



LEA Lake News

Fall/Winter 2023-'24



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LEA Headlines



Colin Holme, Executive Director

Lots of things have been happening at LEA over the past few months, and I am excited to share my take on our work. In August, we completed our first major stream restoration project on Burgess Brook in Naples: the replacement of a severely undersized culvert with a bridge on this stream which drains to the Crooked River. This is a substantial water quality im-

provement project for Burgess Brook, as well as the Crooked River and downstream Sebago Lake. As noted in Lauren's article on page 19, it also re-connects 1.7 miles of habitat for native brook trout. This work opens up an exciting new chapter for LEA, and next year, we are hoping to complete four to five more similar projects. While there are many ecological and water quality benefits of this type of work, it has also introduced LEA to many new partners. And these new connections have made this work financially feasible.

Thanks to a growing cadre of volunteer evaluators, LakeSmart assessments in our area have been taking off. This is wonderful news for everyone who cares about our lakes. The LakeSmart

program is building a community of folks who recognize that individual actions hold the key to clean lakes. The more people involved the better! Check out the summary by Roy Lambert on page 6 to see a list of people who participated in 2023. Thank you to our LakeSmart team and to all the land-owners who had their property evaluated last season.

On the water testing front, we continue to make headway. We are now running phosphorus and chlorophyll samples in-house, thanks to investments in our lab at the Science Center by many supporters and the expertise of our staff. We can now also better categorize and document algal communities, examine algal toxicity, and monitor bacteria concentrations at the Science Center! See Ben's article on page 10 for the full report. I am also happy to report that thanks to funding from a local foundation, we are purchasing new handheld



field meters, our two automated buoys are getting upgrades, we are replacing numerous temperature sensors on buoys across our service area, and we have bought a new weather station to tie it all together.

With lots of rain, high water, and prime conditions for aquatic plant growth, it was a tough year to combat milfoil. See Michael's article on page 12 for the full rundown. That said, we had a great dive team, and we left Long Lake, Brandy Pond, and our worksites in Sebago Lake in good shape. With a significant flow in the Songo River for most of the summer, we will have some ground to make up next year, but we have lots of experience in this waterway, and I am confident we can get milfoil back under control and once again largely out of this river next summer. The boating channel was our main focus in Sebago Cove in 2023.

Making sure this busy navigational channel is not the source of new milfoil infestations in and outside the cove will be a priority again in 2024.

Our school-based environmental education, professional trainings, and camps and courses continue to reach new audiences every year. In 2023, we offered nine accredited continuing education classes for contractors, real estate agents, and foresters, which were attended by 175 professionals. We taught an immersive 3-day lake ecology course for high school students, held our Eco-Explorers summer camp for 7-11-year-olds, and hosted a Maine Environmental Science course at our Science Center. Mary continues to lead our 6th grade Living Connections program in the surrounding schools, and we will be restarting

our 5th grade programming in the new year. This rewarding work helps to ensure future generations understand how important and connected our lakes and watersheds are to our health, happiness, and the local economy.

All of these efforts are sustained through the financial support of our members. Over the years, I have gotten to know many of you, and it has been a pleasure to be a part of the LEA team and hear praise for our work from the community. **We got this far because of your generosity.** However, I have another favor to ask of you. Please share this newsletter with your neighbor, a renter, or a friend. If more people know about our work and mission, we can go further together.

Colin





Message from our Board President

This autumn, the lake levels stayed unusually high prior to being drawn down for the winter. Not only was it a very rainy summer, but the intensity of the downpours was unprecedented. The resultant rush of water from saturated land and overflowing streams carried particles containing phosphorus into our lakes as the water eroded soil and sand.

Four or five years ago, I was exploring the My Lake section of our website, and I happened to notice that there was a marked erosion site at the entrance to my community's beach. We had always had a problem with gullies forming in the sand after heavy rain, but no one thought we could do anything about it. We just lived with it. Once I realized that it was impacting the health of our lake, I scheduled a Clean Lake Check-up with LEA's land use specialist. He recommended planting certain native plants that are especially good at controlling erosion and some erosion control mulch to surround them until they filled in. I subsequently attended our Woodland Owner Appreciation Day and learned about a \$500 grant available to fix erosion sites in the Sebago Lake watershed. I applied for and received a grant for our community, which we used toward implementing the recommendations I had received. The improvement in the erosion situation was immediate and has gotten better every year as the plants have grown in. This summer, many of my neighbors remarked on how happy they are that we went forward with the project in 2019. Without it, our beach would have been devastated this summer. Thank you, LEA!

I'd like to take a moment to acknowledge and thank LEA's hard-working Board of Directors. This dedicated group of volunteers plays an important role in keeping the organization on track, both fiscally and in adherence to our mission. They bring a diversity of skills and work together year-round to provide advice and support to our Executive Director, Colin. We typically have one or more seats available on our board each year as directors complete their

terms. If you are interested in learning more about board service, please contact Colin or reach out to any of our directors. You can find information on the current board on our website under the *About LEA* tab.

My final and most important thank you is to you, our members. Thank you for caring about our lakes. Thank you for attending our events and educating yourselves about best practices for lake health. Thank you for supporting us and spreading the word to others. As the season of charitable giving approaches, I hope you will keep LEA at the top of your list. The increasing intensity of storms due to climate change is compelling us to take on more erosion control work throughout the region. The threat of aquatic invasive species continues to grow as infestations of spiny water flea and zebra mussels pop up closer and closer to our area. The need for our services has never been greater.

With gratitude,
Lydia Landesberg
President, LEA Board of Directors



LEA In (and Outside) the Schools

Mary Jewett

We sometimes luck out and have great conditions for fall outdoor classes and field trips. This past September and October brought beautiful weather, perfect for instilling a sense of adventure while taking the students outside to learn about their surroundings.

In late September, we began with field trips to Pondicherry Park in Bridgton. The park is notoriously full of different invasive terrestrial plants. While LEA usually doesn't focus on the land plants, the 6th and 7th graders in our service area do. As part of their natural selection and adaptation unit, students learn about how a species can become invasive and why and how these specific plants and animals can cause problems. On the field trip, students learn to identify the different invasive plants in the park, and once they know what to look for, they are encouraged to remove the plant. To say the kids get into this part of the activity is an understatement. Students who may usually be a little "too cool for school" will take the removal of these invasives as a personal mission. We often end up with several contractor trash bags full of bittersweet, burning bush, black swallowwort, and barberry (the last one making it necessary for kids to wear thick gloves).

Field trips aren't the only activities LEA educators do in the fall. We are also teaching students about the water cycle, benthic macroinvertebrates (water bugs), and what a watershed is. As the kids in our community grow up, the lessons from LEA become more complex. They will see us from elementary school through middle school, as well as some programming in the high school. "LEA days" are definitely a favorite for many of the students in our service area.



Harrison 6th grader Maggie Hudson removing bittersweet from Pondicherry Park



Lake Region 6th graders exploring their schoolyard



A Record Year for LakeSmart!

LakeSmart is a program that educates landowners about best practices to protect the lakes they live on. The goal is to reduce or eliminate erosion and stormwater runoff because they carry pollutants, including phosphorus. Properties which are particularly lake-friendly receive a LakeSmart award, with accompanying signs for display. Regardless of award status, LEA is very appreciative of all the landowners who participate in the process, as these folks are taking an important step forward in lake protection. Thanks to a dedicated group of volunteers, we have had a record number of evaluations and awards in 2023. Below is a list of participants who received commendations and awards for the season. Individuals or families in bold received awards in 2023.

This program relies on a devoted team of volunteer evaluators, including Chris Brink, Larry Clark, Emlyn Emerock, Bill Dexter, Dave Durrenberger, Ginger Eaton, Doss Hasson, Roy Lambert, Peter LaPolice, Lauren Pickford, Cheryl Robertson, Kevin Ronan, Kevin Rooney, Elizabeth Stockwood, BJ Warner, and Martina Witts.

LEA serves as the regional sponsor and administrative hub for the statewide LakeSmart program. To get involved in 2024, please email lauren@mainelakes.org.

Roy Lambert

Geoffrey and Judy Jones (Sand Pond)
James and Rachel Ash (Hancock Pond)
Robert Bickford (Moose Pond)
Jason and Christine Chasse (Moose Pond)
Laurence and Kathryn Clark (Hancock Pond)
Andy and Cathryn English (Hancock Pond)
John and Wendy Furey (Woods Pond)
Glen Gerrish (Sand Pond)
Jim Gilchrist and Maria DelBaccaro (Moose Pond)
Daniel Goldberg (Long Lake)
Elizabeth Hutchinson (Woods Pond)
Gitte and Rick Irving (Highland Lake)
Margot Kingston (Woods Pond)
Roy Lambert and Mary Maxwell (Woods Pond)
Stacy Lamson (Moose Pond)
Peter LaPolice (Moose Pond)
Michael McLeod (Moose Pond)
Jeffrey Mendel (Long Lake)
Mary and John Morganti (Hancock Pond)
Irish Meusel (Hancock Pond)
Joseph Nagy and Myung-Hee Hur (Hancock Pond)
Melissa and John Nairn (Hancock Pond)
Ben and Tim Peierls (Sand Pond)
George and Karena Poonen (Sand Pond)
PJ and Pam Ricatto (Moose Pond)
Bruce and Sharon Riedell (Long Lake)
Cheryl Robertson (Long Lake)
David and Jeannine Rogers (Hancock Pond)
Rick and Chris Siegrist (Moose Pond)
Nancy Lubin and John Sopko (Long Lake)
Alan and Julie Whitaker (Woods Pond)
Hio Ridge Shores Association (Moose Pond)
The Narrows Lot Owners' Association (Moose Pond)



Judy and Geoff Jones of Sand Pond

Trainings for Contractors at the MLSC

Thursday, March 7

Basic & Advanced Erosion & Sedimentation Control (8 hours)

This course is required to become a Contractor Certified in Erosion and Sedimentation Control Practices by the Maine DEP. Participants will learn why erosion control practices are important, how to properly install and maintain erosion and sedimentation control best management practices, and learn about regulations that help protect water quality.

Thursday, March 21

Stream Crossing Installation Practices for Water Quality (4 hours)

Maine has approximately 45,000 miles of rivers and streams, many of which intersect with the 30,000 miles of roads throughout the state. Participants will be exposed to aspects of stream crossing design, requirements for aquatic organism passage, regulations related to new and replacement stream crossings, as well as tools and techniques for the installation of crossings that minimize the impact of construction activities on the stream and water quality.

Thursday, April 11

Shoreline Stabilization Practices for Inland Waters (4 hours)

In this class, participants will be exposed to the factors leading to shoreline erosion, how land use and behavior affect shorelines, state permitting standards related to shoreline stabilization, the importance of vegetation and other natural processes in stabilization of shorelines, and how to minimize impacts to the water on shoreline projects.

All classes qualify for Continuing Education Hours (CEH) for individuals certified in erosion control practices by Maine Department of Environmental Protection and are led by John MacLaine, Non-point Source Training Center Coordinator.

You can find a list of certified contractors at <https://www.maine.gov/dep/land/training/ccec.html>.

If you have questions about any of these trainings, please contact Alyson at alyson@mainelakes.org or check out our website: www.mainelakes.org.



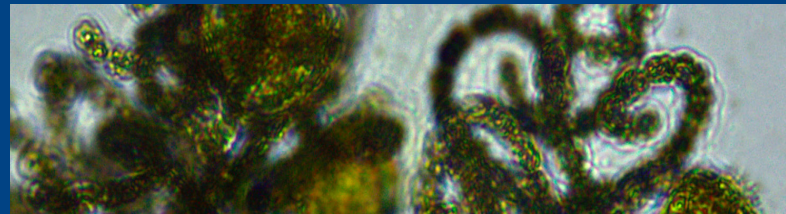
Photo credit: Linda Hall

Highland Lake Bloom

Ben Peierls

To a gardener, the word “bloom” conjures images of flowers and harvests yet to come. To a limnologist, on the other hand, a “bloom” can mean trouble....

A warm and dry early September brought relief from our area’s unseasonable summer weather pattern this year. Unfortunately, it also brought an excess (or bloom) of one of our resident lake dwellers. Vigilant lake observers noticed a green scum forming in isolated spots along the Highland Lake shore and promptly alerted LEA staff. Maggie microscopically examined collected samples and concluded that the bloom was dominated by a filamentous cyanobacteria known as *Dolichospermum*.



Dolichospermum is a genus of cyanobacteria (a kind of bacteria that lives and grows like algae) commonly found in our area lake water. But we don’t usually see it grow enough to form surface scums. Recent rains followed by above-normal temperatures likely created perfect growing conditions for the cyanobacteria. Fortunately, the bloom was only temporary and dissipated within a few days. The bloom had no impact on overall lake water clarity, which was the same before and after the bloom. We also tested the sample for microcystin, a cyanotoxin known to be produced by this genus, and found no evidence that the toxin was present.

Even though this ephemeral bloom had no microcystin present, it is good practice to stay out of (and keep pets away from) the water if you see a green scum on a lake. And please contact Maggie or Ben at LEA if you see anything like this on your lake in the future. Thanks to Linda Hall and the Welbourn family for noticing and reporting this event.

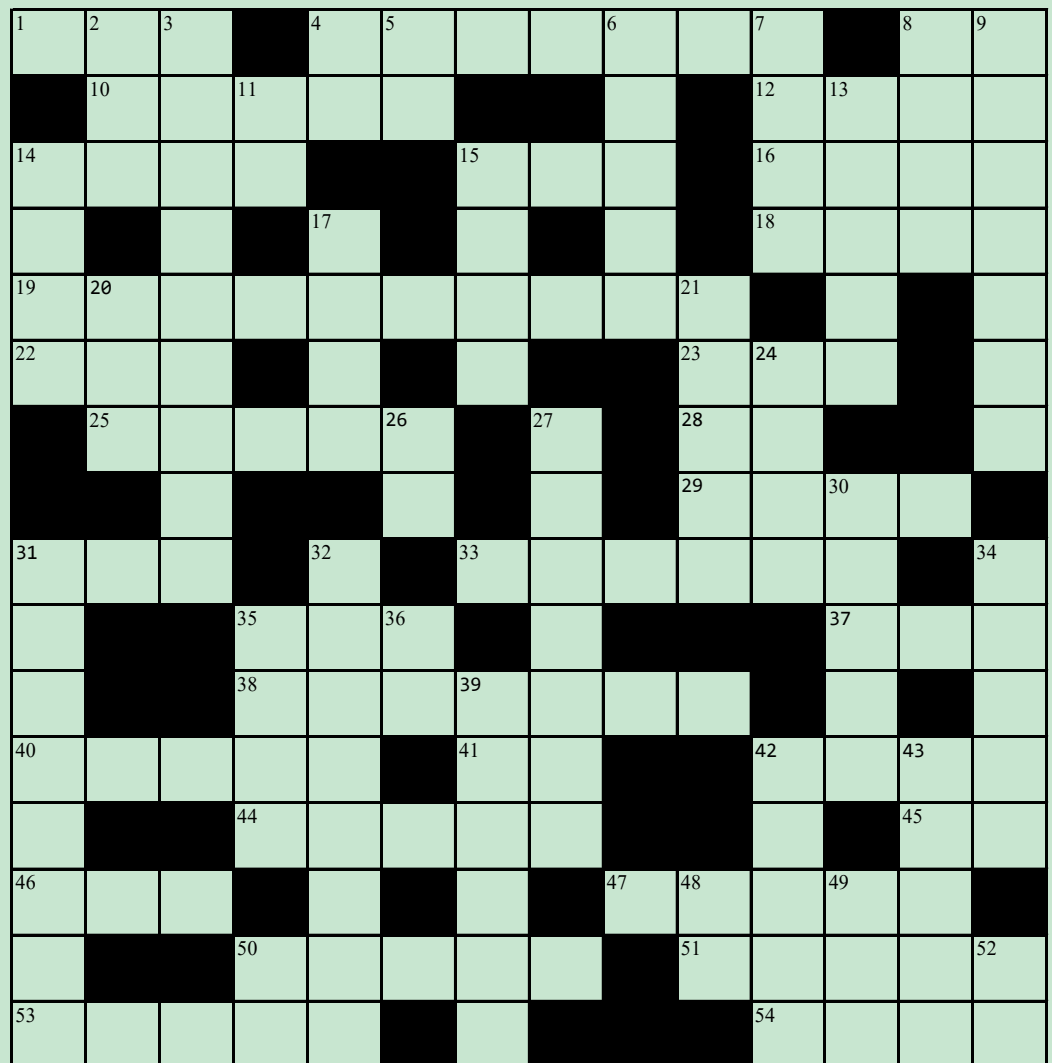
Crossword Puzzle

Across

1. Lakes Legacy League
4. Prismatic effect during a sprinkle
8. Local prep school
10. Sea duck, used in pillows
12. Curve-billed shorebird
14. Short for camouflage
15. Fish life stage or salty treat
16. Take a ____ trail and end where you started
18. Diver Assisted Suction Harvester
19. Nutrient that causes algae blooms
22. Freshwater or electric
23. Well-hydrated organic soil
25. Not South
28. Arkansas
29. Tear or burn down
31. For the lock
33. Paddle _____
35. Removal of this helps fish passage
37. Stinky wetland
38. Pink flowers found in 37 across
40. Warning for shoreland zoning violation
41. Not off
42. No ____ zone
44. _____ batter batter
45. Anno Domini
46. Water below 32°
47. Data in a ledger
50. Canada, Barnacle, Pink-legged, Wild
51. Where loons go in winter
53. Excess of water (like all of this summer)
54. Vigorous walk

Down

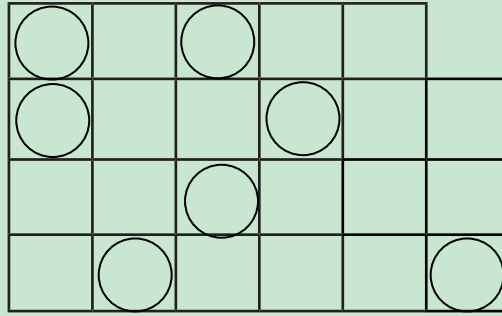
2. Your favorite non-profit
3. Study of lakes
4. "Regarding" in email



5. Augmented Reality
6. Milfoil-infested area in the Songo River or swamp in Louisiana
7. Help pollinators, keep your lawn _____
8. Peoples' description
9. Pavement
11. Dissolved Oxygen
13. ____ of Directors
14. ____ Monday, location of milfoil in Long Lake
15. Not a toad
17. To locate or a location
20. Lady chicken
21. Be Lake _____
24. Russian mountain range
26. Greeting or Hawaii
27. Type of bog
30. Invasive mussel
31. Bandana
32. Not softwood, ie. maple, oak
34. Stared lasciviously
35. Female deer
36. Master of Ceremonies
39. Truthful
42. Timekeeper
43. Tandem or single, great for paddling
48. Should we bathe with soap in the lake?
49. Adventure gear company
50. Not stay
52. Previously named or type of inert gas

Lake Turnover Jumble

L A Q U I
S E F R O T
Y I N A R
F R F B U E



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

ALL THIS RAIN IS GOOD FOR THE:

--	--	--	--	--	--	--



Visit www.minelakes.org for game solution

Remembrances

Stan Cohen

1929-2023

Many may remember Stan Cohen from his regular column in the *Bridgton News* on the ins-and-outs of Medicare, but he also served on LEA's board and as Board President. As a former marina owner, business manager, and director of financial operations at Bridgton Academy, he brought a wide range of experiences to the organization. Stan was willing to work on any project to move LEA forward and always brought a smile and the right set of tools to the job.



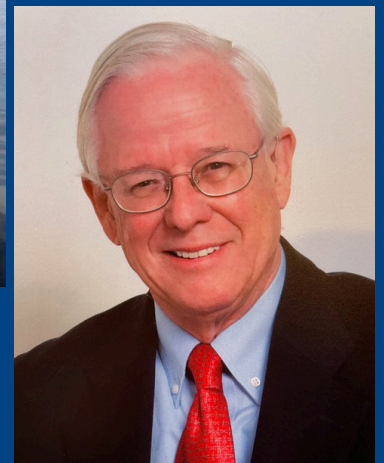
Stan (left) with former LEA executive director Peter Lowell

Peter Leslie

1936-2023

Peter Leslie was not only a former board member and longtime LEA supporter, he was an avid paddler, sailor, and rower. His comprehensive career, thirst for knowledge, and commitment to public service were extraordinary -- but it was his careful listening, candid advice, and appreciation for his surroundings that truly set him apart.

In loving memory of our warm, kind, energetic, and thoughtful neighbor Peter Leslie, who gave so much to so many for so many years. From all his friends at McWain Shores.



Notes from the Bench

Ben Peierls

This summer, things got busier and a little more crowded at the Science Center lab — but in a good way. Since 1973, LEA's traditional water testing program has operated out of our Main Street building in Bridgton. In May, however, we moved this long-standing program over to join the rest of our water monitoring initiatives at the Science Center. Interns Rachel and Annie used the main laboratory space for gear storage and to process samples from all 41 lakes we monitor. This meant rubbing elbows a bit as we got used to sharing space.

Fortunately (and thanks to a generous donation from a local family), we recently upgraded our facility and added

more laboratory space to make room for our newer instruments and initiatives. As part of this renovation, we had the electrical system upgraded, cabinetry installed, and a new soapstone lab bench put in. This fall, we plan to complete the upgrade by building a workbench with storage for field gear and tools just inside the lab entrance.

Another big change at the Science Center was the analysis of all our phosphorus and chlorophyll samples in-house for the first time. Close to 400 regular phosphorus samples, plus several tests and repeat runs, kept our autoanalyzer and staff quite busy! Over 250 samples were collected and analyzed for chlorophyll-*a* as well. In addition, Maggie

spent time running samples through our FlowCam instrument to better characterize and understand seasonal changes in lake algae and cyanobacteria. We also ran several *E. coli* tests on stream samples, and we used our new algal toxin test strips and reader on water samples collected from a small algal bloom observed this summer (see Bloom article).

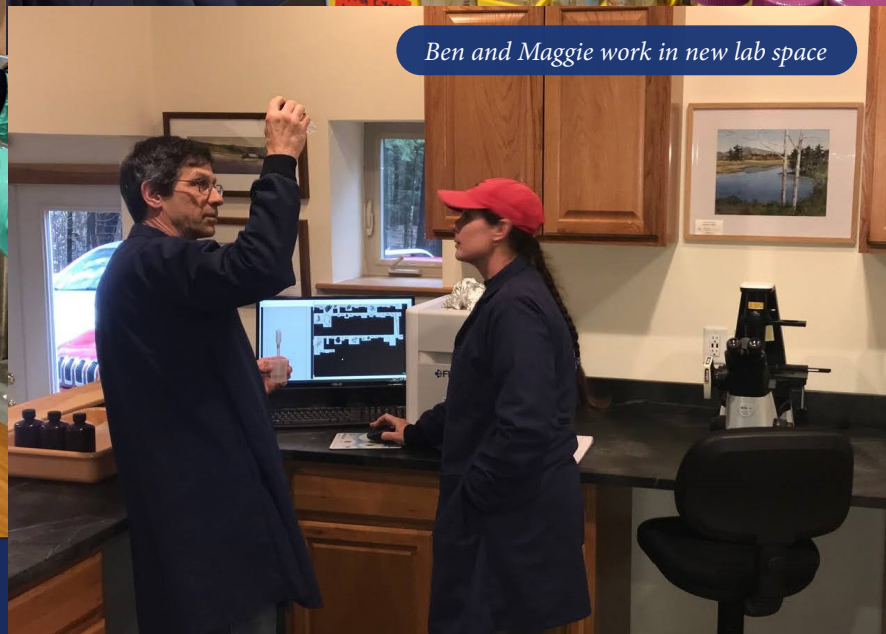
All in all, it was a very productive season at the Science Center. For the remaining part of the year we will be catching up on other projects, analyzing data, and putting together our annual water monitoring summaries. Next thing you know, winter lake monitoring will be upon us!



Rachel Harper and Annie O'Connor in the MLSC lab



Ben with phosphorus samples



Ben and Maggie work in new lab space

Your Legacy; Your Bequest

Charlie Tarbell - LEA Treasurer



When we started LEA's Lake Legacy League, I talked about how my father and grandfather shared the beauty and magic of Keoka Lake with me and how I wanted to pass on a similar experience to my grandchildren. I argued that preserving the legacy of your family on your lake as you experience it today, and not spoiled by invasive plants, stormwater runoff, unmanaged development or other threats, is worthy of a bequest.

But I have also come to realize that, despite all the water quality threats of today, the health of our lakes is actually better than it was in my grandfather's day. The 1950s and 1960s had seen rapid and unmanaged development on and around Maine lakes, and the result was a surge in runoff and septic effluent, which caused nutrient overloading. This, in turn, led to frequent summer algae blooms. Unfortunately, there were numerous, unintended consequences during this time period that damaged our lakes.

Then, LEA was founded in 1970, and many other individual lake associations followed soon after. These nascent groups organized to determine the causes of water quality degradation and to find ways to correct these problems. Over the course of the intervening fifty-plus years, the water quality of our lakes has actually **improved** from my grandfather's days. I assume, like me, you'd like to see that improvement sustained.

One key way that you can ensure that our lakes remain clean and clear is by joining me in the Lake Legacy League. Let's not only honor the legacies of our parents and grandparents on the lake, but also leave something pristine and priceless to our children and grandchildren.

Please consult with your financial advisor or contact me or Colin Holme if you would like to discuss LEA's Lake Legacy League further.





Colin (Murphy) and Stephanie giving the okay to dive

Milfoil Update

Michael Flannery

You never know what to expect going into a summer on the water in Maine. Our crew, consisting of seven returning and 11 first-year employees, took all the rain, high water, engine trouble, logistical problems, and underwater scares from snapping turtles in stride. Even with all these hurdles, the crew pushed through, even opting to work in the rain, when possible, to battle the milfoil infestations in the watershed.

Since 2005, LEA has been removing milfoil from the Songo River, making significant progress in combatting the infestation. However, this summer presented a unique challenge for our crew. The typically slow-moving and crystal-clear Songo River experienced prolonged flooding and fast-flowing water due to exceptionally high rainfall in the region. These conditions vastly diminished underwater visibility, making it difficult to spot milfoil. Additionally, many of the benthic barriers laid in the previous year were buried by sediment from flooding, requiring significant time and effort to retrieve them from the riverbed. The heightened water levels in Long Lake and Brandy Pond, caused by the heavy rain, led to the closure of the Songo Lock at the state park for extended periods. This was necessary to release excess water out of Brandy Pond and reduce flooding. However, the closure further complicated our work. High water flow in the channel limited our diving activities in

certain coves throughout the summer. Despite these challenges, we managed to remove 210 bags of milfoil and lay 12 benthic barriers in the Songo River.

One of our crews focused on various areas of Sebago Lake, including returning to the Northwest River, to maintain the progress made over the past three summers. They spent one and a half months harvesting regrowth to prevent new patches from establishing themselves, removing a total of 77 bags of milfoil. The crew also conducted surveys and removal efforts at Long Beach Marina on Frye Island, a milfoil hotspot, resulting in the removal of 35 bags of milfoil. Additionally, they worked briefly in Kettle Cove and near Migis Lodge, removing several bags from sporadic growth in those areas.

Sebago Cove remains a significant challenge: the shallow, 185-acre area has organic sediments which provides an ideal environment for milfoil growth. We concentrated our efforts on the southern end of the cove, particularly in the busy channel, to prevent milfoil from being cut by boat propellers and spread further. Despite our early season efforts, we spent the Tuesday after the 4th of July collecting four bags of milfoil fragments that had drifted under the bridge and into Sebago Lake. In total, we removed 225 bags of milfoil and deployed 23 benthic barriers. We remind boaters to check their propellers when leaving Sebago Cove, remove any plants, and dispose of them in the trash.

Long Lake primarily required surveying and hand-pulling of individual plants to keep milfoil in check. Though time-consuming, this approach has been effective. A surprising discovery this year was a large milfoil patch in Cape Monday Cove, first found during a mid-June survey. Unfortunately, the closure of the lock delayed our response until July 24th. Our harvesting boats and our barge, which we use to deploy benthic barriers, were docked by Sebago Lake State Park and were unable to make the trip up to Cape Monday Cove until the lock reopened. We laid 15 benthic barriers on the patch and continued harvesting and hand-pulling around its edges. Our crew monitored the area until milfoil was no longer detectable, removing a total of 20 bags and installing 16 barriers in Long Lake and Brandy Pond.

We extend our heartfelt thanks to everyone who reported suspicious plant sightings, volunteered their time, or contributed financially to the milfoil program. Our community's support is essential to our mission's success. We would like to express special gratitude to Drew and Dottie Betts, Four Seasons Campground, Julia Stokes, Sebago Cove Estates, Joe and Lyn Borst, and Steve Girardin for generously providing docking space, enabling efficient work at our sites. Another special thanks to Naples Marina for aiding in boat repairs and overwintering our boats.

No-Go Zones - Surface Use Restrictions

Michael Flannery

Surface use restrictions have been employed as a tactic to slow the spread of the invasive variable leaf milfoil in multiple areas around Maine. These restricted zones, established by state agencies, prohibit motorized boat traffic within designated areas. They are clearly marked by buoys and, in some instances, lead to the temporary closure of public boat launches.

In 2012, the state legislature enacted a statute allowing surface use restrictions in emergency situations characterized by unchecked aquatic plant infestations. Milfoil and many other aquatic invaders are primarily spread through fragmentation caused by boat propellers. Thus, infestations in high boat traffic areas pose a significant risk to other areas within the same lake and to entirely different bodies of water if a boat launch is nearby.

The Maine Department of Environmental Protection and the Maine Department of Inland Fisheries and Wildlife have utilized these restrictions to curtail the spread of invasive aquatics on numerous occasions. It's important to note that these closures are mandated to have defined start and end dates, but in some cases, they may span an entire summer or longer, temporarily preventing access to popular boating and fishing spots.

Although there was discussion around closing the Songo Lock to prevent milfoil from moving upstream about a decade ago, restrictions like these have not been used yet in the Lake Region. But with additional, more severe infestations popping up in new areas each year, these drastic actions are not out of the question. This year, there were four active surface use restrictions in Maine: Androscoggin Lake, Annabessacook Lake, Cobbosseecontee Lake, and Great Meadow Stream, each of which had portions closed to boating for part or all of the past summer.

Our milfoil crew works diligently each season, knocking back known patches of invasive milfoil and searching for new infestations. While surface restrictions in the Lake Region have been debated in the past, the work of the LEA milfoil crew has enabled areas to remain open.

Most of the areas with milfoil infestations in our service area are marked with yellow milfoil buoys. While these areas are not closed off, it is recommended that you steer clear to avoid further spreading of the plants and allow the milfoil crews to work. Remove all plants and dispose of them in the trash. Our milfoil crews frequently have divers underwater removing plants.

Please allow for plenty of space between your boat and the milfoil crew when passing by. Please check your propeller if you must drive through an infested area. Continued financial support and cooperation from the public for our milfoil control work is the best way to avoid the need for any surface use restrictions in the Lake Region.

Samantha and Amanda working the trough



Alec harvesting in the Songo River



Update on Courtesy Boat Inspections

Mary Jewett

2023 was an interesting boating season! All those heavy rains this summer impacted our lakes and everyone who enjoys using them. The increased runoff and erosion certainly affected water quality (see article page 17), and the high water levels continually inundated many fixed-position docks in our area.

From an invasive aquatic species perspective, it was a mixed year. With elevated phosphorus levels due to runoff, existing invasive plant infestations thrived and previously treated areas (unfortunately) jumped back to life. While aquatic plants did well this summer, all the rain reduced the number of folks boating this past summer. Boat inspections were down in the LEA service area by 18% versus last summer. With 42 infested lakes in Maine and countless in our neighbor-

ing states, the decrease in boat traffic translates to a reduced risk of new invasives species being introduced to our area. Less boating also reduces the risk of fragmentation and the further spread of milfoil within the waterbodies in our area that already have this invader. Statewide, the decrease in inspections was around 12%, with a total of 72,325 reported across Maine.

A big factor contributing to lower inspections by LEA employees was the frequent closure of the Songo Lock. The Songo River has long been the busiest waterway in our service area, with boaters cruising from Long Lake and Brandy Pond down to Sebago Lake. Unfortunately, milfoil is in this chain of waterbodies, so inspectors who check props and educate boaters at the lock are particularly important. This summer, the Songo Lock was

closed several times due to high flow and high water levels, which prevented any inspections from occurring during these periods. The frequent and prolonged closures also made work difficult for our plant control crew, who travel through the lock to access different work sites.

However, we did still have some lovely days for boating and that led to a few fragments of invasive variable leaf milfoil coming out of Sebago Lake on trailers, but they were caught by our diligent courtesy boat inspectors. Jim Howard of Otisfield and Katie and Ben Peterson of Bridgton made some great saves this season at the State Park, removing plants from boats before they traveled to a new waterbody.

Thank you to all our inspectors and to the conscientious boaters who clean, drain, and dry their boats between lakes.

Ben and Katie Peterson with milfoil found at Sebago Lake State Park



Fostering Conservation at Bicentennial Park

Lauren Pickford

This summer, LEA teamed up with a group of campers from Circle Camp in Sweden to work on a conservation project at Denmark Bicentennial Park's waterfront. Our goal is to protect the waters of Moose Pond from soil erosion by boosting the natural plant buffer that keeps it healthy. We rolled up our sleeves and put in some hard work on one of the hottest days this summer. Together, we installed infiltration steps and created a native plant garden.

But here's the coolest part: the young campers from Circle Camp. These kids are the real heroes. They worked hard, even in the blazing summer heat, showing us all what it means to care about our community and our environment. Their efforts have made

Denmark Bicentennial Park even more special.

The team installed a set of 10 infiltration steps where there was once an eroded dirt pathway leading directly to the water. We also planted over 30 native plant species, including blueberry, juniper, native honeysuckle, milkweed, and lots of wildflowers. We spread a few yards of erosion control mulch, donated by the town of Denmark, and crushed stone on the pathways.

This project is a testament to the power of collaboration and community spirit. When individuals, organizations, and towns come together with a shared vision, we can make a tangible difference in preserving the lakes. We hope

that it will not only protect the waters of Moose Pond but also inspire others to be good stewards of their own waterfront.

So, next time you're in Denmark, head to Bicentennial Park, have a seat on that Lions Club bench, and take in the natural beauty of Moose Pond. You'll be surrounded by blueberry bushes, native milkweed, and wildflowers in the native plant garden. We hope it will inspire you to take on a native plant buffer project on your own property!

Thank you to the Circle Camp volunteers, the Lions Club for donating a bench that overlooks the garden, Jim Kelley for his time and expertise, and the town of Denmark for providing materials and support to make this cool project happen.



Circle Campers and volunteers sitting on the completed infiltration steps



LEA's Sixth Paddle Battle Fundraiser Biggest Yet

Alyson Smith

"Stand up for Maine Lakes!" has been the official call of LEA's Paddle Battle since its inception in 2017. This exciting race has brought paddlers of all abilities from near and far to Highland Lake's Tarry-A-While Resort on the first Saturday in July to benefit the education and lake protection programs of LEA. What started with competitors on stand-up paddleboards expanded to include kayakers into the mix in 2022. Another popular feature of the event is the "grom" race in the cove, which is free and open to kids.

The annual Paddle Battle has categories for men and women, ages 15-35, 36-55, and 56+ for a 2K paddleboard race, a 5K paddleboard race, and a 5K kayak race. This year, there were 71 paddlers and the event raised over \$6000! 2023 medalists:

Category	1st place	2nd place	3rd place
W 2K (15-35)	Hailey Beyer	Cydney Cheh	Taylor Roberge
W 2K (36-55)	Tracy Devine	Allison Linley	Edie Mead
W 2K (56+)	Alyson Smith	Turtle Ala	Susan Roemer
W 5K (15-35)			
W 5K (36-55)	Kelly Rockwell	Jessica Reid	Alexis Miranda
W5K (56+)	Lisa Jones		
W kayak (15-35)	Thea Willner		
W kayak (36-55)	Jennifer Beaulieu	Kim Spang	Amy Markovich
W kayak (56+)	Pamela Melroy		
M 2K (15-35)	Michael Flannery	John Flynn	Gregory Roemer
M 2K (36-55)	Dave Clough	Simon Bell	Nick Elias
M 2K (56+)	Tim Clark	Ben Peierls	Brook Sulloway
M 5K (15-35)	Mike Behrendt	Evan Connors	Jake Pleadwell
M 5K (36-55)	Jacob Linley	Michael Valenzuela	Jon McGonagle
M 5K (56+)	Pete Colella	Sloan Harris	Rob Cartmell
M kayak (15-35)	Nikolai Markovich	Cyrus Beyer	
M kayak (36-55)	Ryan Hollett	Christopher Terry	Brian Willner
M kayak (56+)	Daniel Benson	Doug Hollett	Bob Mallon

Kudos to Brook Sulloway, who has participated and medaled every year of the race!

It is the local businesses who generously donate goods and services for silent auctions, raffle prizes, and the event venue that make this event so successful. LEA is very grateful for our volunteers and long-time sponsors: Henry's Concrete, Tarry-A-While Resort, Lake Region Paddle, Pleasant View Too, Dyer Excavation, Pleasant Mountain, Hayes Ace Hardware, Bridgton Books, Freeport Patagonia, and United Ambulance Service. We hope to see you next year!



The Effects of Rain and Storms on Water Quality

Maggie Welch

The summer of 2023 was quite wet in the Lake Region. In fact, according to the National Weather Service, in August 2023, 8.58 inches of rain fell, making it the wettest August on record. For the time period between June 1 and August 31, 2023 21.34 inches of rain fell, making this past summer the second wettest summer on record. The wettest summer on record was 2009, which yielded 0.43 inches more precipitation than this past year. It's fair to say that this summer was unusually wet.

Unusual weather patterns are a reality in our changing climate. The first step toward understanding the complex relationship between weather events and water quality is documenting water quality indicators before, during, and after unusual weather patterns. One helpful indicator is water clarity. This summer, heavy rains and flooding brought an influx of sediment, debris, and tannins into our streams and lakes via runoff. Not surprisingly, water clarity was lower than typical in many lakes in LEA's service area. What does lower clarity mean for overall lake water quality? While finding connections between weather events and water quality usually requires lots of data and statistical analysis, frequent and heavy precipitation is known to be correlated with lower water clarity. Conversely, periods of low precipitation and drought are often correlated with higher water clarity. Thus, this year's lower water clarity readings were expected.

Another important metric we monitor is phosphorus, and the levels of this nutrient were a little higher than average in many of our lakes. Levels of chlorophyll, which relate to algae concentrations, however, were generally a

little lower than we have seen in the recent past. Higher phosphorus levels were unsurprising, given the amount of particles and debris that entered waterbodies via runoff this summer. However, much of this nutrient may not have been biologically available, as we did not see a corresponding increase in algae growth as indicated by chlorophyll concentrations.

Lakes are dynamic ecosystems that can be susceptible to the impacts of unusual weather patterns. Unfortunately, mitigating negative side effects from severe weather is, at best, difficult. Still, we can employ best practices in watershed and lakeside property management before the unexpected happens. By doing so, we can ensure lakes are as healthy as possible so that when uncontrollable events do flush excessive nutrients into our waters, these systems are healthy enough to take care of themselves.

Rachel Davis taking a water clarity reading this past summer



Celebrating Our Forest Stewards

Lauren Pickford



In the Jugtown Forest this past September, we hosted our fifth Woodland Owner Appreciation Day. It was a day dedicated to the landowners who serve as stewards of the forests that act as filters for our waters. The event brought together the community of forest enthusiasts, resource professionals, and nature advocates.

Educational walks and talks were the heart of the event, offering attendees a deeper understanding of the connection between forests and water protection. Foresters Paul Larrivee and Jesse Duplin led a walk through the area that experienced a wildfire in 2022, and they explained its connection to managing for pitch pine. Colin Holme and Lauren Pickford from LEA led a walk to the recent stream restoration project on Burgess Brook. The project replaced an undersized and damaged culvert with an open-bottom bridge

ready to handle trout spawning season, logging trucks, and 100-year floods.

Maine Audubon's Sally Stockwell and LEA's Mary Jewett led a walk on Forestry for Maine Wildlife. They showed the positive impact that certain harvesting practices can have on habitat for birds and wildlife. The group learned the importance of leaving the slash (the tree debris on the forest floor) after harvesting to provide habitat for small mammals and birds that support the ecosystem.

highlights the role landowners can play in mitigating climate change.

Attendees enjoyed a free lunch and beer brewed with Sebago Lake water (generously donated by Rising Tide Brewing Company).

In the end, Woodland Owner Appreciation Day served as a powerful reminder that the protection of our forests and water resources is a collective effort, with landowners at its core. Over 90% of Maine's land is privately-owned, and by keeping those acres forested we can keep our waters clean.



The history of Jugtown Plains came to life in a presentation led by Lee Dassler from the Western Foothills Land Trust. Jugtown Road is one of the oldest roads in the region, and the talk highlighted the long-standing connection between humans and the land. John Gunn from The Nature Conservancy introduced attendees to the Family Forest Carbon Program. This program

The day wouldn't be possible without many partners, including Hancock Land Company, and partner organizations, including Sebago Clean Waters and Portland Water District. Woodland Owner Appreciation Day is also partially funded by a grant from Casco Bay Estuary Partnership.

The Jugtown Forest is owned by Hancock Land Company but open to the public for responsible recreation. It includes over 5000 acres of working forestland under permanent conservation easement in the towns of Naples, Casco, and Otisfield.

Reeling in Success on Burgess Brook

Lauren Pickford

With the help of many partners last August, LEA completed a stream restoration project on Burgess Brook in the Jugtown Forest, opening up more than 1.7 miles of stream habitat for native coldwater fish.

Jugtown Forest is owned by Hancock Land Company, a key partner in the project, and consists of 5,000 acres of privately-owned working forest open to the public for recreation.

Last year, you may remember that we removed an old stone dam obstructing Burgess Brook's natural flow, and this past summer, we finished the project by replacing an undersized and damaged culvert just downstream. Not only does the new bridge allow for fish passage, but it also protects against washouts during heavy rains.

Western Maine is one of the last strongholds of native brook trout and land-locked salmon, and small streams and brooks are key to their spawning and survival as a species. By removing this barrier, we restored almost two miles of prime habitat for these fish.

The original culvert on Burgess Brook was damaged, undersized, and almost unrecognizable. During construction, we dewatered the section of stream that needed to be worked on and pumped the clean water around the work site. Before starting construction, we relocated four brook trout stuck in a pool just downstream of the culvert that was blocking passage.

Not only does this new bridge provide fish passage, but it protects water quality. When undersized culverts experience flooding, the phosphorus and sediment that washes from the road enters our brooks, and eventually, the downstream lakes. The washed-out roads can also become public safety hazards, cutting people off from emergency services. With intense weather becoming more

common, it's time to upgrade our infrastructure.

So, the next time you encounter a small brook, remember, it's not just water — it's a lifeline for our native fish species, a highway for terrestrial wildlife, and often the source of water for our lakes and ponds.

This work is part of a larger project to correct stream crossings that are negatively impacting fish habitat and posing flood and erosion risks in the Sebago

Lake watershed. Over the next few years, we plan to work with landowners and municipalities to restore many more miles of stream habitat as part of our collaborative work with Sebago Clean Waters through the coalition's USDA Natural Resources Conservation Service federal funding award.

Next on the agenda: Edes Falls Dam!

The original crushed culvert on Burgess Brook

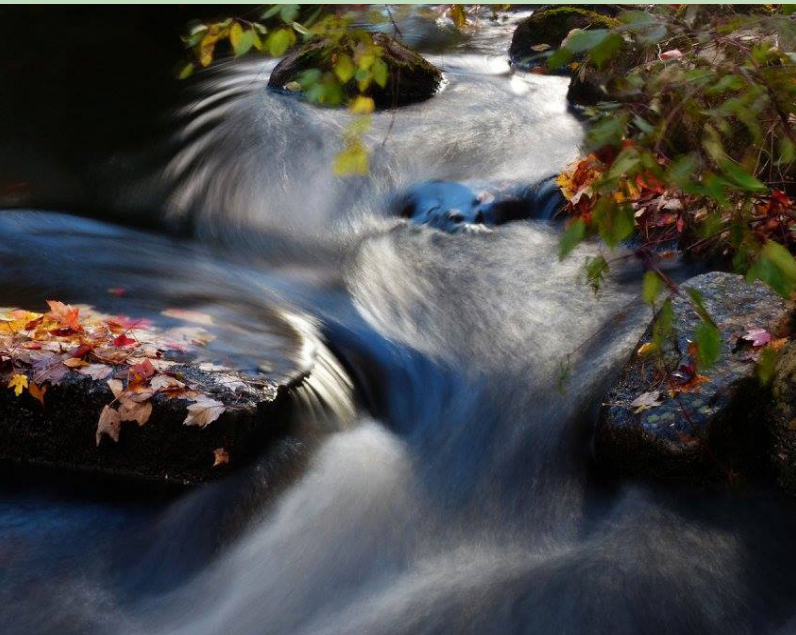


The new open-bottom bridge ready for fish, logging trucks, and 100-year storms





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**Protecting Waters and
Watersheds in the
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