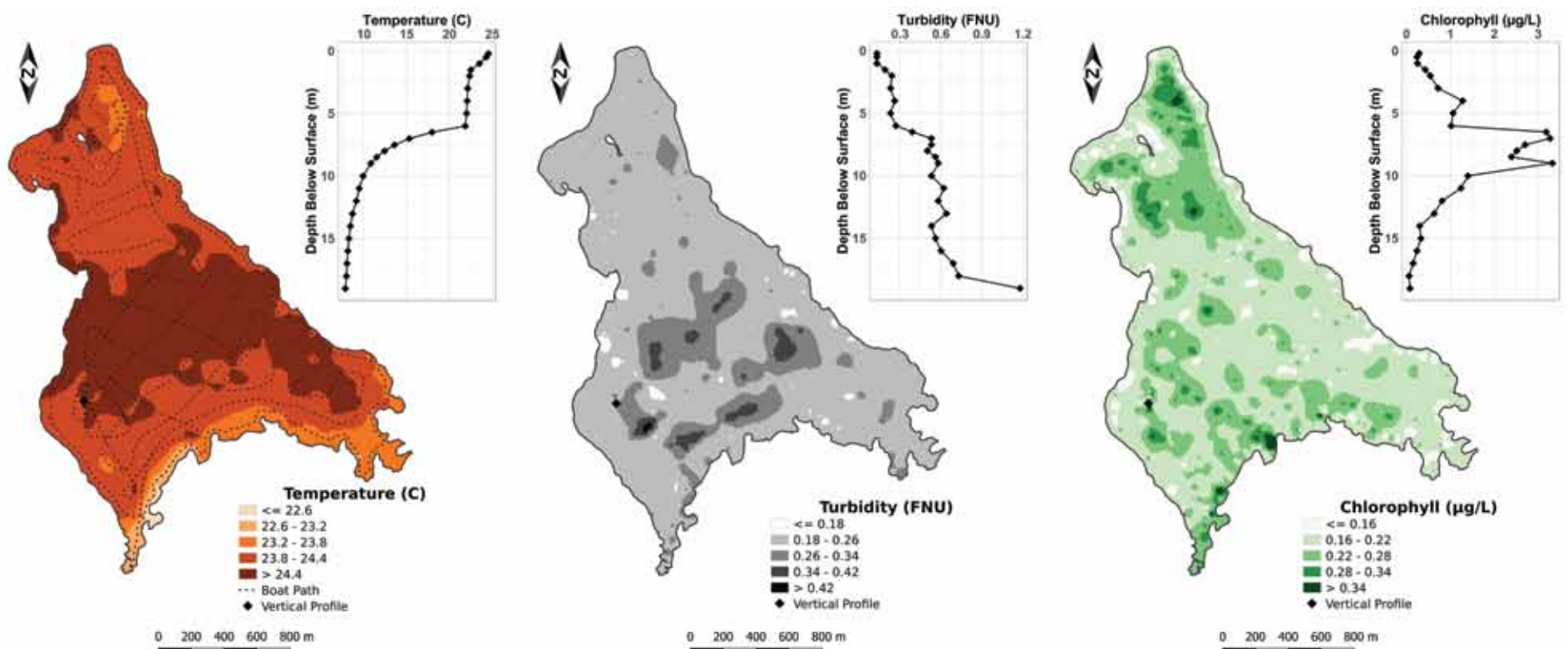
What does that mean for recreation on our lakes during this pandemic? The risk of being infected from swimming and boating activities away from other people is probably very low. Swimming at a crowded beach (assuming they are open) raises that risk quite a bit and not only for viral pathogens. If the coronavirus does pass through the gastrointestinal track, properly functioning septic systems should retain viruses long enough to inactivate them. Clogged septic tanks and leach fields, however, could allow wastewater to enter the lake much more quickly, increasing pathogen transmission risk (so please have your systems inspected and pumped if needed).

LEA plans to continue monitoring lakes in our service area, keeping in mind best practices and CDC recommendations for keeping safe and physically distant as much as possible. We advise you to do the same and if you have symptoms, please avoid public areas and water bodies until we know more and you have recovered.



Photomicrograph of freshwater viruses, bacteria, and algae stained with fluorescent dye. Viruses range from 1 to 10 millionths of an inch in diameter.

Check out our [Spatial Lake Monitoring report at mainelakes.org](http://mainelakes.org)



Letter from the President



Dear Members and Friends,

It has been a spring like no other. As the ice gently melted away from the lake outside my window, life as we know it changed in a most dramatic way. The pandemic has made a mockery of the human planning process. Our certainties have been replaced with a plethora of open-ended questions, the most fundamental being: *When will life get back to normal? Will it ever get back to normal?*

Nature, however, has not changed her plans. As I walk the trails in my local woodlands, everywhere I hear the sound of water running. It hasn't rained in days but still the water streams vigorously through the forest on its journey from the mountains to the lakes. I feel fortunate to live in a place where the reassuring rhythm of nature is all around me.

It is a bittersweet moment here at LEA. We were conceived in 1970, and just like Earth Day, we are turning fifty this year. Maine has been a state for 200 years, and LEA has been around for a quarter of it. There is much to celebrate – and many wonderful social events in the planning that must be cancelled or postponed. Over the last two years, we have been preparing for our 50th Anniversary Capital Campaign, but now the fundraising landscape ahead is one of uncertainties.

In the meantime, the core work of LEA goes on, and while its impact is priceless, the implementation has costs. Water testing and analyses have continued uninterrupted. Our educators have devised ways to bring classroom and family content online. We are preparing a milfoil removal program that will be larger than ever before, despite the challenge of finding ways to keep our divers healthy while sharing a boat. Courtesy boat inspections have already begun. Our work with partner organizations and local municipalities will continue. The LEA staff has faced unprecedented hurdles this year with good humor, intelligence, and resourcefulness. Their dedication to our mission in the face of adversity is impressive and deserving of our thanks.

The work LEA does is important and effective, and we cannot do it without your financial support. Development on our lakeshores would look very different without LEA's influence over the last 50 years. During the building boom of the late 1970s and 1980s, when condominium projects were popular, shoreland zoning regulations were routinely ignored. LEA filed lawsuits against the developments that threatened lake health. We have worked with municipalities to craft strong ordinances to protect water quality. We run classes to inform builders, contractors,

and real estate agents on best practices for lakefront property. We were the first in the state to recognize the threat of invasive species and craft a response for prevention and remediation because plants such as invasive milfoil can choke a lake, making it unsuitable for most recreation. Our advocacy at the state level has resulted in the passage of several bills to protect lake health. Beyond the lakeshore, we have been a leader in promoting responsible watershed land management. LEA's contribution to water quality downstream of our service area has been recognized by the Portland Water District and by our inclusion in the Sebago Clean Waters collaborative. Our educators have inspired more than a generation of budding lake stewards and environmentalists, some of whom have come back to work for LEA.

In sum, it is no accident that the lakes served by LEA are clean, clear, and healthy. This is not the case everywhere. One doesn't have to travel far to find lakes that are plagued with algal blooms, invasive species, and other untenable situations. There are several in Maine, many in New England, and a large number across the United States. As an amateur at LEA's Lake Science Researcher Retreat in January, I learned many things, but one statement stood out. An expert was speaking about the alum treatment recently applied to suppress a massive algae bloom on East Pond in Belgrade, Maine. It cost two million dollars and may have to be repeated in 10 years. He cautioned, "A damaged lake can be rehabilitated, but it can never be restored." What an awesome responsibility we have!

Although we cannot get together and celebrate as planned for LEA's birthday, I hope that you will honor us and the lakes that you love with a generous donation to our capital campaign. Our board of directors has kicked off the campaign with 100% participation. Perhaps in honor of the generation-spanning impact of our work, you will consider including LEA in your estate planning. If you are new to the Lake Region, I hope you will take the first step toward lake preservation by becoming an LEA member.

It is my wish that we will be gathering this summer without restriction on our beaches, docks, and boats to enjoy in good health the cool, clear lake water that we cherish -- the high-quality water that your support has sustained. Thank you!

Best,

Lydia Landesberg

50 Years of Lake Protection

continued from page 1

use, more invasive plants, warmer temperatures, and more people. It is not going to be easy to mitigate the effects of all these compounding factors on our lakes. It is going to take resources, experienced staff, and strong partnerships if we want our lakes to remain clean.

In the last decade, LEA has grown tremendously and so has our impact. If we want to keep up with the changing world, we need to make sure our staff and initiatives continue to have the resources they need to address current issues. We are one of the strongest and most dynamic lake organizations in the state, but we are not in a race against other like-minded, lake groups. We are up against the constant and growing pressure of short-term profit over long-term resiliency. To compete at this level and have the voice of our lakes heard, we need to continually invest in our programming.

This is why we have embarked on a 50th Anniversary Capital Campaign. With a world health crisis unfolding around us, our timing, admittedly, is not ideal. But this is not something we decided on recently or plunged into without ample debate. This is what we need to keep LEA programs effective so that our lakes can remain pristine for another half century. And with an amazing board commitment and generous pledges, donations, and grants from long-time supporters, we are moving steadfastly forward with the campaign.

With your help, we can not only sustain our programming through a traumatic time, we can continue to grow and improve upon our work to keep our waters healthy, functional, and valuable in so many different ways, for the next 50 years.



Roberta Hill showing local students how to measure water quality on Adams Pond in the 1990s



Peter Lowell delineating the Long Lake Watershed in 1990

Highland Research Forest Happenings

CBI: Keeping boaters, staff, AND our lakes safe

by Mary Jewett

Thanks for your notes of winter explorations at the Highland Research Forest! We've heard from folks who enjoyed the new outhouse ("This is amazing!"), some who noticed Brian Grady's handiwork on the new kiosk ("Love the acorns!"), and those of you who appreciated Henry Hudson's snow plowing of the parking area ("I'm glad I don't have to park on the road and clamber over the snowbank - thanks!"). We love to hear from you, so please keep the comments coming.

We also saw lots of snowshoe and ski tracks all around. Roger Lowell worked to connect our property with ski trails to Big Sandy, Middle Ridge, and beyond so that cross-country skiers could explore some new and beautiful, ungroomed terrain. Next on the agenda is a formal bridge to replace the current pallet-based structure that spans Carsley Brook.



Two young explorers standing on the new bridge and peering into Carsley Brook

This year, we will again have a dedicated summer intern to assist in managing the trails at the Holt Pond Preserve, Highland Research Forest, and along the Stevens Brook Trail. Over the past few months, we've been creating interpretive signage for both Holt Pond and the Research Forest to help hikers identify tree species along the trails. This spring and summer we will focus on building different examples of water crossings at the Research Forest, as well as finishing marking the trails that we've completed. Join us on Facebook, our event email list, check out our website for guided walks, or feel free to explore on your own!



This spring, LEA left a canoe for public use at both the Highland Research Forest and Holt Pond Preserve

This spring, we saw a drastic increase in the number of watercraft out on the lakes. Even before the ice was totally out, folks from all over took to their motor boats, canoes, and kayaks to enjoy the scenery and fresh air. Because boating only involves your close friends and family, people turned to this popular pastime, as other activities disappeared behind the dark cloud of the coronavirus. However, as interest in boating surges, so does the likelihood of spreading another pathogen: invasive aquatic plants. For this reason, boat inspections are more important than ever. In 2020, the Courtesy Boat Inspection (CBI) program will continue as it has for the last two decades, with a few modifications to ensure the safety of inspectors and boaters.

The first change is that maintaining a physical distance of at least 6 feet between the inspector and the boater will be required during every inspection. In the past, we have invited boaters to inspect with us, and together we have walked through places on the boat that could catch plant fragments. To keep inspections both safe and thorough this year, we will be examining with our eyes only and requesting more from the boater. The courtesy inspector will look over the vessel thoroughly and ask the boater to examine anchors, lines, fishing gear, and bumpers on the craft for any plant matter.

"Clean, drain, and dry" is still an important message, and with more boats potentially coming from out of state, the risks of someone transporting invasive aquatic animals increases. Boaters will be asked to drain any standing water from their vessels and dry it out as best they can. Harmful organisms, such as zebra mussels and spiny waterflea, are found in lakes very close to Maine, and we all need to work together to prevent them from invading our waters.

If a boater refuses to do their part to maintain social distancing, the inspector will ask them to do their own inspection and move away from the boat. The health and safety of LEA's staff and our community are paramount, and we hope that you will assist us by cooperating with inspectors and adhering to health guidelines and best practices this summer.



LEA CBI inspector Kristin Hanscom inspecting a boat this spring while following new COVID-19 guidelines



Gilon Backlund at the Long Lake boat launch

The World of Hands-Off, Indoor Teaching by Alanna Doughty

As you know, LEA strives to offer hands-on, engaging, outdoor and place-based learning whenever possible. You'll often find us in the woods with students behind their schools, collecting macroinvertebrates or releasing trout fry in local streams, and investigating invasive terrestrial species at the Highland Research Forest or Pondicherry Park. LEA is usually a break from the walls surrounding classroom learning.

However, with the spread of the coronavirus this spring, our approach had to rapidly change. The first thing we did was reach out to our teachers to let them know that we were available to help. Then we posted environmental and ecology-related activities for kids that parents could do at home on our social media accounts.

With the help of a trusty underwater camera and some basic movie editing skills, we've made major changes to how we're sharing materials, but the content and message remains the same: you are the key to the future health of our lakes, streams, wetlands, and forests!

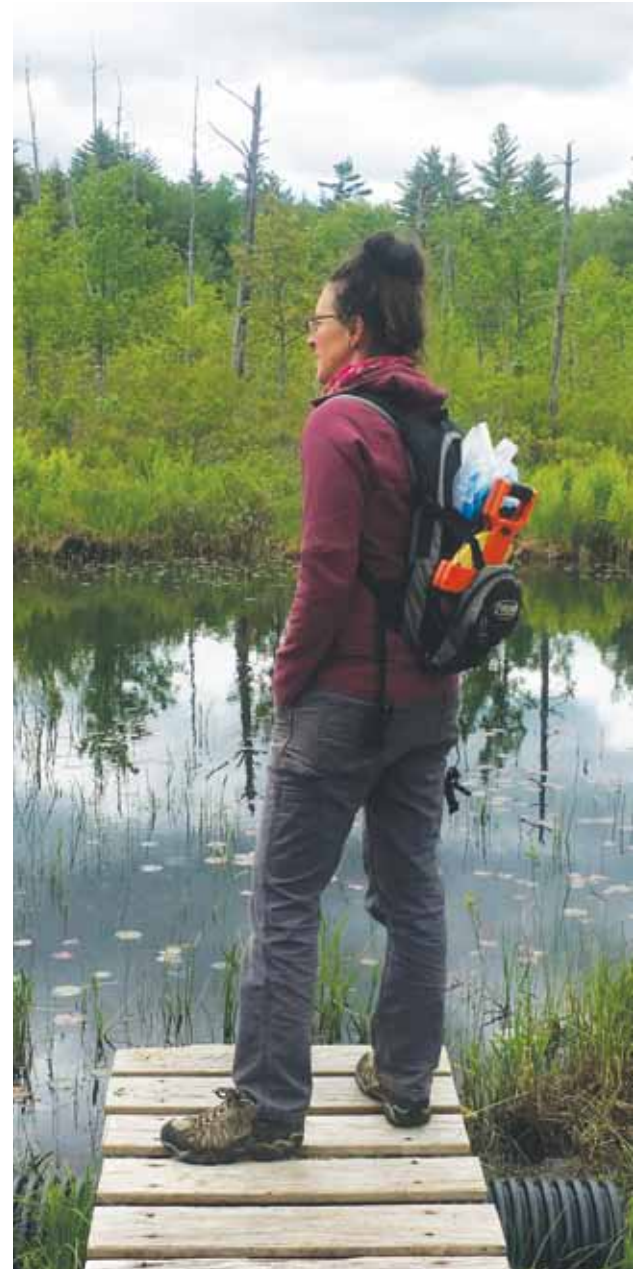
Many other land trusts and environmental nonprofits with education programs found themselves in similar positions, and the result has been no less than extraordinary. We are, after all, used to thinking outside the box! In the midst of a pandemic, opportunities emerged that have allowed us to collaborate with partners in new ways and create content available for everyone, not just one group of students. This also gave us the chance to engage with students on their own schedules in a

way that is still centered around creative learning and exploration.

As resources come across our online desk, we've shared them with our teachers, we've created new activities for educators and parents, and we've had teachers reach out for specific content, such as lake and pond videos for kindergarteners. It is comforting to see that many students are finding more opportunities to explore their surroundings, often on their own, as parents are occupied with working from home. But, just in case they're not, we are trying to bring the outdoors to them. I know my kids are in the woods as soon as they finish their schoolwork!

The videos have also offered us an opportunity to bring students to places we might not normally take them, like underwater in a vernal pool or wading through different types of wetlands. These ecosystems would be greatly affected by having groups tromp through them, but when we sneak around we try our best to disturb things as little as possible.

Do I wish I was with my fifth grade kiddos out investigating stream water quality? Does Mary wish she was with her middle school students releasing trout and shouting "Hey You!" from the top deck of the *Songo River Queen*? Of course we do. These are things we greatly love and enjoy. But instead, we are taking our lemons, making lemonade, testing the pH, comparing it to our local lakes, and making movies about it! What new things have you learned during all of this?



Alanna on the newly-leveled and raised Muddy River lookout

Holt Pond Trail Upgrades

If you visited Holt Pond Preserve last year, you might have noticed some needed improvements. First, you were able to drive to the parking lot without bottoming out or scratching your vehicle on low hanging branches... awesome, right? Thanks to grant funding from the Morton-Kelly Charitable Trust and help from P&K Sand and Gravel and Q-Team Tree Service, getting to Holt Pond became a little less of an adventure. Unfortunately, the road was again rutted up this spring as off-road vehicles continue to use it as a thoroughfare during mud season and late winter. After much research into who owns the road, the town of Naples has agreed to again grade and maintain the road once it dries out. We are also in discussions with the Naples town officials about ways to prolong the recent enhancements of this section of road.

On your way to the floating bog, you may have noticed segments of culvert placed under the boardwalk. Holt Pond is home to a number of active beaver families, and like any healthy wetland, it has fluctuating water levels. Our hope is that these short culverts will raise the boardwalks and keep visitors safe and dry. After a spring re-evaluation, we were pleased with the results continued these upgrades under the boardwalk out to the Muddy River and will eventually improve the boardwalks on the Grist Mill side of the pond.

If you frequent the trail on that side, you may have noticed our extensive weed whacking, or maybe you just noted that you were not being swallowed by wetland plants. This year, we will continue to regularly cut back the native grasses that quickly overwhelm the boardwalk and trails so that everyone can have an enjoyable visit to the preserve. This is no small task and we can always use help! If you are interested in adopting a section of trail, please contact alanna@mainelakes.org or call our office at 207-647-8580. Turn to mainelakes.org and our Facebook page to stay apprised of trail work days, guided walks, and opportunities to get you out in the preserve throughout the year.



This spring, we put out a new canoe with paddles and life vests at Holt Pond. Enjoy!

Notes from the Research Director, Ben Peierls



Thanks to a generous grant by an anonymous family foundation, we are excited to announce that LEA has acquired a new high-tech laboratory instrument, which we will use to measure phosphorus and nitrogen in lake water

samples. Up until now, we have been sending and paying for samples to be analyzed for phosphorus by the state Health and Environmental Testing Lab in Augusta; like many things, prices for analysis at HETL are expected to as much as double in the near future. Our new nutrient analyzer is a continuous flow analyzer, which pumps samples through narrow tubing and sequentially adds chemicals that produce a color proportional to the amount of phosphorus present. All of this happens automatically once we start the machine running. This instrument saves time over other methods and running our samples in-house will greatly reduce our annual analysis costs and further elevate the capabilities of the Science Center as a research hub.



Ben getting remote training on LEA's new auto-analyzer

The same foundation also provided funds for a garage and additional parking at the Maine Lake Science Center. Storage space for our boats, buoys, and field equipment is in very high demand at LEA, and a garage on the Science Center property will help keep the equipment protected and safe year-round. Construction has begun this spring. Additional parking at the Science Center was also needed. For many of our larger events, we had resorted to shuttling attendees from the Public Works garage and Hannaford parking lots. We have moved our existing entrance gate farther down the driveway and created additional parking that can be used for both Science Center events and visitors to Pondicherry Park. Since the addition of the challenge course on our Pinehaven Trail, visitor use of the trail has increased significantly.

Four years ago in the deep of winter, Peter Lowell gathered a small group of lake researchers from Maine and New England for a retreat at the newly-opened LEA Maine Lake Science Center. The stated goal for the retreat was "to maximize the involvement of the research community and state agencies in broadening scientific understanding, expanding

and empowering lake interest group networks, and defining and implementing actions necessary to protect Maine's lakes". The wintertime retreat has now become an annual tradition, and we continued it this past January, hosting 37 scientists and professionals at the Science Center.

The goals for the annual retreats have remained much the same, and this year we accomplished them through a mixture of presentations, demonstrations, and discussions. The twelve short presentations covered a



A demonstration of the FlowCam at the 2020 Lake Researcher Retreat. This device takes and categorizes microscopic images of algae as they flow through a tiny tube.

wide range of topics from the use of technology in lake science to the latest water monitoring results. Linda Bacon from the Maine DEP started things off with an overview of the state's lake program, including reports on lakes most at-risk for algal blooms (fortunately, none in the LEA service area). The attendees then received an update on the status of algae in Windham's Highland Lake and received a synopsis of efforts to monitor algae blooms in New England. We then heard about changes to the color of lakes that have resulted from a reduction in acid rain and a study by Saint Joseph's College professor, Luc Bernaki, on tracking sources of variable leaf milfoil using spatial genetics. New insights into treating lakes with alum, a recent discovery of an infestation of variable leaf milfoil in Down East Maine, and quantifying turbulence from wake boats filled out the rest of the day. Technological advances also were featured with talks on measuring turbidity with a phone app, the use of a flow imaging microscope to quantify algae, the use of drones to measure lake water quality, and the use of optical brighteners to survey lakes for septic system inputs.

Presentations made up the bulk of the retreat, but there was plenty of time for short walks in the winter woods, informal networking and conversation, and equipment demonstrations. A local technology business, Flow Imaging Technologies, brought the flow-through microscope highlighted in one of the presentations. This instrument captures hundreds of microscopic images and can identify algae species in just a few drops of water. We viewed images of recently collected Highland Lake water as an example. Also, the researcher who discussed the use of drones in lake water quality assessment did bring (but did not fly, unfortunately) the high-tech quadcopter for us to drool over. All in all, the retreat was very successful and we received nothing but positive feedback. LEA is becoming well



Photographs of algae taken during the Researcher Retreat demonstration

Course Offerings

LEA typically hosts contractor trainings in the spring of each year, and this year we had planned to greatly expand our offerings. Due to shelter-in-place mandates in April and May, these courses will now be offered in the fall. The goals of these courses include expanding an understanding of water quality issues regarding construction and erosion and enhancing the attendee's ability to select, install, and maintain proper erosion and sedimentation control practices. The courses are of primary interest to contractors but could also be helpful to municipal code enforcement officers, consultants, engineers, public works employees, and those interested in water quality issues.

The following workshops are now planned for this year:

- **Gravel Road Evaluation & Maintenance, June 9th**
- **Erosion Control Best Management Practices Refresher, Sept. 9th**
- **Basic and Advanced Erosion Control Practices, Sept. 23rd**
- **Land Use & Natural Resources Regulations, Oct. 7th**
- **Winter Best Management Practices, Nov. 18th**

Additionally, in partnership with Portland Water District, Maine Lakes Society, and Eaton Peabody Law Firm, LEA will be offering the course "Maintaining the Market Value of Lakeshore Properties in Maine" for real estate professionals for the third year. The goal of this Maine Real Estate Commission approved course is to develop a well-rounded and holistic view of Maine's lakes and ponds so that agents can be more knowledgeable about freshwater issues with clients, and in turn, preserve market value of properties.



Colin Holme presenting at LEA's 2019 Real Estate Course

CARES Act Donation Incentives

LEA is able to do the important work we do because of our members' generous supporting contributions. Members now enjoy an additional incentive to contribute to LEA since the CARES Act was passed by Congress on March 27, 2020 in reaction to the COVID -19 pandemic. The CARES Act Charitable Giving Incentive creates a new non-itemizer deduction that applies to all taxpayers for total charitable contributions of up to \$300. The incentive applies to cash contributions made in 2020 and can be claimed on tax forms next year. The law also lifts the existing cap on annual contributions for those who itemize, raising it from 60 percent of adjusted gross income to 100 percent.

This incentive is only in effect for the tax year 2020. It also is limited to cash contributions directly to a non-profit, as opposed to contributions to a donor-advised fund that aren't yet remitted. The reason is that Congress wanted individuals to be incentivized to make immediate donations that would be put right to work, rather than deferred donations that may be applied later.

What this means for LEA members is that supporters will have a new deductibility incentive of \$300, if they claim the standard deduction, and potentially much higher if they itemize. As this incentive is in effect for one year only, members may want to consider increasing their donation to LEA in 2020, or, if they have a capital campaign pledge amount outstanding, they may want to advance their pledge payments so that the limited-time deduction is available to them in 2020.

Members should consult their financial advisor with specific questions about how the CARES Act donor incentives may apply to their own financial situation.

LEA's Annual Meeting will be held virtually this year. The invitation and link will be sent out later this summer and posted on our website at www.mainelakes.org

LEA Out on the Ice



Addie Casali and Maggie Welch on Highland Lake in February 2020



Ben Peierls and Maggie Welch peering through the ice on Keoka Lake in April 2020



Addie Casali and Ben Peierls on Bear Pond in March 2020

May We Always Have Clear Lakes

You are relaxing on your dock or in your waterfront hammock and just enjoying the beauty of the lake. The magnificence of the interface between land and water bring you both serenity and peace of mind. Even when the rest of the world is in chaos, it is moments like these that make you thankful you bought your property.



Please don't take these moments for granted. If your property was on East Pond, China Lake, or Georges Pond, you wouldn't. Those Maine lakes have each endured the trauma of summer algae blooms. Property owners on them no longer take for granted clean, clear lake water. They've seen what can happen. They've had to question whether they want to, and whether it is even safe to, swim, fish, and boat. They understand the loss in property value firsthand.

East Pond, China Lake, and Georges Pond also have another thing in common: they have the most active LakeSmart programs in the state of Maine. Once residents of these lakes experience an algae bloom firsthand, the LakeSmart program makes sense to them. Had these residents anticipated trouble, these noxious blooms could have been avoided.

LEA sponsors LakeSmart in our region. This program teaches an owner

how to intercept dirty storm water runoff before it enters the lake and feeds algae. Sometimes this means diverting and infiltrating runoff so that it can absorb into the ground. Other times, it means leaving or promoting vegetation along the shorefront. A LakeSmart volunteer walks your property with you, makes suggestions based on observations, and talks with you about how you use your property. A written report follows the site visit, which summarizes the suggestions and provides additional materials to facilitate improvements.

Not ready for a site visit? Consider LakeSmart Start! This is a self-assessment that walks you through all the areas on your property that are examined during a traditional LakeSmart evaluation. We will send you a form to fill out and you can take things at your own speed. If and when you are ready for the next steps, we will be here for you.

Participation in LakeSmart is voluntary, costs nothing, does not obligate the owner to undertake any suggestions, and has no risk of disclosure of a perceived code violation to anyone other than the owner. Imagine how you'd feel if your beautiful lake turned green. If you are interested in seeing how LakeSmart can improve your property, please contact LEA's Cory Dunning at 207-647-8580 or email him at cory@mainelakes.org.

Woods, Trickey, and Moose Pond Survey Updates

The Sebago Lake Region is intrinsically tied to the health and beauty of our lakes and ponds. It is not only logical to involve community members in efforts to protect them, it is also necessary. Watershed surveys are a unique opportunity to assess lake health, as they provide tools for residents living in and around the water to have a hand in keeping our lakes clean.

Residents involved in a survey assess the impacts of erosion on their own properties, and they also spread the knowledge of good shorefront practices to their friends and neighbors. These surveys allow participants to turn a trained eye to their familiar surroundings and provide a new way to view these places.

The survey conducted around Woods Pond is now complete, and the results are being compiled and distributed to landowners in the watershed. As funding becomes available, the Woods Pond Association and LEA will work with interested landowners to fix and improve issues identified during the survey.

In collaboration with the town of Naples and FB Environmental, LEA is participating in an ongoing watershed survey of Trickey Pond. Although

good progress was made during late 2019, early snow delayed completion of the survey. Final walkover surveys were completed this spring and accompanied by shoreline surveys from the water via boat. The results are now being compiled by FB and should be available this fall.

In May, LEA conducted a watershed survey of Moose Pond in collaboration with Moose Pond Association, local volunteers, and the Maine Department of Environmental Protection. This survey focused on problem areas on the steep west side of the pond. Because of health mandates at the time, training for the project was done remotely and surveyors worked in small groups, with ample distancing between individuals. Participants used a custom-designed surveying application for smartphones built by LEA to describe, photograph, and geo-locate sites. In all, 101 sites were identified, and we are now working with the Moose Pond Association to find ways to address the most problematic erosion sources.

A big thank you to the Trickey, Woods, and Moose Pond Associations, the many volunteers who helped on these projects, the Maine DEP for providing staff and expertise, and the Horizon Foundation for providing partial funding of this work.



Kids, Trout, and Water Quality

by Mary Jewett

Each school year, LEA helps 6th graders in our service area raise landlocked salmon or brook trout in the classroom. This school-based hatchery program, supported by Maine Department of Inland Fisheries and Wildlife, is designed to instill a sense of stewardship and conservation in students around the state.

This February, LEA brought trout eggs to tanks at Lake Region Middle School and Harrison Elementary School. The tanks were set up ahead of time and need to be very cold (around 35-39 °F), just like the water in our streams, rivers, and brooks. After about a month, the eggs start to hatch and turn into alevin, or sac fry. Unfortunately, this year, around the time that the trout began hatching, schools had closed because of the coronavirus epidemic, and the fish were left to develop without an audience. Because they still had a yolk sac, the tiny fish were in no danger of starving and it was fine to let them continue to grow on their own. The only problem was that students were missing out on observing a very exciting portion of the trout life cycle.

However, the teachers and I were able to get into the schools and take footage, both video and still photos, of the trout in their egg and alevin stages. We then put together a short video and shared it with the students. The result was an awesome collection of trout art submitted by our 6th grade students. LEA decided to share this “Trout Art Challenge” with our members and received some delightful drawings, paintings, and sculptures from the community.

This program is a wonderful, hands-on experience for our students, and it enables them to help make an important connection to water quality. Unlike bass, trout and salmon are native to Maine and require clear, clean water to survive and reproduce. Because of past over-fishing, deteriorated water quality, and a prevalence of dams, native populations of salmon and brook trout have plummeted in New England and much of the country. However, Maine has remained a stronghold for native brook trout, largely because our streams and lakes are still in good shape.

Often called coldwater fish, salmon and trout like their surroundings to be chilly. Maine’s small, shaded streams and rivers and clear, cool lakes provide ideal habitat for these species. In the summer, these fish take refuge in the shaded pools of our streams and in the deeper waters of our lakes, where the temperature remains cold, even in the heat of the summer. However, as our lakes become warmer on the surface, it is more conducive to algae growth. And, once the algae die, they sink to the bottom and the bacteria that

break them down use the oxygen found in the deeper waters. In summers when algae thrive, oxygen concentrations in the deep waters decline. And sometimes, it gets to the point where the amount of oxygenated, cold water available for landlocked salmon and trout completely disappears. At this point, these species are stressed because they are forced to choose between waters too warm for their metabolism or waters with too little oxygen.

For brook trout that take refuge in gurgling streams, oxygen is not usually the primary concern. The problem they face is a depleted food source due to clearing of vegetation around our brooks, creeks, and rivers that allows the sun to heat up these waters and reduce the inflow of leaf litter, which is the primary food source for the insects these fish eat. Brooks and streams are also highly susceptible to sedimentation and high turbidity (the amount of suspended material in the water) from upstream development or poor erosion control. Sediment in the water clogs the gills of these fish and smothers the habitat where they lay the same eggs we are raising in our classrooms.

For these reasons, trout and salmon are similar to the proverbial canary in the coal mine. If they are in bad shape, our lakes are also suffering. The goal of the classroom trout project is help students make these same connections so that our lakes, rivers, and streams will remain healthy for



Mary Jewett with a landlocked salmon

Highlights from the 2019 Testing Season

Clarity is an important measurement in lakes because it has a huge effect on ecology and water quality. One of the reasons it is significant is because clarity can be an indicator of algae growth. Low clarity readings often correspond with high algae growth. Another measurement, chlorophyll, is a more direct measure of algae concentrations. Clarity and chlorophyll, together with phosphorus—a measure of the limiting nutrient for algae – 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 specific depths. Clarity is measured by lowering a black and white Secchi disk into the water column.

Snowpack was substantial in the 2018 to 2019 winter, leading to saturated

soils and more erosion in the spring, which resulted in poor clarity readings to begin the testing season. Ice-out was relatively late in 2019, which meant that the stratified period was also shorter. This likely added to the lower clarity seen at the beginning of the year. Despite lower than average clarity readings throughout the season, overall water quality in the Lakes Region was very good because both chlorophyll and phosphorus concentrations were below average. More than three quarters of the waterbodies we monitor had lower phosphorus concentrations, and 86% of our 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 phosphorus and chlorophyll to having improving trends, or went from a negative trend to a stable one.



When you are sleeping, we are still collecting data...

Lake Turnover Word Jumble



LAKE TURNOVER

R O T T U



I R S E K



S O K D C



L O V E E V



Now, rearrange the circled letters to find to the answer to the puzzle.

After several months away, his relationship with the lake _____.



2020 Paddle Battle Goes Virtual

Although we love getting together for a fun event and a good cause, this year we made some adjustments to keep the world-renowned Paddle Battle going!

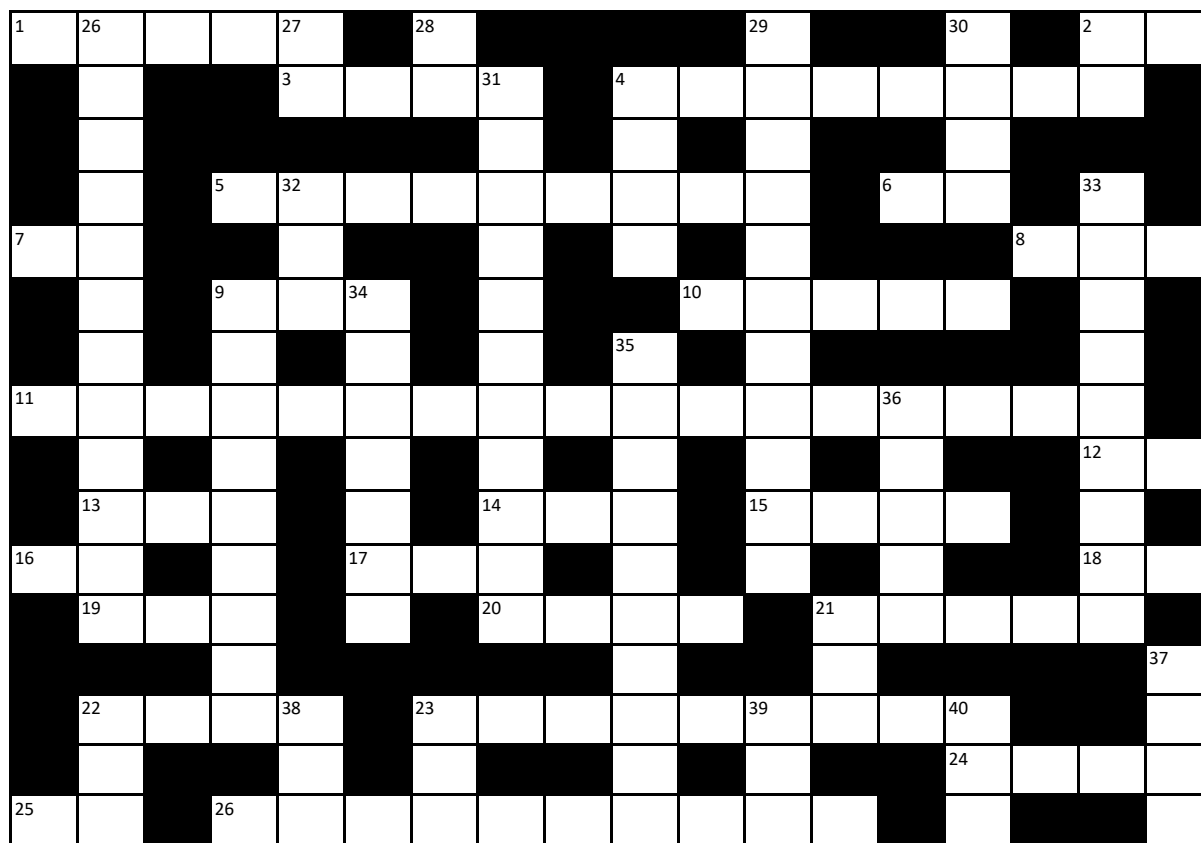
Instead of convening at the lovely Tarry-A-While Resort for a summer morning of friendly competition, we are spreading the event over the entire month of July and have created a course that starts at the Highland Lake public boat launch. As usual, we will have 2 kilometer and 5 kilometer courses set up and a kids' course to boot!

Participants will track their times and send them to LEA. We are also asking everyone to take a photo from the day that we will post with the final results. Registration is \$15 and all proceeds will go toward LEA's work to keep our region's lakes and ponds clean.

You can sign up on our website or email alanna@mainelakes.org for more information. Happy paddling!



Lake Crossword: Lakes and States



Across

1. Relating to birds
2. Home to Flathead Lake and lots of trumpeter swans
3. Layer of material on the forest floor/ beer for Homer Simpson?
4. LEA's first preserve
5. This town in our service area held climate-related talks last winter
6. Land of 10,000 lakes
7. Shasta, Mono, and Tahoe can all be found here
8. Month LEA was founded in 1970
9. Pollinator in decline worldwide
10. Pond in Sweden named after Solomon
11. Coalition of organizations protecting the Sebago watershed
12. Best state
13. East ____ (Munjoy Hill area)
14. ____-native (from away)
15. Plant underside that keeps soil in place
16. New England state with many invasive aquatics
17. There is an ____ number of letters in "Kezar"
18. Worden Pond is the biggest lake in this very small State
19. Propulsion and steering for a fish
20. Droppings of carnivorous animals that aid in tracking
21. Memorial Day is the ____ of the CBI season
- 22 ____ Management Practices (BMPs)
23. The Science Center's just gotten an instrument to analyze these
24. ____ board (1987 and 2018 movie)
25. Home to Lake Ouachita and Hot Springs National Park
26. This can ruin a lake (2 words)

Down

2. Chesapeake Bay State
4. Lab equipment to protect from fumes
9. Endangered Maine turtle
21. Energy supply for photosynthesis
22. We need to raise the ____ of lake protection
23. Business or basketball group (we needed an easy clue!)
26. ____ ____ Milfoil (see photo on this page)
27. There are only 35 lakes in this midwestern state
28. Birds __ a feather...
29. Floating native aquatic plant with sacs
30. Maine's iconic water bird
31. Lakes are clean when their watersheds have plenty of (compound word)
32. Nice to enjoy on the dock after a long day
33. Lakeshore property assesment program
34. Most common way nutrients reach a lake
35. Homeowner's precipitation collector (2 words)
36. These eggs are raised in the classroom and released as fry
37. One way to take water and sediment samples/Center of Earth
38. Trust for Public Land abbrev.
39. LEA's ____-Explores Camp
40. Standard Operating Procedure abbreviated



Answers Online @ mainelakes.org/answers

Photos from 50 years of lake protection



A thousand times no



Top left - Cynthia Baker (in red) lays out LEA's first mural with Peter Lowell, Corinne Martin and Bob Giordano. Top right - local protesters of the 1986 Department of Energy proposal to use the Lake Region as a repository of highly radioactive nuclear waste. Upper middle left - Eleanor Nicholson and Lea the LEA loon. Upper middle right - LEA's first educator, Roberta Hill, with Susan Breau and LEA interns. Lower middle left - past education director, Bridie McGreavy, on the Hey You! Cruise. Lower middle right - long time LEA treasurer and water quality monitor, Ken Forde, taking a clarity reading on Stearns Pond. Bottom left - building the LEA Main Street lake center in the fall 1995. Bottom right - celebrating the opening of the Dolly Holt trail in 1983.

Connect with Us!

There are many ways for you to interact with LEA and keep up on what we are doing as an organization year-round. Watch our summer water testing interns as they work or our educators as they teach the wonders of our watershed by liking us on Facebook and following us on Instagram (@lakesenvironmental). Don't forget to check our website, mainelakes.org, for the latest water testing results on your favorite lake. You will also find our current events calendar, information on invasive plants, news of the Maine Lake Science Center and more! Please don't hesitate to call us at our Main Street office if you have any questions at 207-647-8580.



Make renewing easy!
LEA can now accept
recurring donations
on our website:
mainelakes.org

Looking for a unique way to give to LEA? Stop into your local TD Bank and ask about the Infinity Program. Here's how it works: If you have an existing checking account TD Bank will donate \$10 to LEA. For opening a new checking account TD Bank will donate \$50 to LEA. For a new or existing savings account TD Bank will donate a percentage of the average balance to LEA. This all happens at no cost to you! Simply give them the LEA code: AF307.



Are you an LEA member? Please help us protect our lakes!

You can join LEA with a contribution of any amount. Just mail this form and a donation to LEA, 230 Main Street, Bridgton, ME 04009. You can also join or renew at www.mainelakes.org or in person at our Main Street office.

Name _____
 Winter Address _____
 Summer MAILING Address _____
 Favorite Lake _____
 Year-round Phone _____
 Email _____

I am interested in information on estate planning and planned giving:

Donation Information

<input type="checkbox"/> \$1000 Benefactor	I would like to make an additional donation to the:	<input type="checkbox"/> Anonymous Gift
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<input type="checkbox"/> \$250 Sponsor	<input type="checkbox"/> Maine Lake Science Center \$ _____	
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<input type="checkbox"/> \$50 Individual		
<input type="checkbox"/> \$ _____ Other Amount		
<input type="checkbox"/> Check enclosed	<input type="checkbox"/> Charge my credit card \$ _____	
Credit Card # _____	Expiration Date ____ / ____	
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