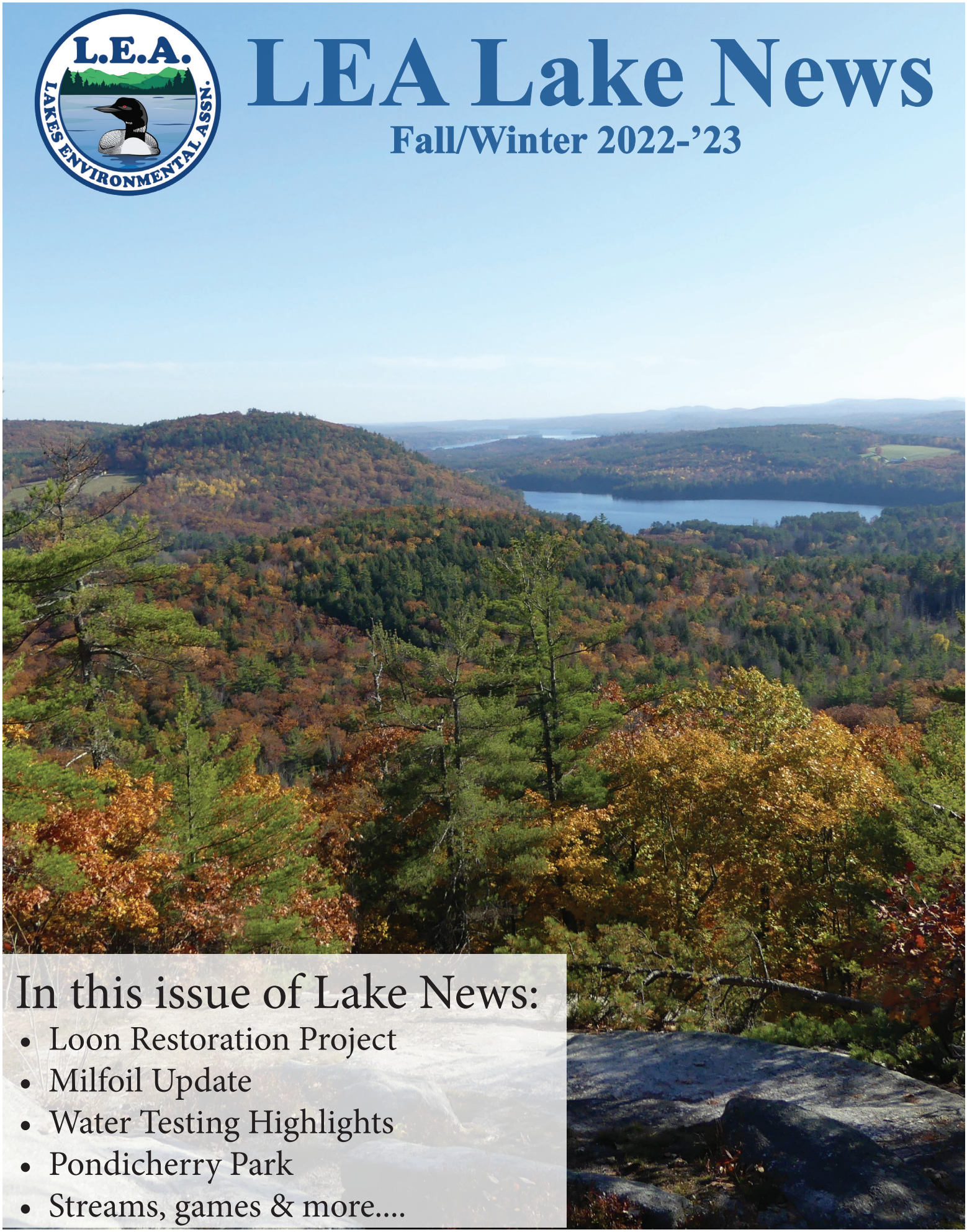
LEA Lake News

Fall/Winter 2022-’23



In this issue of Lake News:

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- Milfoil Update
- Water Testing Highlights
- Pondicherry Park
- Streams, games & more....

The Future of Our Lakes

Colin Holme

In our newsletter, we often focus on individual projects, but every once in a while, it is important to step back and put everything we do into context.

Broadly speaking, LEA's goals can fit into three categories. The first is keeping our lakes, ponds, and waters free of pollutants and nuisance algal blooms. Hopefully, this is no surprise to anyone! The second bin is keeping invasive species from spreading into and within our waters. This shouldn't be a revelation either. Finally, our beautiful and pristine waters need to be shared. No one group should dominate the use of a waterbody, and we need to remember that lakes are also home to both iconic and little-known flora and fauna.

While these goals may be simple, the steps to achieve them are more elaborate and involve programs and initiatives on many levels and with different demographics.

To keep our waters free of pollutants and nuisance algal blooms, we offer Clean Lake Check Ups and LakeSmart evaluations for individual landowners. We work with municipalities, the state, developers, and community groups to review larger projects. We regularly partner with lake associations and other non-profits to survey whole watersheds and road networks to identify and document pollution sources. We work with landowners, towns, and the state to fund and correct problem sites that are negatively impacting water quality. This includes fixing perennial erosion sites, incorporating phosphorus control into building projects, restoring flow and connectivity to streams and rivers, and working with the entire community to deal with other pollutants, like oil and gas, garbage, and plastics.

Long ago, we realized that we cannot do this work alone, so we added educational components to all our efforts. We offer training and courses for contractors, businesspeople, and planners. We provide free environmental education in the surrounding local school districts to ensure the next generation understands how important our waters are to this area and our identity. We also provide regular walks, talks, and presentations on current issues affecting our lakes and the surrounding environment to the community as a whole.

We know from large-scale studies across North America that as forested land decreases in a watershed, so does water quality in the downstream lake or pond. Thus, we also need to protect strategic pieces of land – particularly parcels with frontage on feeder streams, rivers, and wetlands – to keep our lakes clean. This is what LEA is helping to do with our land trust partners and the coalition Sebago Clean Waters.

However, it is difficult to protect what you don't understand. This is why we have one of the most advanced and comprehensive water quality monitoring programs in Maine. We are looking at the physical, chemical, and biological health of our waters and how these

systems change over time. We have acquired an unparalleled long-term dataset, and we produce annual reports with up-to-date information every year. Few entities are undertaking this type of water monitoring in the state, and no one else is doing this work in our service area.

When it comes to preventing the spread of invasive species (goal #2), we continue to be a trailblazer in Maine. We train organizational leads across the state on boat inspection, we run an annual summit on invasive aquatic species, and we hire, train, and manage approximately three dozen inspectors in the Lake Region every year. We work with area lake associations to survey for these invaders and run training programs so that landowners know how to identify problem plants. Our staff serves on statewide task forces, and we have worked with local legislators to successfully create funding mechanisms so this work can continue.

Our milfoil control program, which includes four suction harvesters, 15 to 20 trained divers, and work areas in Long Lake, Sebago Lake, Brandy Pond, Sebago Cove, and the Songo River is the largest in the state and a model for others to follow. We continue to gain ground on this insidious invader, despite increased boat traffic, warmer waters (which are more conducive to milfoil growth), and a turbulent economy. That said, our control work has greatly benefitted from generous funding from a private foundation for the last three years. If we want to keep moving in the right direction, more landowners are going to need to chip in, and the state needs to increase the fee for the lake and river protection sticker.

Lastly, it's important to remember that our lakes are used and enjoyed by all different types of people, and they are an important part of the life cycle of many different animals. We all need to be aware of our "footprint" on the water and how it affects the overall system. A few years ago, volunteers pulled several hundred pounds of artificial fishing lures from a small section of shoreline on Trickey Pond. Even more alarming, it is common to find fish with multiple soft lures filling their stomachs. With increasing surface use, we now receive regular complaints from canoeists, kayakers, paddle boarders, and small boat owners as they struggle to navigate through large wakes left behind by powerful, specialized boats. Loon and waterfowl nest disturbance and chick mortality are becoming more common from both large wakes and more prevalent flash storms. On the shores, stone riprap and manicured areas are robbing water-dependent species of needed habitat. Light and noise pollution are additional issues that affect both wildlife and people. There is a happy medium for all lake users but only if everyone considers their own impact. If we don't, then we will end up with degraded lakes and more laws strictly regulating what can and cannot be done. Coming up with solutions for some of these broader issues takes time, compromise, connections, and experience, and this is something that LEA routinely brings to the table, made possible by the financial support from members like you.

Colin Holme, Executive Director

Message from our Board President

Dear Members and Friends,

Was it my imagination or was the summer of 2022 our busiest ever at LEA? I decided to do a bit of informal research and came to the conclusion that the answer is a resounding yes! Summer officially begins in June, but by mid-May, we already had seasonal staff in the water doing aquatic invasive species mitigation work. Mary was leading birding walks, while Maggie was already installing loon nesting rafts in April. Meanwhile, back at the office, board members and staff were preparing for the two big fundraising events of the summer: our annual Paddle Battle race on Highland Lake and our long-delayed 50th(52nd) Anniversary Gala.

The Gala was the first event of its kind for LEA, and the generosity of our donors and those who attended exceeded our expectations. Not be cliché, but it really felt like Christmas in July. The result of all those amazing gifts is the purchase of a used pontoon boat with a new outboard motor for education excursions and invasive plant surveying and new lab equipment to analyze bacteria concentrations in lake water. We will also be purchasing equipment to measure and detect toxicity in algae before the year's end. Many thanks go to our hard-working staff, all of whom attended the event. It involved significant extra effort for them during our busiest season, and they rose to the task admirably. If you were at the Gala, please be sure to check the 180 event photos on our Facebook page. You are sure to be in at least one. In conjunction with the Gala, LEA Board members and Colin put together a short volume about the history of our organization. Each chapter covers a decade and was written by someone who was active in LEA during that time, so it reflects several perspectives. And of course, there are lots of photos. The history of LEA is closely intertwined with the history of the Lakes Region so it makes for an interesting read. You may obtain a free copy by stopping by the LEA office on Main Street in Bridgton.

LEA was in the news quite a bit this past summer, often with our director Colin Holme at the center. In honor of 50 years of the Clean Water Act, the Natural Resources Council of Maine included both Colin and former Executive Director Peter Lowell among their 50 Clean Water Champions. In early August, News Center Maine featured us in a story on Milfoil on the Songo River. Later, Colin was called on in connection with the egregious shoreline violation by a property owner on Sebago Lake in Raymond and appears in an article by local news station WGME. Colin was also quoted in an article on the same subject in the *Sun Journal* in mid-September, while the *Bangor Daily News* ran an article in late August on Milfoil and property values, which also quotes Colin. Meanwhile, I'd be remiss not to give a shoutout to our hometown newspaper, *The Bridgton News*, which does a great job in consistently covering our work and events.

As our seasonal employees head off into the sunset (or return to school, as the case may be), preparations will begin in earnest to meet the demands of summer 2023. At the Maine Lake Science Center, Ben is preparing the lab for state accreditation, while water monitoring will continue and expand throughout the winter. As a reminder, please visit our website, mainelakes.org, to view an analysis of your favorite lake under the "MY LAKE" tab.

The December holidays are a huge membership renewal period for us. Please support our work by renewing and even upgrading your membership. Call it enlightened self-interest, but the work we perform helps to preserve your treasured lake and the recreation it provides, your property values, your local business interests, and the water source that provides drinking water to one in six Maine residents. I think we have something special here in the Lakes Region, and that's not just our lakes, it's our community. You recognize the importance of safeguarding our water for all to enjoy. Your participation in LakeSmart and other educational programs, your voluntary efforts to promote lake health, and your financial support all lend urgency to our mission and let us know that we are on the right track.

With gratitude,
Lydia Landesberg
President, LEA Board of Directors

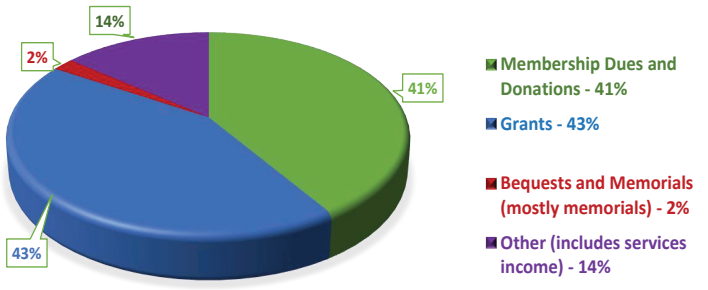
Your Legacy can Help Keep LEA Efficient

Charlie Tarbell, LEA Treasurer

This is the fifth in a series of articles on the LEA Lakes Legacy League, from Your Director of Planned Giving

Just kidding! We have no such position. But that doesn't mean that as Treasurer, I don't think about it when I think about LEA's income.

As we all know, income is a necessity in order to make progress in any organization. At LEA, we derive our income from a variety of sources:



We have a strong and reliably loyal membership who are very generous with dues and donations, both small and large. We have a skilled grant writer as our executive director; I call Colin the "grant whisperer." These two sources represent the vast majority of our income. However, you might notice that our historical bequest funding is really quite small by comparison. Why is that, you might ask. Well, to begin with, LEA a very efficient organization. We are focused on our programs – over 90% of our income is devoted to programs, as opposed to fundraising or administration. Indeed, we lack what many larger non-profits have – a planned giving department. While we have no intention to build a planned giving focus, it is my contention that volunteers, such as myself, can raise awareness among our membership around the subject of planned giving.

And that brings me to the LEA Lakes Legacy League (L^4). The L^4 is a growing group of (at the time of writing) nine families who have made provisions in their estate planning to designate LEA as a beneficiary. In doing so, the members of L^4 are signaling our long-term commitment to sustaining one of our favorite organizations. Won't you join me in becoming a member of the L^4? Please consider this an appeal from our Director of Planned Giving (nod and wink). Thanks.

For more information about joining L^4, please contact either me or Colin Holme.


Maggie Welch on Sand Pond

Winter Wandering and Wondering About Lakes

Ben Peierls

Our winter lake monitoring has been such a success over the past few years, thanks in large part to the support of local lake associations and individual members. We know so much more about how lakes function over an annual cycle that we can now begin to make connections between the different seasons.

With that in mind, we plan to continue our winter lake visits starting January 2023, or whenever ice conditions permit. Last year's effort was a record for us, with 13 different lakes visited multiple times for a total of 32 separate trips; you can read more about the 2022 winter results in the report posted on our website (www.mainelakes.org/testing-reports/). Getting out that many times in winter was a challenge, given the challenges of weather and other commitments, so for this year we will scale back our plans to 26 visits. With new equipment in the lab and numerous other projects, that will keep us quite busy!

When we are not occupied with field work, winter is a good time to think about previous seasons' lake data, potential concerns to lake health, and lake science in general. Those activities are even better with a group of colleagues, and so after a two-year hiatus, we plan to hold our annual Lake Researcher Retreat in person in early January 2023. Feedback so far has been extremely positive, and we are looking forward to a productive day of presentations and discussions on the latest questions and concerns about lakes and water quality in Maine and beyond.

Reconnecting Fragmented Waterways

Lauren Pickford

How did the fish cross the road? Through a properly designed culvert. - *Two wise stream experts.*

This fall, with the help of partners and volunteers, we removed an old stone dam in Burgess Brook that blocked fish passage. Burgess Brook is a tributary of the Crooked River, which has a wild population of brook trout and smelts and provides nearly all of the spawning habitat for the landlocked salmon in Sebago Lake. It is located in the Jugtown Forest, owned by Hancock Lumber, and consists of 5,000 acres of working forest open to the public for recreation. In western Maine, our clean waters are unique and are one of the last strongholds for native brook trout and landlocked salmon. As part of a five-year collaborative project, we are working to expand this habitat, reconnect fragmented waterways, and install safer and more resilient stream crossings.

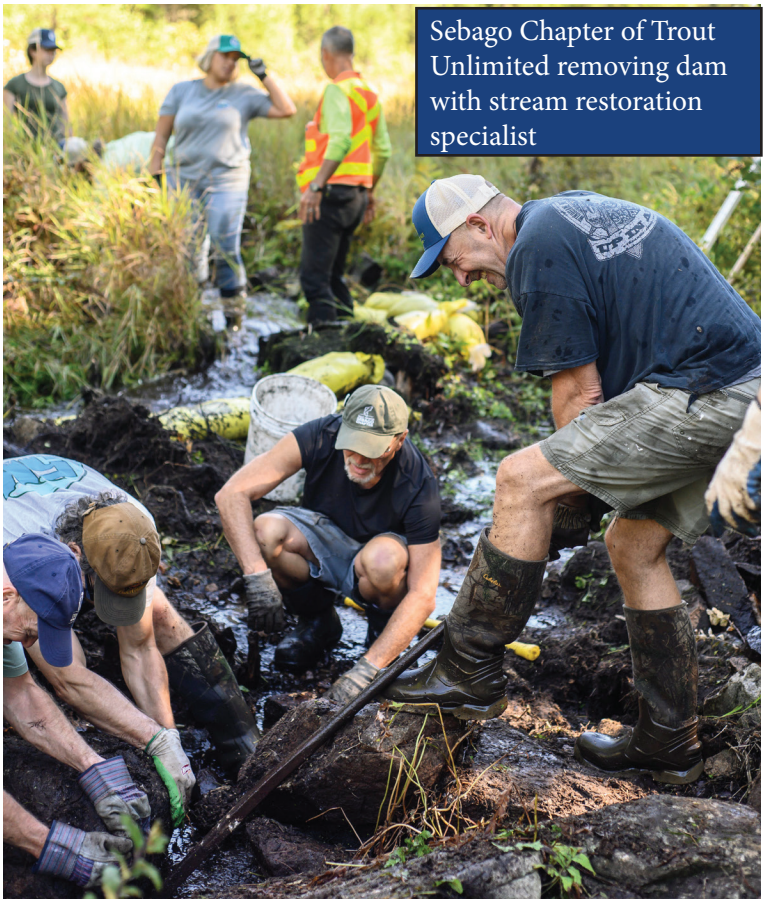
Removing a barrier to fish passage can mean different things: replacing an undersized pipe with a larger, open bottom culvert or removing unused dams and allowing the stream to return to its natural state. The project on Burgess Brook required both — the decommissioning of an old stone dam and replacing an undersized and damaged culvert.

In 2022, we removed the dam with volunteers. In 2023, we plan to replace a damaged and undersized culvert directly downstream with a structure that will allow fish, amphibians, and other wildlife to easily move upstream. Once complete, this project on Burgess Brook will open up nearly two miles of habitat for trout and salmon.

This work is part of a larger project to correct stream crossings that are negatively impacting fish habitat and pose flooding risks in our watershed. Over the next five years, we plan to work with partner organizations, landowners, and municipalities to open up many miles of stream habitat for fish and wildlife by upgrading failing culverts.

We have identified a handful of high priority sites, including working with the Maine Department of Inland Fisheries and Wildlife and Trout Unlimited to restore connectivity for fish at the Edes Falls Dam in Naples.

Partners of this project include Sebago Clean Waters, Casco Bay Estuary Partnership, Hancock Lumber, and many more.



Sebago Chapter of Trout Unlimited removing dam with stream restoration specialist

Burgess Brook after dam removal

Trainings for Contractors at the MLSC

Thursday, February 2

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.

Thursday, March 30

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 20

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.

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.

Help us Keep our Trails and Preserves Clean!

Over the past five decades, LEA has been instrumental in developing and maintaining a number of parks and preserves. We are fortunate to have places like the Holt Pond Preserve, the Stevens Brook Trail, the Pinehaven Trail, Highland Research Forest, and Pondicherry Park as outdoor spaces in our own backyards.

During the past few years, use of our trails and preserves has increased exponentially. The physical and emotional benefits for spending time outdoors are priceless. On the flip side, some of these places have not only been used, but misused.

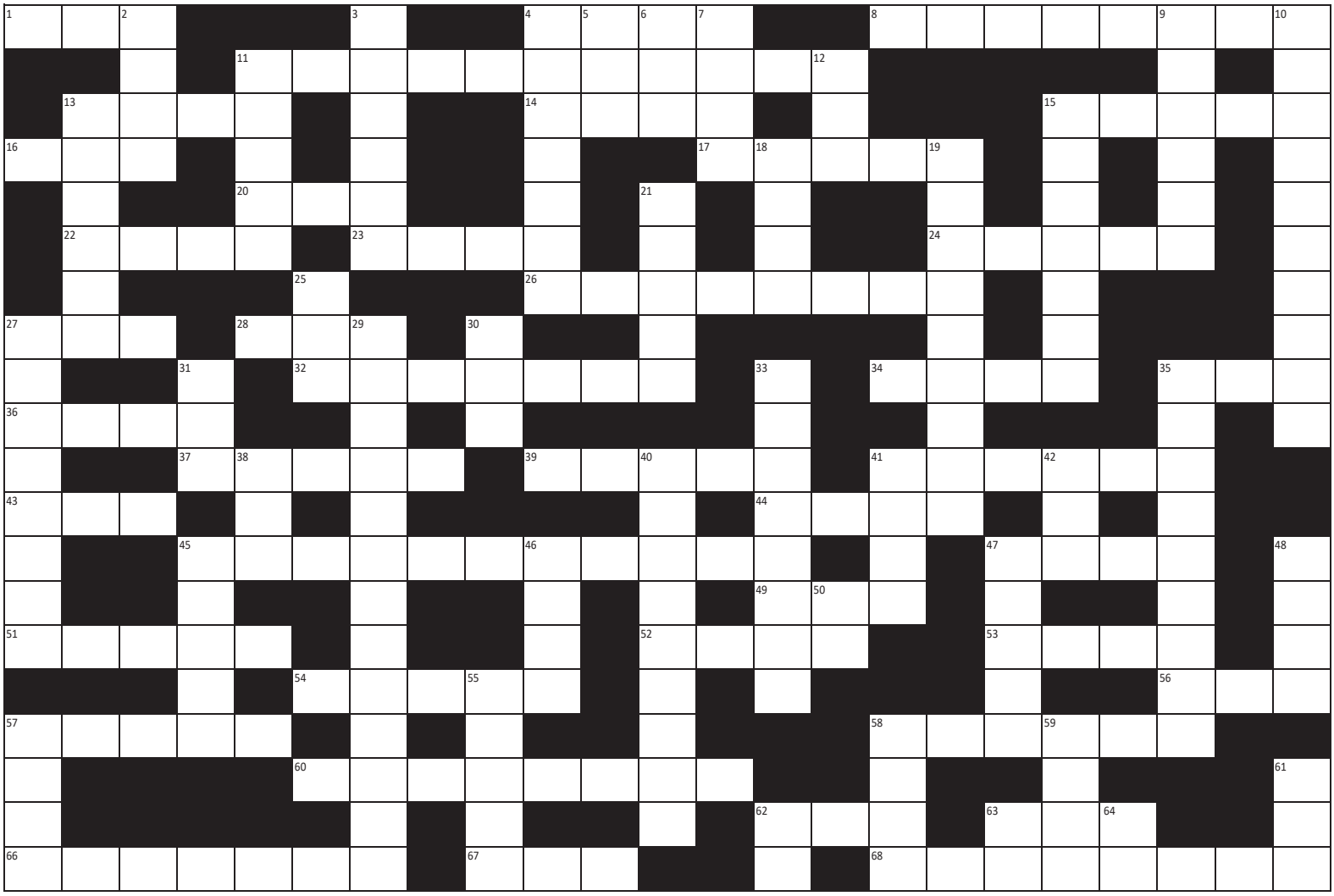
The most common issues we deal with on our trails are litter and dog waste. The litter we see the most includes masks, drink bottles, candy and granola bar wrappers, forgotten or discarded clothing, wipes, and diapers. Dog waste is no fun in any state, but when it is bagged and left on the trail for us to find, it is particularly irritating. Are dog walkers bagging it and then forgetting to pick it up later? While we can't say for sure, it is negatively affecting the trail experience of all other users. If you bring a dog out on our trails, please bag your pet's waste and take it home.

Please also remember that dogs are not allowed at the Holt Pond Preserve, as the boardwalks are narrow and provide access to areas where domestic dogs would not normally go.

Our trails and preserves are spaces for everyone. Help us keep them clean and in their natural state. If you would like to find out more about the trails LEA owns or manages, please go to www.mainelakes.org/trailspreserves/.

Trail at the Highland Research Forest

Crossword Puzzle



Lake Turnover

S	T	U	C	O	
N	E	M	I	A	
G	A	A	L	E	
L	E	I	D	F	
E	A	C	B	H	

Now, rearrange the circled letters to find the missing word:

THAT'S WHY THEY CALL IT FISHING, NOT _____

Crossword Clues

Across

1. Number of Vs in our logo
4. Open, uncultivated, land
8. A single ____ precedes the storm
11. Common milfoil look-a-like with air filled sacs
13. Boat that uses wind
14. Introduce, get together
15. You can borrow one at Holt Pond
16. A place to lay down, or plant some flowers
17. Not hibernation, just a deep _____
20. Type of animal plankton
22. Mast ___, location of milfoil in Long Lake
23. Not far
24. When it is okay to pollute the lake
26. Longest/shortest days
27. Test the waters, with your toe
28. Move like a frog
32. Movement of soil by runoff
34. Nice place for a loon nest
35. Sound a dove makes
36. Vintage Chevy, explosion of a star, ___ Scotia
37. Can be used to prevent #32
39. Boundary between soil and groundwater, or a surface for eating
41. "Animal" pond in Bridgton
43. 2000 pounds
44. Surface tension, or epidermis
45. Measured on an LEA HOBO sensor
47. Not pro, like biotics
49. Get ___ of, or removing something
51. Brittle waternymph, or European _____, an invasive plant
52. To donate
53. Grab one at Bridgton House of Pizza
54. Not micro
56. Color of a loon's eye
57. Quick on your feet
58. Collect wild food
60. Monarch butterfly friend
62. Paddle for a row boat
63. Boat covers do this after a rain storm
66. Finish a meeting
67. Needed for photosynthesis
68. Element in fertilizer

Down

2. Expression of surprise!
3. Popular game fish in Moose Pond
4. LEA relies on these to operate
5. Material that metal is extracted from
6. Not pay right away
7. What happens to a log in the woods
9. Park employee/Ford truck
10. Forecasting the weather
11. Orange color worn in fall
12. Set this time at the golf course
13. Black and white tool used to measure water clarity
15. Found beneath roads, and often undersized
18. LEA partner, focused on land instead of water, abbr.
19. Name of the trail at the Maine Lake Science Center
21. NRCM Water Champion
25. Female deer
27. Every _____ to LEA is appreciated
29. Rain, snow, sleet, and hail
30. Tree affected by jewel-colored beetle
31. Backed up logs on a river, or strawberry
33. Protected land, or raspberries with sugar
35. Meat eater
38. Land ___ Ordinance
40. Cyanobacteria, often called ___ ___ algae
41. It's the word, and flighty
42. Chris Farley character lived in one of these, down by the river
45. There's an improved one in Pondicherry Park, that's accessible to all
46. Not manual, abbr.
47. Needed to make holes for winter testing
48. Not a frog….
50. For example
55. Leave the duff and keep these in the shed
57. Algae, for one
58. Cinnamon, sensitive, sweet _____
59. Gelatinous medium used for growing bacteria
61. Similar to a bog
62. Not off
63. Part of LEA address, abbr.
64. ___ take a hike!

Visit mainelakes.org for game solutions.

Remembering Judy

In October, we lost one of our courtesy boat inspectors, Judy Pelletier. Judy and her husband Bob have been wonderful representatives of the CBI program and ambassadors for the LEA mission for the past seven years. During her time on our staff, Judy planted herself at the Moose Pond boat launch on Route 302 and became a familiar face to many regular visitors. She was a no-nonsense person, but also kind and patient. We will miss Judy and think of her as the boats launch in spring.

Notes from the Bench

Ben Peierls

Fall and winter are the perfect time for reflection — and we can reflect on another busy summer season here at the LEA Maine Lake Science Center.

We processed and analyzed hundreds of lake water samples, thanks to the hard work of returning intern Hanna Holden. With Hanna's help, we kept our nutrient analyzer and fluorometer humming with over 400 total phosphorus and almost as many chlorophyll-*a* measurements.

Most of these measurements were made on lake water samples collected by Maggie and interns Rachel and Abby; these were duplicates of samples sent to the state testing lab in Augusta (as usual, these results will be presented in our annual Water Testing Report early next year). We will use this and previous years' interlaboratory comparisons to maintain the continuity of our long-term dataset as we move to analyzing all monitoring samples in-house next year.

Our FlowCam was also in high gear analyzing many of the same lake samples. This flow imaging microscope collects hundreds of images and measurements of lake algae in each water sample, which provides a snapshot of algal density and diversity. We also use the FlowCam results to monitor for any harmful or nuisance species that may have started blooming, though nothing like that was evident in the analyzed samples.

Speaking of harmful species, the threat of cyanobacteria blooms and toxins continues to grow in the region. Several blooms made headlines in summer 2022, including Hobbs Pond in Norway (see our previous newsletter). With more and more blooms cropping up in Maine lakes and limited sources for algal toxin testing, we plan to add that capacity to the Science Center lab with support from the many generous donors who gave at the 50th Anniversary Gala.

Our new IDEXX equipment and supplies have arrived onsite, thanks to those same donors, and we now can analyze lake and stream samples for *E. coli* and total coliform bacteria. These microbes indicate the presence of animal or human waste, which can contain harmful pathogens. We plan to use this analysis to identify sources of pollution and help protect lake users from disease risks.

All this new equipment that has and will arrive is pushing the limits of our small lab facility. We have run out of bench space and have resorted to floor storage for new gear. Also, we have exceeded our electrical capacity, and certain instruments cannot be run at the same time. So, in the coming year, we will be looking to creatively upgrade our Science Center facility with more power and working space.

Enough reflection—time to get back to what will likely be a busy fall and winter season keeping up with lake science and keeping an eye out on local lakes.

Intern Hanna Holden in the lab

Aquatic Plants are Part of a Healthy Lake

Shannon Nelligan

Over the years, LEA has focused on invasive aquatic plants and removing those plants from places like Long Lake, Sebago Lake, Brandy Pond, the Songo River, and Sebago Cove. These plants grow in the shallows where they receive lots of sunlight near the edges of the body of water. However, invasive aquatic plants are not the only things found in this habitat. Organisms such as fish, snails, frogs, turtles, and non-invasive and native aquatic plants also call this area home.

In some settings, it can be challenging to decipher the difference between an invasive plant and a non-invasive plant. For example, native milfoil is found in several of our surrounding lakes, as well as other native plants, such as floating bladderwort, variable pondweed, water marigold, fragrant water lily, and many more. Some of these native plants look similar to invasives, which adds to the confusion.

Unfortunately, native aquatic plants have been outshined by the threat of invasive aquatic plants, like variable-leaf and Eurasian milfoil. Before I understood the importance of aquatic plants in our lakes, I figured that all plants were invasive or bad, which is absolutely not the case. Aquatic plants provide nutrition, habitat, shoreline stabilization, and oxygen for other organisms, and without these plants, our lakes would lack diversity of species and have poor water quality.

When a shoreline has a lot of aquatic plants, all too often it is considered a negative attribute. Many people would prefer to spend time on a waterbody with minimal plant life because it makes for easy access and good swimming. When you find yourself thinking this way, please remember that aquatic plants are key components of a functional ecosystem and needed to keep the lake as a whole healthy.

Hummingbird on Pickerelweed

New Staff

My name is Michael Flannery and I have filled the position of Invasives Control and Field Services Manager at LEA. I graduated from the University of Maine in the spring of 2022 with a bachelor's degree in Wildlife Ecology. After graduating, I began working for LEA as a summer intern on the Milfoil Dive Crew. I spent the summer working on the Songo River harvesting milfoil and installing benthic barriers to slow the growth and reduce the spread of variable-leaf milfoil. While working over the summer, I gained a solid understanding of milfoil ecology and frequent causes of its spread.

In this new position, I will be organizing and managing the various milfoil dive crews in and around Sebago and Long Lakes, as well as working to develop effective strategies for invasives management. During the winter months, I will oversee and maintain LEA's trail systems and work with landowners to deal with stormwater in sustainable, lake-friendly ways.

I am very excited about this new job and getting to know the people that allow LEA to be what it is. In my free time, I enjoy hunting, fishing, and hiking, as well as singing. I am relatively new to the Bridgton area and look forward to further exploring the many mountains, lakes, and rivers that make the Lake Region unique.

Milfoil Update

There is an incredible amount of logistics, grant writing, hiring, training, equipment purchasing, problem solving and fly-by-the-seat-of-your-wetsuit planning that is required to keep our milfoil control program running. This season's woes included multiple pontoon leaks, outboard breakdowns, harvester and hookah engine issues, and COVID running through our dive team! Despite these setbacks, we again made amazing progress, thanks to a dedicated and hard-working crew.

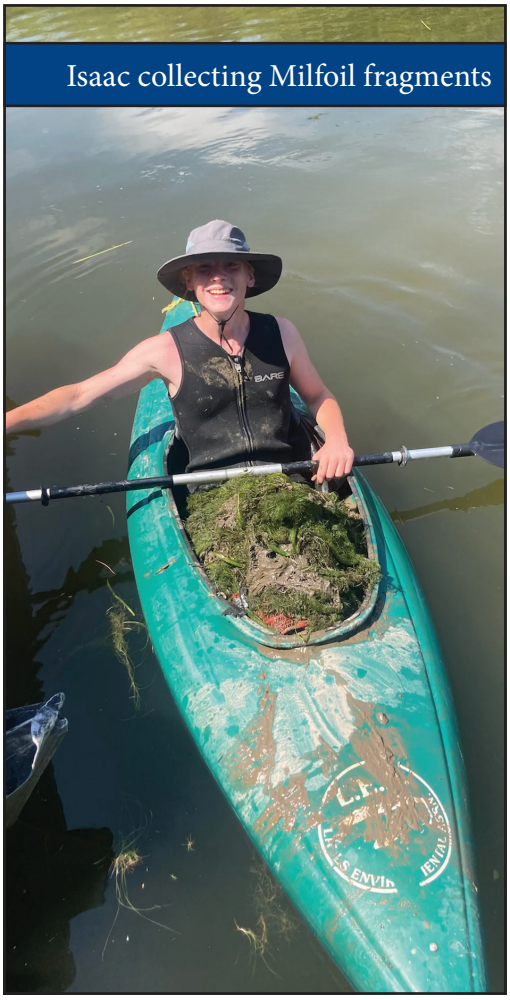
We started off with a pleasant surprise in the Northwest River on Sebago. Fully prepared to be there for a season of work with a boat and full crew of 5 divers, we found very little milfoil when pulling the 20- by 30-foot benthic barriers that had over-wintered (over 100 barriers!). The crew harvested plants that had snuck up through holes or between barriers and then moved to join the team on Sebago Cove.

We found more to celebrate at Frye Island, where it continues to look better and better each year. The Frye Island community deserves praise for making milfoil removal a priority and for keeping a watchful eye around the dock systems. These spaces will need to be monitored yearly, but our efforts are now focused on keeping it clean and pulling any new growth. Thank you, Roxy and Frye Island plant patrollers, for letting us know when you see milfoil or plant fragments!

As part of our Sebago work we also spent time in Kettle Cove surveying and removing spot plants and cleaning up Pickerel Cove in Sebago Basin with a few days of harvesting.

Working in Long Lake means potentially going days without seeing milfoil (and we want to keep it that way!). However, we also had multiple visits to past infestation hot spots, including: Four Seasons, Colonial Mast, and Salmon Point Campgrounds, Bridgton Academy cove, Harrison boat launch, and Cape Monday Cove. These spaces have had sporadic plants or patches that we harvest or cover with a barrier once located.

One of the highlights this season was a plant identification workshop, hosted by a couple on Long Lake. They hand-delivered invitations to all their neighbors and helped over 30 people come together to see milfoil samples and compare them to other native plants. During the meeting, attendees planned out paddling and snorkeling their shoreline to look for invasive aquatic plants. Thank you to Pam and Bruce Larchez for making this happen!



Isaac collecting Milfoil fragments

The labyrinth of coves and oxbows on the Songo River continues to harbor nascent pockets of milfoil and we had 1-2 crews working there all season. If you are boating through the Songo, please slow down in the channel and learn to identify milfoil! If you see something suspicious, please take a sample or a picture and mark the location on a map and share it with us. If you see our crew working or any dive flags in the water, please give them a wide berth for their safety. Lastly, areas with known milfoil infestations that we are working on are marked with yellow buoys and should be avoided.

The shallow littoral zone of Sebago Cove is perfect habitat for milfoil, and with plenty of boat traffic, controlling this infestation continues to be a battle. We worked this season to keep the channel clear, with interested landowners to tarp and harvest around their docks for a fee, and with the DEP to get additional buoys to a large infested area in the northern end to reduce visiting boat traffic. In this this northern section, we also laid over 100 benthic barriers to smother milfoil and another 80 throughout the cove. Tarps over large infestations sometimes buoy to the surface due to gas from decomposing plants, so please avoid them if boating! We will only be able to continue this fight in the cove with financial support from landowners. As with everything else, costs of operating are rising, as well as pay rates for our divers.

We also spent time at the end of the season surveying local lakes and ponds, as requested (and funded) by various associations. Representatives from Peabody, Keoka, McWain, Woods and Moose all worked with us to survey the littoral zone in these waterbodies. While no one survey can

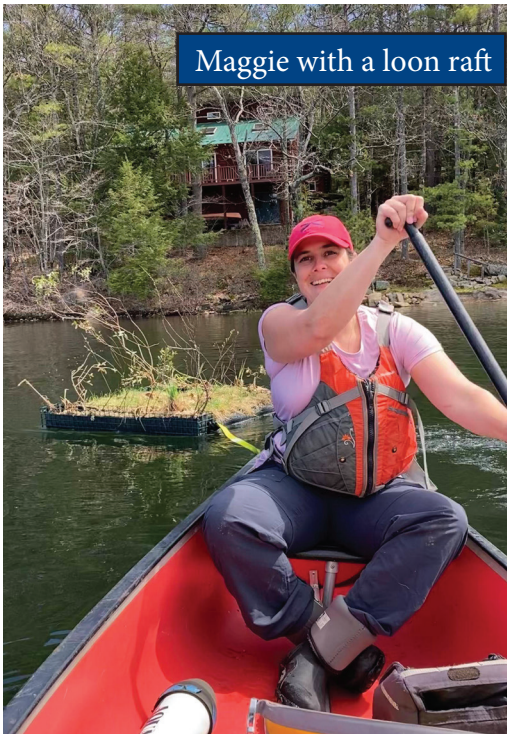
ensure that a lake is and will remain free of invasive plants, this is how most new infestations are found, and catching invasive species early is the key to success and managing control costs.

Thank you to everyone who provided us with dock space and, of course, for everyone who provided funding - both large and small! A special thank you to Naples Marina for overwintering our boats and helping us with engine issues during the season. Please know that this work takes a community and we need everyone's help to succeed!


Invasive Milfoil

Loon Restoration Project

Maggie Welch


Maggie with a loon raft

LEA's collaborative Loon Restoration Project has now been through two field seasons. Year one focused on building project infrastructure and a volunteer network to enable and support citizen scientists collecting data. Year two was all about using this infrastructure to build rafts, train volunteers, and collect data.

The 2022 loon monitoring season began in early spring with a raft building workshop. With the help of volunteers and Maine Audubon biologists, LEA constructed several cedar and wire rafts. LEA deployed three wire rafts and two cedar rafts within our service area in May. These rafts were placed in close proximity to known nest sites which had failed to produce chicks within the last three years. Once placed, rafts were monitored by volunteers and LEA staff throughout the summer. Data collected during monitoring will be shared with the Loon Restoration Project to enable project biologists to determine if the use of artificial nesting platforms increases loon productivity.

Now that our first season of data collecting is complete, next steps are to expand the number of lakes hosting artificial rafts, to increase the number of volunteers helping to monitor loons, and to refine our data collection and field methods. Next year, LEA plans to place rafts on an additional three lakes in our service area.

If you have an interest in hosting a raft or in monitoring loons on your lake, please contact Maggie Welch at maggie@mainelakes.org. Data collection and environmental observation begin this winter by noting ice-in dates.

The Cascading Effects of Forest Conservation

Stacey Cramp

As the communications coordinator for Sebago Clean Waters (SCW), a coalition working to protect water quality and other benefits of conserved forests in the Sebago Lake watershed, I marvel daily at all we have accomplished since our inception in 2017. Near the top of the list is the permanent protection of 9,581 acres of lands in the Lake Region. This would not have been possible without the expertise, experience, and leadership of our watershed partner organizations — Portland Water District, LEA, and local land trusts.

While the number of acres protected is certainly important, our collaborative land conservation efforts set off a ripple effect of benefits for our landscapes and communities. Conserved and well-managed forests protect water quality by acting as a natural filter, which means cleaner water for drinking and recreation, as well as for fish and wildlife habitat. Protected forests are also one of the best tools available to us to combat the effects of a changing climate.

Key examples of our work are projects centered on the Crooked River. The river is Sebago Lake's main tributary, providing approximately 40 percent of its annual input. Clean water flowing in this 50-mile-long waterway is essential to keeping Sebago Lake, the drinking water source for one in six Mainers, pure. It's also imperative for the lake's population of landlocked salmon and brook trout to thrive, which in turn, means enhanced recreational and tourism opportunities.

The 7,500 acres of watershed lands protected as part of the Crooked River Headwaters easement in 2021 has extensive ecological, recreational, and water quality benefits. Held and stewarded by Mahoosuc Land Trust (MLT), this easement protects vast forestland in four towns in the upper watershed from development and fragmentation and has approximately six miles of frontage on the Crooked River. Nearby, this year, SCW is supporting MLT's conservation of 400 acres, with two wild brook trout priority streams that feed into the Crooked River.

In Norway, Harrison, and Otisfield, our partner Western Foothills Land Trust is working on conserving 2,000 more acres of land adjacent to the 252-acre Twin Bridges Preserve, which currently protects 3.5 miles of frontage on the Crooked River. When subsequent parcels are added in the coming months, with the help of SCW funding, the total protected river frontage will exceed 5.5 miles!

Travel a bit further south along the Crooked River to Naples, and you will find another SCW partnership project - a brook that is flowing freely after a dam was removed. Thanks to LEA spearheading this effort, landlocked salmon, brook trout, and other fish in Burgess Brook, which flows into the Crooked River, can more easily reach Sebago Lake (see page 6 for more details about this project).

While the Crooked River is often the focus of our work because of its impact on Sebago Lake, many other lakes benefit. In 2021, SCW helped Loon Echo Land Trust add 25 acres of protected forests to its holdings along the eastern shore of the Tenny River in Raymond. Combined with an earlier easement, the protected area extends 1,700 feet along the river. The parcels protect the Tenny River's water quality, and therefore, the quality of the waterbodies it connects to —Crescent Lake and Panther Pond, and eventually Sebago Lake.

All of these projects, and the many others we have undertaken and will continue to pursue as a coalition, will help keep our waterways and wildlife intact to safeguard this special area for the health and well-being of current and future generations.

Photo courtesy of Sebago Clean Waters

LakeSmart Redux

Charlie Tarbell

Who doesn't like to be recognized? It makes us feel good. Essentially, recognition is what LakeSmart Awards are: recognition of a "job well done" in managing your lakefront property, benefitting your lake's water quality. Yes, I'm aware that the LakeSmart "evaluations" are primarily education, not inspection, but the award recognition certainly doesn't hurt.

Well, you may or may not recall that I had a LakeSmart evaluation of my property on Keoka Lake a couple of years ago … in the "beforetimes." And you also might recall that I didn't receive an award. Although I initially did not achieve recognition, I succeeded in getting an education in lakeside property management. Indeed, I found out that what I once thought was solid buffer zone management could really use some improvement.

I learned about soil stabilization techniques, duff management, and native plantings. I took some incremental steps to bolster my buffer zone by allowing some additional growth of vegetation, adding to the duff layer, delineating key pathways to the lake, and planting something called blueberry sod that I obtained from Blue Meadow Nursery in Lovell, Maine. My improvements are proof-positive that you can teach an old dog new tricks.

Fast forward two years. The Keoka LakeSmart team (an epic volunteer threesome of well-trained lakefront property managers) re-evaluated my property. They found the changes I had made, together with the pre-existing solid management of my driveway, septic system, and roofline runoff, qualified me for a highly-coveted LakeSmart Award. Imagine my delight.

As I revel in the recent recognition, I want to urge any of you who have not yet taken advantage of the LakeSmart program to please do so. **LakeSmart is about education.** I thought I knew what I was doing in managing my buffer zone, but I found I could do better for the sake of my lake.

For more information on LakeSmart, see the LEA website (www.mainelakes.org) or call Lauren Pickford at 207-647-8580.

LEA members Dave and Linda Welbourn

LEA's ~~50th~~ 52nd Anniversary Gala!

After three years of planning (it should have been one, had the event occurred in 2020!), a half-century of LEA's work was celebrated with jubilation at Stone Mountain Arts Center in Brownfield on July 21st.

Tickets sold out quickly to more than 150 people. Guests sipped beverages while hoping their bid was the winning one for silent auction items. SMAC's Carol Noonan and crew once again produced a scrumptious meal for guests, served in the beautiful post and beam barn.

Our special guest, Noel Paul Stookey, graced the audience with some of his oldy-but-goody songs, with a touch of environmental flair, of course. An enthusiastic audience participated in our "Magic Moment", when our members donated publicly to fund several specific initiatives, including an educational/research pontoon boat, *E. coli* bacteria and cyanotoxin monitoring equipment, and a summer lab intern.

LEA is thankful for all who donated silent auction items and for all those who celebrated with us and showed their support for LEA's mission. The evening was joyous and successful, and kicks off the next 50 years of preserving and protecting our lakes, ponds, and freshwaters!

A Day on the Songo River

Michael Flannery

Plant control crewmembers Samantha and Dakota

For most people, the Songo River is a relaxing cruise between Brandy Pond and Sebago Lake, with a short intermission while passing through the historic Songo Lock. However, the LEA milfoil crew experiences it differently. For us, it is our office. We arrive every morning at 8 am at what we call "The Point", which is a piece of land adjacent to the sandbar, where landowners Drew and Dottie Betts have generously allowed us to set up shop

On the Songo, most of the dense patches of milfoil reside in the shallow areas on the edge of the river, as well as in many coves that shoot off from the main channel. Milfoil is often spread by pieces of the plant (fragments) breaking off, floating to a new location, and rooting as a new plant. Since the Songo River is one of the busiest inland waterways in Maine, much of our efforts go toward removing or otherwise managing milfoil patches in places with high boat traffic, to limit the spread.

Each morning, our crew leader has a plan for the day, which targets an area that has a particularly bad infestation or a spot that is at high risk for spread. One area that we frequently work in is the area around the boat launch at Sebago Lake State Park. This large and shallow section of the river has a high volume of boat traffic and a muddy substrate, which is perfect for milfoil growth. Because of the size of the area and the number of dense milfoil patches, our first task is to strategically lay benthic barriers over the largest patches. The goal of these barriers is to cut off the sunlight and ultimately kill the milfoil underneath. We spent much of May building these tarps weighed down by rebar woven through them. When it is time to place these barriers, we load them on our barge and drive them over to the infested areas. Two people hand the tarp to two divers in the water while a fifth person on a paddle board directs the divers for barrier placement. Once the divers are in position, they lay the barrier on the bottom and roll it out over the milfoil patch. In total, we laid 15 barriers in the boat launch covering over 9,000 square feet of milfoil this past summer. These barriers will remain in the water until next May to allow time for all the plants underneath to die.

After a barrier is deployed, we use one of our suction harvesting boats to hand pick and remove smaller patches of milfoil, as well as plants growing around the tarps that we may have missed. When harvesting, we use surface-supplied air and weight belts to search the riverbed around the boat launch. When we find plants, we dig down into the muck and grab them by the roots and suck them up with the harvester. Each time we visit the boat launch, we zigzag our way across the cove in search of milfoil. We repeat this process multiple times a week in the same areas because there are many small plants that can be easily missed.

We diligently worked all season at the boat launch, and by mid-September, it was difficult to find milfoil. It's exciting to leave this high-traffic area in good shape for next year. Persistence and continued vigilance are the key to keeping this plant from spreading back into the river and our surrounding lakes.

Summer Water Testing Highlights

Maggie Welch

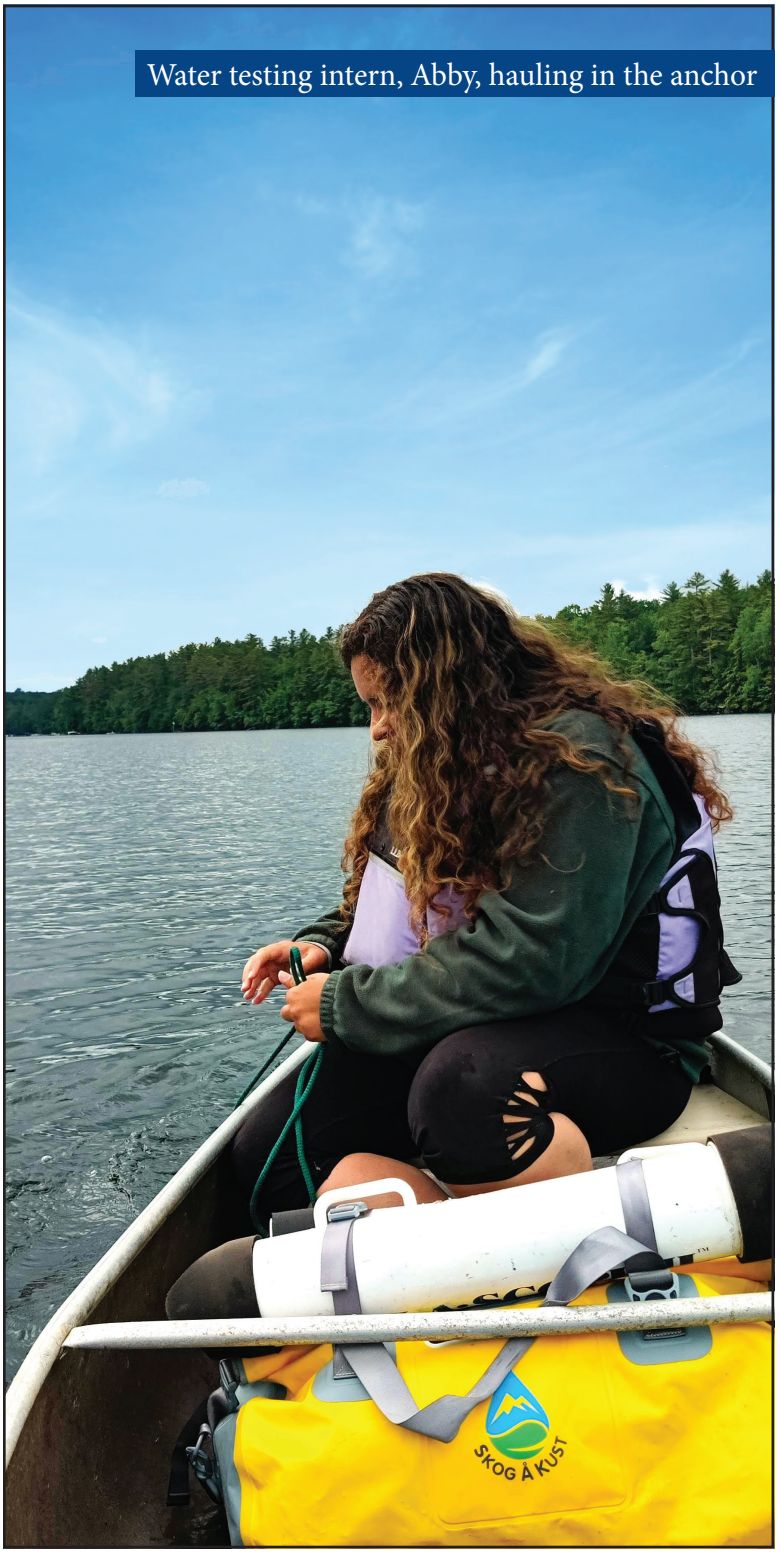
The 2022 water testing season began in early May when staff researcher Maggie Welch and educator/field technician Shannon Nelligan deployed LEA's high-resolution temperature monitoring buoys and took the first round of early season clarity readings. Our full complement of regular water testing activities began in mid-May. We welcomed first-year interns Rachel Davis and Abby Mahoney to the team in June. They worked seamlessly together through August until college classes pulled Abby back to school. Rachel continued into September to finish up the regular water testing season. Our high-resolution temperature buoys will remain in place until cooler temperatures threaten to freeze the lakes.

This year, surface water warmed up gradually through May and June. Warmest surface water temperatures were recorded in late July and early August. Water stayed fairly warm through September. The sustained period of mid and late season warmth provided conditions conducive to algae growth. Multiple lakes within our service area saw high algae activity near the thermocline (middle layer) and at the surface. This likely contributed to higher densities of the cyanobacteria Gloeotrichia on several lakes in our service area.

This season, water was generally a little clearer than average early in the season, yet slightly less clear than average towards the end of the season. This was likely due to drought conditions early in the summer and then plentiful rain in August. Clarity tends to lessen with rainfall because storm runoff washes sediment from the ground into lakes. The sediment floats around in the lake, physically decreasing clarity and providing nutrients for algae to grow and reproduce.

Many thanks to Rachel and Abby for their hard work and for making the season go by so smoothly. We also would like to thank the generous landowners who provide us lake access and watercraft so that we can get out to our testing sites.

Intern Rachel Davis



Water testing intern, Abby, hauling in the anchor

Woodland Owner Appreciation Day

Lauren Pickford

Photos courtesy of Sebago Clean Waters

On October 1st, about 75 woodland owners and conservation professionals met at Peabody-Fitch Woods at Naramissic Farm in Bridgton to celebrate woods and water.

Forests act as a filter, protecting the waters we all love. Did you know 200,000 people rely on Sebago Lake for drinking water? Woodland Owner Appreciation Day is an opportunity for landowners in the watershed to make connections with different conservation professionals to help keep their woods, woods.

Land trusts, foresters, wildlife experts, and others came together inspired by their love for the forest. We enjoyed lunch and beer brewed with Sebago Lake water (donated by Allagash Brewing) and went on one of four exciting walks. This year's walks were Forestry 101, Exploring Post-harvest Woodlot, Forestry for Maine Wildlife, and Reading the Forest Landscape History.

Forestry 101, led by foresters Jesse Duplin and Shane Duigan, is one of our tried-and-true walks on Woodland Owner Appreciation Day. Forestry for Maine Wildlife was guided by Maine Audubon's Sally Stockwell and IF&W's Joseph Roy and looked at how we can sustainably harvest in the woods in a way that benefits wildlife. Exploring the Post-harvest Landscape with Paul Larrivee and Rene Noel showed landowners what it looks like when you harvest for certain species and have different goals.

Reading the Forest Landscape History was led by Loon Echo Land Trust's Jon Evans and Bridgton Historical Society's Mike Davis. Together, the group explored the history of a handful of retired granite quarries, how different types of stone walls tell different stories, and the history of the forestry industry in Bridgton.

Under the tent, there were presentations about Legacy Planning & Carbon Markets and a Forest Landowner Focus Group with Firooza Pavri from the University of Southern Maine.

Protecting our waters calls for the protection of our woods, and that's why we're so grateful we have been able to hold Woodland Owner Appreciation Day for four years with our partners Portland Water District and Sebago Clean Waters. If you missed it this year, don't worry -- we'll do it again next year!

Special thanks this year to Loon Echo Land Trust and Bridgton Historical Society for hosting us!

Pondicherry Park Trail Upgrades

Lauren Pickford and Colin Holme

Everyone should have access to the outdoors.

Pondicherry Park is a beautiful woodland park with ample frontage on Stevens Brook, a historic well, ancient rock walls, majestic pines, and walking trails that connect to downtown Bridgton via a signature covered bridge. Despite its ideal location, this amazing park was not truly accessible for all until this year.

But that changed over the summer as the Pondicherry Loop and the Willett Brook Trail were upgraded to be both handicap- and wheelchair-accessible trails. What makes it wheelchair accessible is the gradual inclines, level surfaces, a five- to six-foot width, and a hard-packed gravel surface. This upgrade is a result of a grant Loon Echo Land Trust was awarded to make this wonderful park enjoyable for even more people. Not only is this an All Access Trail, it is accessible by public transportation: the Lake Region Explorer!

As part of the trail upgrade, many existing stream crossings required replacement. Most of the original crossings were wooden boardwalks that were not traversable for people with walking disabilities. These had to be replaced to make the trail accessible, but properly sized culverts would have required a huge amount of fill, which would have made for inconvenient and expensive grade changes. After considering several different options, the contractor proposed using timber mat bridges for all the major stream crossings. These simple bridge structures are made from ten by ten inch square-cut logs that are fastened together and span a gap of 16 feet. These new bridges will allow the stream to act like a stream, while allowing the passage of fish, amphibians, and other creatures. Although some streams run dry during the warmer months, they contain big flows in the spring and connect aquatic wildlife to Stevens Brook.

In order for the trail to come to fruition, LEA provided a trail easement over our property at the Maine Lake Science Center. This was necessary to assure funders and the town that the public will have perpetual access to this community park. The easement also allowed for the construction of switchbacks to reduce the grade at the Willett Road entrance.

Pondicherry Park was created through a partnership with LEA, Loon Echo Land Trust, abutting landowners, and the town of Bridgton. It is home to many species of wildlife and has one mile of frontage on Stevens Brook. This trail runs nearly parallel to the waterfront, making for a great opportunity to observe birds and other wildlife.

The 66-acre park still has many primitive trails, a dog-friendly loop, and connects to our Pinehaven Trail at the Maine Lake Science Center, which has a low-elements challenge course. If you haven't visited Pondicherry Park, we invite you to hop on the trail near the Community Center in Bridgton or from our Maine Lake Science Center on Willett Road.

New Willett Brook entrance

Lakes Environmental Association
230 Main Street
Bridgton, Maine 04009

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