

LAKESMART UPDATE 2019

By Sabine Fontaine and Maggie Shannon

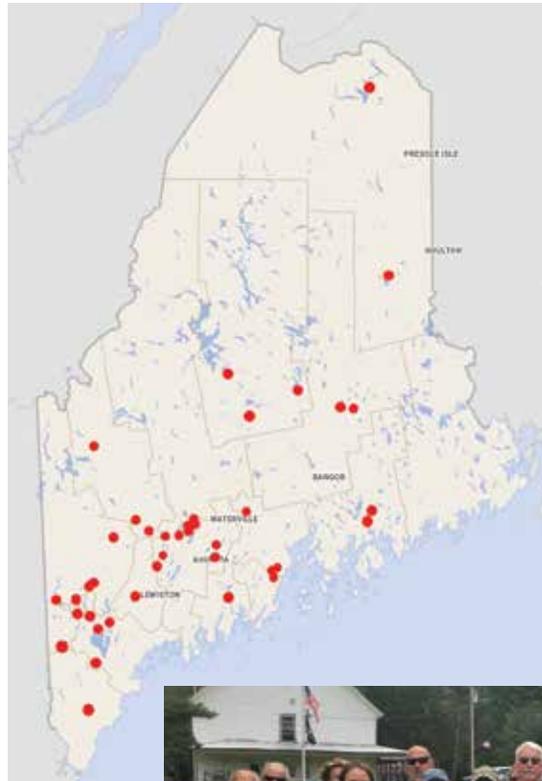
The 2019 season has produced more than 250 LakeSmart evaluations across the state, the largest number of detailed lake-saving homeowner encounters since the program began 14 years ago. Once again, we provided seven all-day LakeSmart Training Workshops in southern, central, midcoast, and far northern Maine to provide LakeSmart Coordinators and Evaluators the skills and tools they need to engage fellow homeowners and preserve the health and beauty of the lakes they love.

Seventy-seven amazing volunteers logged more than 1,100 hours making LakeSmart visits to lakefront homeowners, providing them with best practice recommendations, and recording their suggestions in thank you letters.

A volunteer hour in Maine is worth \$25.43, which means this effort has contributed \$27,973 to the state's economy. An impressive donation, yes, but eversomuch more valuable when it's seen for what it provides: effective protection for Maine's \$5 billion lake resource.

Because we all know the multiple impacts of development and climate change threaten vulnerable surface waters, the takeaway from this example is clear. LakeSmart's person-to-person brass-tacks communication is vital for every lake in a developing watershed. The map shows 2019 LakeSmart activity. Notice the heavy concentration of LakeSmart programs along the southernmost part of the I-95 corridor; now imagine what it will look like as development continues to push north. The map's story shows the close link between development and water quality decline.

It doesn't have to. We know what to do to save our lakes and it's not rocket science. Many among us have already started sharing with friends and neighbors the practical, common-sense steps that preserve the joys our lakes provide. If your community hasn't yet, it's time



It was an impressive year for LakeSmart geography. Lake Association volunteers conducted more than 250 evaluations on 42 lakes across the state, from Cross Lake in Aroostook County to Kennebunk Pond in York County. The reach of LakeSmart continues to grow thanks to the 26 Lake Associations and their dedicated volunteers active in 2019. Every spring and summer, we host trainings for new and returning LakeSmart evaluators. The crew pictured here had a great day in the classroom at Unity College and in the field evaluating a property on Lake Winnecook.



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to adopt LakeSmart! Ironically, our most pristine gems may be most at risk. Often lake declines aren't apparent on the surface, so the evidence of mounting danger remains hidden below the thermocline until the damage has progressed to the problem stage. From time to time, we entertain the deceptive thought that lakes with murky water have an advantage because their users can see the trouble coming, while our pristine gems seem secure ... when in truth they are not at all safe. No lake in a developing watershed is safe today. It's high time all of us reckon with the inevitability of rapidly occurring change and take steps to avert it.

Over the past few years, Maine Lakes has taken steps to develop LakeSmart into a tool any lake association of whatever size can take up. Training, materials, on-site visits, ongoing help and counsel are free. Online training now makes the program accessible in remote locations. A developing network of geographically distributed centers provides support for local volunteers in the field. And, thanks to the splendid support of friends like you in the lakes community, state funding now ensures LakeSmart's sustainability.

We thank you. And, we urge you to join the movement. If you haven't committed to introducing this practical, effective, and accessible program, do it now. Contact Maine Lakes for a meeting with your board, for materials and for background to help you get started.

THANK YOU!

A record-setting 77 volunteers from 26 lake and watershed associations evaluated 259 lakefront properties for LakeSmart in 2019. The hours these volunteers give to this program to make it a success is astounding, and we thank them, and the following organizations for helping to support their important work.

30 Mile River Watershed
7 Lakes Alliance
Abrams Pond Association
Androscoggin Lake Improvement Corporation
Belgrade Lakes Association
China Lake Association
China Region Lakes Alliance
Clemons Pond Association
Cold Stream Pond Campowners Association

Crescent Lake Watershed Association
East Pond Association
Friends of Cross Lake
Friends of Lake Winnecook
Friends of Wilson Lake
Friends of Wilson Pond
Georges Pond Association
Island Falls Lake Association
Kennebunk Pond Association
Lakes Environmental Association
Lovejoy Pond Association

McGrath Pond/Salmon Lake Association
Megunticook Lake Watershed Association
Midcoast Conservancy
Three Mile Pond Association
Watchic Lake Association
Worthley Pond Association

Summer Speaking Tour

Now is the time to book a speaker from Maine Lakes Society for your lake association's annual meeting. We have speakers who can address issues with Maine lakes in general, conservation of Maine's loons or the work of Maine Lakes Society, including an overview of LakeSmart, Lakes Alive! and grassroots advocacy. Email mlsadmin@mainelakessociety.org to reserve a date and time for 2020.

Letter from Our President

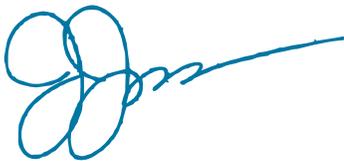
Dear Friends of Maine Lakes,

As the leaves fall from the trees here in Maine, I might actually be starting to miss those overly humid summer days when all I want is to jump in a lake! Not living on a lake myself, my family and I flock like geese to the shores of our local lakes, including Maranacook, Minnehonk and Clearwater to name a few. This year, we brought along our 3-month old baby for his first dip in Maranacook. Days like these I am grateful for clean, cool lakes; public access; and local lake associations that protect them. LakeSmart, CBI, erosion control, and other education programs also raise awareness about nonpoint source pollution in our watersheds.

I am in awe of the amazing work accomplished by Maine Lakes Society members throughout the state this year! We experienced an unprecedented growth in LakeSmart, and we saw member associations organizing watershed surveys, developing watershed plans, implementing erosion control projects, and/or ramping up their monitoring programs. Collectively, we succeeded in bringing in an additional \$75,000 in state funding for LakeSmart through LD959, and we shared ideas and networked with fellow member associations at our 49th annual Maine Lakes Conference on June 22nd at UMF (see p. 7). We brought on three fantastic new Board members representing the 30 Mile River Watershed, China Lake, and Cross Lake (Aroostook County) (see p. 13). In September our new board met to review and update our strategic plan and set the course for the BIG year ahead.

In 2020 we will be celebrating 50 years of supporting lake associations and protecting Maine Lakes! We look forward to unveiling our new website, hiring a new LakeSmart Program Manager, and charting the course for the next 50 years of lake protection work in Maine through ongoing advocacy, education and action! We look forward to celebrating with you.

Wishing you all a memorable fall and winter blessings!



Jennifer Jespersen
President, Maine Lakes Society



Notes from the Executive Director

The world of dating has come to the teenagers in my house. So I've found myself pondering the giddy excitement that comes with building a new relationship. I feel that describes my first year at Maine Lakes Society. Each new month has been an adventure, where I've learned a lot about how the organization works, and gotten to know its wonderful board and helpful staff. I've had some bumps along the way, but also some big hits. I've especially enjoyed the summer months getting to know many of you through speaking engagements at lake association meetings and on trips aboard the Melinda Ann. But, as my first year rapidly draws to a close, I sense a new phase in the relationship ahead.

Now that I've seen a year in the life of the Maine Lakes Society, the giddiness is waning but in the very best way. Now it's time to move into the more comfortable stage of the relationship. The one where everything isn't quite so shiny and new. As my relationship matures, so must my work.

And there is a lot of work to be done to help keep Maine's lakes clean, clear and healthy.

Some big challenges loom ahead. How can we grow LakeSmart, our flagship program, in a way that assures we are doing all we can to maximize lake protection while at the same time supporting more landowners in their efforts to reduce erosion and pollution? What services can we offer our member lake associations to help them grow and thrive? How can our website help lake associations and individuals find the information and resources they need? Can the redesign of our website (coming in January 2020) help your association get new members? (Spoiler: Yes, I think it can). Can we offer resources, like a newly updated Lake Book, to provide lake-front homeowners and seasonal renters the resources they need to live lightly on their lake? **We'd love to hear from you about how we can help you, our lake advocates.**

I know the thrill of a new relationship doesn't last, and I'm pretty happy about that. It can be exciting but exhausting. I'm not sure if my daughter will figure this out this time around, but time will tell. As relationships age, you can get more done. You're no longer surprised by something new at every turn. I look forward to the next year at Maine Lakes Society where I'll know the terrain a little better, I'll know what the year ahead will bring, and I'll be prepared to meet the challenges. Most importantly, I'll know more of you and what you need to keep Maine's lakes clean and healthy in the years ahead.



Susan Gallo
Executive Director, Maine Lakes Society



Do you care about your lake?

Join Maine Lakes today to support our work to keep Maine's lakes clean and healthy. Find an easy online donation form at mainelakessociety.org!

LAKE SMART 2.0:

A PERSONAL REFLECTION FOR CHANGING TIMES

By Maggie Shannon

I've been interested in the lake-saving potential of LakeSmart for 15 years. As president of an association hosting the program in 2004, as contributor then partner with administrators at Maine's Department of Environmental Protection (MEDEP), then as Program Director when Maine Lakes adopted the program, my appreciation of its power to produce real world change has only grown over time. Although LakeSmart hasn't yet reached its potential, its person-to-person delivery, concrete designs and experiential communication of them are uniquely effective change-makers. Enforcement creates desired changes too, of course, but its limited and uneven application doesn't begin to cover the waterfront. It's obvious that lake protection calls for both carrot and stick, but for imbuing a whole community with the ethic of stewardship, only LakeSmart delivers the goods.

MEDEP's Kathy Hoppe and Christine Smith broke astounding new ground when they created LakeSmart in the early aughts. Let's remember and honor these two women for their extraordinary vision, and salute Barb Welsh for continuing the program against the odds. But we live in rapidly changing times today.

As temperatures climb, storms increase in number and intensity, open water season expands its regime, and development moves inexorably north, our practices must keep pace, especially those which shield the most vulnerable and valuable of surface waters — the great ponds of Maine.

Therefore, LakeSmart 2.0

We're immensely proud of LakeSmart's achievements and evolution to date, but it's not yet capable of meeting the evolving challenges lakes face today. Accordingly, Maine Lakes is reviewing the emerging literature on nonpoint source pollution control standards and convening experts to help us review LakeSmart practices and award criteria to ensure the program's continued effectiveness. As part of this

redesign, we'll also expand our partner support network, continue to improve our online survey tool, and host an online forum for sharing the great new ideas and approaches our remarkable lake association partners produce.

Channeling Mark Twain, I've been in the habit of saying past reports of my retirement from Maine Lakes were greatly exaggerated, but now it's time. I look forward to the selection of my replacement by year's end, so that the next phase of this revolutionary program will get a running start in 2020 and beyond. Institutional memory is fragile, so I'll consult for a time, but I am energized by this change, and know you will be too.



Maggie Shannon (right) (pictured with Woods Pond residents and Maine Lakes board members Roy Wood and Kelly Margolis at the 49th Annual Maine Lakes Conference) has been a driving force for the LakeSmart program since it was adopted by Maine Lakes in 2013.

The board and staff would like to thank Maggie for the incredible passion, devotion and thought she has put into this organization, both as its Executive Director from 2006 to 2013, and then as the driver and innovator for the LakeSmart program through 2019. Her wisdom, insight, and thoughtful approach to all aspects of the Maine Lakes mission over this time have been invaluable in passing protective lake laws, supporting more than 80 member lake associations, and growing LakeSmart into the successful program that it is today. We wish Maggie the best in her retirement, and hope that she gets to enjoy the beauty and peace of clean, clear lakes in the years ahead.

LIVING LAKES: *Freshwater* Jellyfish

By Susan Gallo

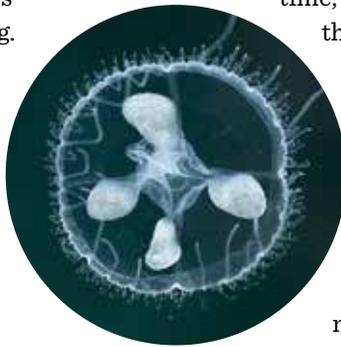
I was blown away a few years ago when a friend posted a video on Facebook of a small freshwater jellyfish (*Craspedacusta sowerbii*) in Onawa Lake in northern Maine. In more than 20 years working on Maine's lakes and ponds, I had never heard of such a thing. And I'm not alone. It's a surprise to many, even old timers who have spent their lives in and around Maine lakes, that Maine is home to this fascinating exotic species.

The freshwater jelly is not a true jellyfish, like it's marine cousin. It does however share the same type of complex life cycle, involving both sexual and asexual reproduction. There are several life stages, too, including a tiny polyp phase (where it attaches to a stable object like a root or rock), a mobile larval phase (where it disperses in the water), and a medusa stage where it is most easily identifiable though still very small (about the size of a quarter).

When conditions get tough, freshwater jellyfish can wait it out in a dormant contracted resting phase (podocysts). One theory is that jellyfish travel naturally from lake to lake in this form, catching a ride attached to mammals, birds, or plant material. Any of the forms may also be moved with stocked fish or in bilge water.

While there's some debate about the origin of freshwater jellyfish, the prevailing theory is that they originated in the Yangtze River basin in China. They were found in Regents Park in London in the late 1800s, probably having traveled there on water lilies imported from China.

The medusa stage of the freshwater jellyfish is the one you would recognize, but you have to look closely as they are only as big as a quarter at their largest.

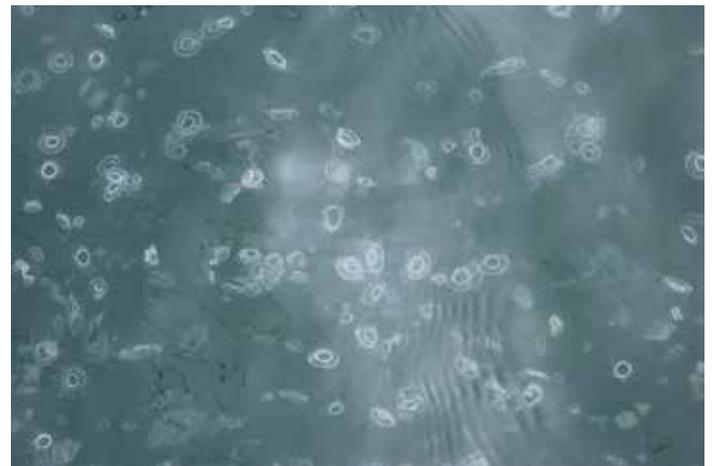


They showed up in the United States around the same time, and have now been reported in 44 states. The first observation of the species in Maine was in 1963 and, since that time, they've been reported in about 50 Maine lakes, though there have never been any systematic jellyfish surveys (they are notoriously difficult to find!)

Their medusa form appears for only short periods of time in late summer in years when the conditions are right, likely during hot summers and in still water. They will appear one year and not again for several years, and no one is exactly sure why.

Their effect on the native ecosystem isn't well understood. They eat zooplankton, and are eaten by larger fish and birds, but their presence seems to bring no ill effects and they aren't invasive like Eurasian milfoil. As far as we know, their numbers remain both small and sporadic.

If you are lucky enough to find a jellyfish "bloom" on a Maine lake, don't panic. While they do sting, they are so small they have no effect on people. You can report your sightings (and learn more) at freshwaterjellyfish.org. Maine's lakes really are a treasure trove of living things!



Seas of jellyfish "blooms" happen occasionally in Maine when water conditions are warm and still. While they do sting, even swimming through a bloom like this would not cause you any harm due to their small size.



WHY WE INSPECT BOATS AND PROMOTE LAKESMART

By Wynn Muller

As an active lake association, Friends of Wilson Lake spends about \$5,000 (including \$2,000 in DEP grant funds) inspecting boats at the landing to prevent the spread of milfoil and other invasive plants into our lakes. You also might know that we have been fostering and promoting LakeSmart, as evidenced by the many LakeSmart signs around the lake. You might ask...why we do this? What good are LakeSmart houses and why spend so much money inspecting boats? If we only inspect on weekends, what about all those boats launching mid-week? These are all valid questions and I'll try to provide some answers to help your lake association move forward with building support for similar programs to protect your lake.

Invasive Plants and Boat Inspections

Invasive plants are one of the biggest threats to water quality and lake health, and we have talked much about the dangers, threats and impacts from invasive aquatic plants over the years. They are the reason the Courtesy Boat Inspection Program exists. And our fear about what might happen when they arrive is why we devote so much money toward it. While we

cannot afford to inspect every boat, the fact that we maintain a weekend presence at the launch goes a long way toward stressing to most boaters that it is necessary to inspect your own boat to make sure you do not bring invasive plants to the lake.

Phosphorus and LakeSmart

Phosphorus is another of the biggest threats out there to lake health. Here is my simplified version of why that is true. Nutrients are essential for all life, including algae. That is why we provide fertilizer on flowerbeds, to feed our plants. The first two nutrients listed on the fertilizer bag are nitrogen and phosphorus. While nitrogen can make an algae bloom worse, it does not cause the algae bloom to commence.

To initiate an algae bloom, the lake needs phosphorus. For lakes, the main source of phosphorus is erosion. Dirt, soil, rocks and gravel all contain phosphorus, so the erosion or runoff from road ditches, camp roads, shorelines, agriculture fields and forest harvesting are all carrying phosphorus-laden dirt. Phosphorus also can come from manure, fertilizer, and septic systems.

Generally, lakes can handle a phosphorus level of less than 10 ppb (parts per billion, less than 0.000001%). However, when that level is exceeded to perhaps a level of 20 ppb, algae growth may start to turn the water green. That is the impact of a minute additions of phosphorus to the lake. Wilson Lake has an historic phosphorus level of 8 ppb, good but still in danger. I do realize this is a rather simplified version of why phosphorus is harmful to the lake but you get the picture. Keeping phosphorus out of the lake is one of the main reasons we so strongly support LakeSmart.

So how does LakeSmart help keep phosphorus out of the lake? The LakeSmart program looks at four different aspects of each property. First, we look at the driveway and parking area for signs of erosion. If so, where and why is it happening and what can a landowner do to direct runoff into buffered areas away from the lake?

Second, we look at structures and septic systems. If the septic system is not working, the property cannot be LakeSmart until it is repaired or replaced. The structure is also examined for signs of roof runoff. If the roof runoff goes into a rock or vegetated area, the erosion is minimized. It can also be directed into a “rain garden,” where the water gets a chance to filter down into the earth and not flow directly into the lake.

The other two areas are the yard and shorefront. We look at both areas to make sure that runoff does not flow directly into the lake. Wide buffers of vegetation along the shorefront that filter the nutrients from the water before it can reach the lake are best. An ideal buffer consists of multiple levels of vegetation — canopy (high), shrub (mid), understory and ground cover (low) as well as a layer of duff (leaves and organic material on the ground) — that slow water flow and reduce stormwater flow into the lake. This reduces the impact of rain, while the root structures help absorb the flowing water. LakeSmart homeowners also minimize the use of pesticides and fertilizer to keep additional chemicals that foster algae growth out of the lake. They also look at the stability of shorefront banks. For every area raising concern, LakeSmart helps homeowners identify solutions and plan for long-term property management that reduces erosion.

Bottom Line

I took an online course on Watershed Stewardship. The instructor was Laura Wilson from the Maine Cooperative Extension. Her comments were, ***“The big two, as far as lake threats, are phosphorus and invasive aquatic plants.”***

Lakes infested with invasive plants and overloaded with phosphorus reduce our ability to boat, fish and swim; the quality of wildlife habitat; and the scenic beauty of our lakes. Property values and the resultant tax base are also affected by declines in water quality. From a study done by the University of Maine, a 3-foot (one meter) decline in water quality can result in a decline of 10 to 20 percent in shorefront property value.

The work that lake associations do is most important to the future quality of our lakes. Supporting courtesy boat inspections and building LakeSmart programs are great ways to insure against future declines in water quality. We may not see immediate improvement to water quality. That is okay as we want to see no signs of water quality reductions. The Council of Lake Associations at Maine Lakes is here to help all of us build programs, add members, and protect our lakes. I hope these explanations and answers get you on your way to building lake programs wherever you are.



Maine Lakes Conference chair Sandy Muller and MLS Board president Jen Jespersen at the reception the evening before the 2019 Maine Lakes Conference.

JUMP IN FOR MAINE LAKES: 49th Annual Conference Makes A Big Splash

Thanks to all our presenters, sponsors and attendees who joined us at our annual Maine Lakes Conference this year! The rooms were packed, and our 130+ attendees were engaged and enthusiastic as they shared stories and asked questions about lake health. Talks on a wide range of topics, from a septic tank tutorial to a study using drones to monitor algae, the volume of knowledge shared among presenters and attendees was staggering. The night before the conference, we hosted a cocktail hour for donors and sponsors, and it was great to get

them together to talk about their passion for lakes. The conference ended with a successful raffle drawing for more than 40 prizes provided for us from local businesses and board members. The raffle netted almost \$4,000 for lake programs. We very much look forward to our 50th anniversary conference on June 20, 2020, which we hope will be our biggest and best yet. “Clear Vision for Clean Lakes” is the theme, and we hope you can join us! More information to come!

MEET OUR BOARD OF DIRECTORS

In an effort to get to know our board members better, we are highlighting a board member in each newsletter. This month, meet **Betsy Bass**, who has been on the board since 2017, bringing expertise in education, water quality monitoring, and a passion for lake conservation.

How did you learn about Maine Lakes Society?

Barb Welch, who was at the Maine DEP, suggested that I apply for the Executive Director position of Maine COLA (Congress of Lake Association) during an ENVIROTHON Competition in the early 1990s. I did and held the ED position for 2 years working out of my house.

During those years, I recommended that the position should be based in an office and not a home, and closer to Augusta for legislative advocacy. I had a 2-year-old and an infant at the time, and members called 24/7.

I stepped down due to my family obligations. I was pleased to hear when ME COLA/MLS became centered in an office not far from Augusta!

Why did you decide to join the board of the Maine Lakes Society?

I was asked to rejoin MLS and I did as I care deeply about lakes and water quality.

Is there an experience from your past that makes you more aware of your natural surroundings?

I grew up on Wilson Lake in Wilton, Maine and loved my experience there. I appreciated the need for clean water and natural healthy environments for plants, animals and humans. I worked in the oceanography, limnology, resource management and planning, and environmental science education fields throughout my career. I am also a photographer and appreciate nature's beauty.

What's the single most important thing we can do to protect Maine's lakes?

I would say education about the need for clean water and preserving the lake watershed and shoreland zones. Non-point source pollution is the major pollutant source for Maine lakes today. We need to teach kids and adults what it is and how to

prevent it. This includes teaching land owners, all watershed residents (everyone!), and the following generations about the importance of shoreland zoning laws, vegetative buffers, LakeSmart, invasive species, water quality protection, erosion control and why all this is important to all for our quality of life. It is also important to support legislative bills for water quality and to understand that everyone has a hand in protecting the quality of all of our waters.

Why should younger people be involved in lake and pond conservation?

Lakes are their legacy. They need to learn about lakes, the importance of clean water and the economic costs to humans of not having clean water. Quality of life — the smells, aesthetics and beauty of lakes — is critically important not only to us, but all animals. The youth need to learn to protect these gems!



If you could be any animal that lives in, on or by a lake, what would you be and why?

Difficult to answer! Either a loon or an otter. I love listening to the eerie call of the loon, watching babies, and their banding at end of the season as they prepare to leave. I also like watching otters swimming and patrolling ... so free and fun!

What's your favorite Maine lake and why?

Wilson Lake — it is beautiful and my home.

What's your favorite time of year on the lake?

All of them — loons in summer, fall reflections on the water, ice skating, and watching spring change the cycle.

If you could visit any lake in the world, which one would it be?

I think it would be fun to visit glaciers and the glacial lakes — so different!

It Takes a *Village*

By Linda Rice

I had the honor and privilege of becoming the first recipient of Maine Lakes Society's Lake Steward of the Year in 2018. It was fitting that summer that the theme of the Maine Lakes Conference was "It Takes A Village." As a volunteer, any success in protecting our lakes and ponds is supported by an amazing group of organizations, associations, local businesses and the towns that border our lakes. Indeed, a village of supporters and volunteers is behind every effective conservationist.

When I "jumped in" to become a volunteer for North Pond and the Belgrade Lakes watershed, the North Pond Association (NPA) was there to encourage, guide and fund all the projects and programs that would help to "protect and preserve" North and Little Ponds. As a Courtesy Boat Inspector (CBI), the NPA Board of Directors and membership, the towns of Smithfield, Rome and Mercer, the 7 Lakes Alliance (formerly Belgrade Regional Conservation Alliance) and their staff allowed me and others to educate our boating and fishing public to the hazards of invasive aquatic plants. The CBI program is connected to the Invasive Plant Patrols that the NPA and myself along with 7 Lakes Alliance have been conducting for two decades on North and Little Ponds. The North Pond community knows they can bring any plant samples to myself or other CBIs creating an 'eyes on the water' network of volunteers.

The NPA has sponsored the "Are You Buff Enough? How to Become LakeSmart-er Workshop" for five years with the help of speakers from the 7 Lakes Alliance Youth Conservation Corps (YCC), LakeSmart's own Maggie Shannon, Dale Finseth from Kennebec County Soil and Water Conservation District, and participation from all of the lake associations in the Belgrade Watershed. I have had the privilege of overseeing the workshops with all of these dedicated people.

Through the Buffer Workshop, the NPA now offers Watershed Financial Awards to participants who engage the YCC to install best management practices or create lake-friendly landscaping themselves. These citizen volunteers fill out practical application forms describing their erosion control projects along with their time and cost. Those forms are used

to match Department of Environmental Protection 319 Grant money awarded to the NPA and 7 Lakes Alliance.

These grants have been awarded because of a small army of volunteers who conducted the 2016 North Pond Watershed Survey. As the LakeSmart Coordinator, I have seen how all of these programs overlap and connect people to resources and information that educates them on how to "live lightly on the land" to protect our lakes.

As Secretary of the NPA, I have had an opportunity to communicate to all our membership through notes, emails and the North Pond News newsletter. If I am fortunate enough to ever make a difference it is because it all started with my own Lake Association. With a sense of place and pride, volunteers like myself are encouraged to "jump in." The Lake Steward of the Year Award is only possible because of the village that supports me.

Linda was awarded the Lake Steward of the Year in 2018. She is pictured here with Maggie Shannon, long-time LakeSmart coordinator (right) and Barbara Barrett, long-time LakeSmart volunteer for Belgrade Lakes Association (left).



Lakes Alive! A TIME FOR REFLECTION ABOUT MAINE LAKES EDUCATIONAL PROGRAMMING

Educating the next generation of lake stewards is part of the Maine Lake's mission. After all, how do we assure that we'll have people who care about keeping lakes clean and clear in the future if we don't foster a love of and appreciation for those lakes in kids? As many of you know, Maine Lakes has run educational programming aboard the *Melinda Ann*, our floating classroom, for the last few years and we've had great successes. Kids have had life-changing experiences as they've tried scientific equipment, collected data, and learned about all the ways they can reduce pollution and protect water quality. Adults have been a big part of the *Melinda Ann*, too, and trips sponsored by lake associations in the summer have walked hundreds of adults through the Lakes Alive! curriculum and expanded their lake science horizons. The summer of 2019 saw an uptick in Lakes Alive! activity, with one school, two camp programs, and four lake associations sponsoring trips around their lakes for both kids and adults.

As we ready the *Melinda Ann* for a winter's rest, the board's Education Committee has come together to assess the state of our boat program and plan for its future. We need to figure out what it will cost to refurbish the aging *Melinda Ann*, investigate the need to replace or repair our scientific equipment, create a budget for whatever plan comes together, and of course, raise funds to meet those budget needs. We think we'll learn a lot this fall as we dig into the options ahead of us. Everyone is in agreement that lake education should be part of our programmatic offerings going forward, we just need to figure out the best way to help the most MLS members in our quest to awaken the passion of future lake advocates. If you have an experience on the *Melinda Ann* to share, if you're an educator who has expertise in lake curriculums, or if you have thoughts on the MLS education program moving forward, please don't hesitate to email info@mainelakessociety.org. We'd love to hear from you!



A Lakes Alive! participant on a June trip on Wilson Lake in Wilton tries out a Secchi disk to measure water clarity.



It's all hands into the bucket of mud when our educator pulls up muck from the bottom. Kids and adults alike look for the many kinds of macro invertebrates living in this dark, muddy habitat.



Captain Phil explains how lake temperatures change over the season to participants on Wilson Lake.

Would Your Organization Like to Host a Lakes Alive! Trip in 2020?

The *Melinda Ann* is a large boat, and she does require a relatively large boat ramp with a cement pad and a long turnaround. But if you have a good access point on your lake, we'd love to talk to you about programming in the summer of 2020! We will be setting rates this fall, and asking for deposits for booked trips in January, but now is the time to reserve the boat for the 2020 season. For reference, trips in 2019 were \$800/day or \$1,400 for two days, with a \$200 discount if you can offer a place to stay for or captain and educator. The Education Team is working hard this fall to evaluate the boat needs, figure out ways to raise funds, and incorporate new ideas into boat and land programming. Stay tuned for more, but sign up now if you want to be part of the lake science action in 2020!

Maine Lakes Is Turning 50!

ACCOMPLISHING MORE TOGETHER

It was 50 years ago next summer that some savvy lake association members got together to ask if they could find common ground, work together on lake issues they were all facing, and share strategies for success. The answer was yes they could, and we are very glad they did. The Congress of Lake Associations was incorporated in 1970 to support lake associations and their incredibly important work on the front lines of lake conservation. Since that time, the organization, its budget, mission, staff and list of accomplishments has grown considerably. The organization has been renamed a couple of times, but has always retained its original mission of working to protect Maine's lakes and support lake associations in their efforts.

We believe that 2020 will be an exciting year with much to celebrate, and we want to make a big fuss about our birthday. But your help is needed! Please read below for details, and please pitch in and help where you can. We couldn't have succeeded over the last 50 years without your help and support. Thank you! We look forward to celebrating our successes with you in 2020.

50 Lake Heroes

Is there someone from your lake association who has gone the extra mile for your lake? Is there someone who stands out as a lake advocate or LakeSmart volunteer? Is there a dedicated plant patroller, lake monitor or loon counter? We would like to honor the people around the state who have made a difference for lakes in Maine over the last 50 years. Send us a couple sentences or a short paragraph (fewer than 500 words) along with a high resolution photo of the person you have in mind. We'll work to honor all our lake heroes over the course of next year, sharing their accomplishments through social media and our website; and sending a letter of recognition and thanks to the heroes we honor.

Revised Website

We are in the thick of website revisions, refreshing our brand and reorganizing the site to better serve our members and our programs. Look for the new site to be live in 2020! **If there is anything...either a type of resource page, an interactive service, or really, any other benefit our website could provide you as an individual or as a lake association member, please let us know!** We'd love to hear from you.

Business Partner Drive

We have been working on strategies to grow our business partnerships over the last year, and would like to find 50 new business partners supporting our conference, our programs, and our work to keep Maine's lakes clean and healthy in 2020. **Do you have a business or know of a local business owner who benefits from Maine lakes that are clean and healthy?** Let us know and we'll send you more information on becoming a business member! We'll recognize new business members on our revised website, in our social media over the course of 2020, and in our next newsletter. We'll also send a certificate to display so they can share their support for Maine's lakes with their patrons and customers.

To reply to any or all of the above, please send a message to mlsadmin@mainelakessociety.org or give us a call at (207) 495-2301. We look forward to hearing from you!

Cyanobacteria IN THE NEWS AND OUR LAKES

We heard a lot in the news this summer about Cyanobacteria (blue-green algae) and the potentially toxic effects of algal blooms. While lakes across the U.S. with greater development, warmer temperatures, and longer growing seasons are experiencing some of the worst algal blooms, Maine is not immune. The Maine DEP lists 122 lakes in Maine at risk of having an algal bloom. Of those, 32 have a high or very high risk of future blooms, and 19 of those bloom either annually or near annually. These known “bloomers” are fueled by the perfect storm of both current and historical inputs of too much phosphorus; loss of dissolved oxygen at the bottom of the lake; and weather. Yes, weather! Those of you that take Secchi disk readings in your lake know that some of the best Secchi readings indicating the clearest water occur when the weather is dry because fewer nutrients get washed into the lake.

For more information on the lakes at risk of an algal bloom and how to report a bloom, please visit the Maine DEP website: maine.gov/dep/water/lakes/bloomrisk.html. If you're looking for a way to help prevent blooms on your lake, and don't already have a LakeSmart program, give us a call today to find out how to get started!



Cyanobacteria bloomed this past summer on Sabattus Pond.

Photo © Scott Williams

SO MANY WAYS TO SUPPORT MAINE LAKES SOCIETY!

Fall brings along so many great traditions...the last cold days at camp, the last trip on the water before the boat gets winterized, the last swim in an increasingly cold pond. For many nonprofit organizations, Maine Lakes included, fall means it's time to look at the year ahead, craft work plans for staff, and figure out a budget. While Maine Lakes has enjoyed success with state funding for LakeSmart, and foundation support for programming, we look to our members for critical unrestricted support. As we look ahead to activities for our 50th anniversary year (see page 11), we'll be focusing on ways to get more members, both lake associations and individuals, on board with us. Please support our organization as we work to keep Maine's lakes clean and healthy for the decades to come. Here are some ways to help:



Local is best, but if you're shopping at Amazon, simply use smile.amazon.com, and select Maine Lakes Society as the organization you'd like to support. Amazon donates 0.5% of eligible purchases. While that doesn't seem like a lot, with lots of participants and even a nominal amount of shopping, it adds up to unrestricted support for our programs!

Planned Giving We are growing our Planned Giving program, working with more members and friends who want to leave a long-term legacy that protects Maine's lakes, educates the next generation of lake stewards, and advocates for lake conservation. If you are planning your estate and want to hear how you can help support our work over the long term, please get in touch with us.

Business Sponsorships We are growing our Business Partnerships (see page 11). Does your business benefit from the healthy Maine economy rooted in clean lakes and nature-based tourism? Support Maine Lakes and share your passion for lake conservation by becoming a 50th anniversary supporter.

Find us on 

And there are other ways to support our work! Follow us on Facebook and “like” our posts to get us more social media play. Speak up for Maine lakes in Augusta by joining our advocacy network. We'll send you periodic alerts and tips for action you can take that makes a big difference in protecting Maine lakes.

For any of the above, send an email to info@mainelakessociety.org to get started!

Incoming Board Members 2019

BUNNY CALDWELL

Bunny has lived on China Lake for 26 years. She moved there in 1993 after teaching school in Yarmouth for 29 years. She has seen China Lake so full of algae that she would not swim in it. Her good friend, Marie Michaud, got involved first in LakeSmart and invited Bunny to meet Maggie Shannon and learn more about it. She thought it was a program full of hope and solutions for a cleaner and more enjoyable China Lake, and was sold on getting more involved. She has been doing LakeSmart evaluations ever since and feels it's a wonderful way to be involved in the restoration of the lake and in her community.



LIDIE ROBBINS

Lidie Robbins is the Executive Director of the 30 Mile River Watershed Association, where for the past 10 years she has led this coalition of lake associations, towns and land trusts in working together to protect these Central Maine lakes and ponds. A native of Vienna, Lidie grew up on Parker Pond, where her family has lived for eight generations. With degrees in Environmental Science and Environmental Education, Lidie began her career as a Park Ranger for the National Park Service before eventually making her way back to Maine and Parker Pond. She's been on the board of the Parker Pond Association for the past thirteen years, and through her work with 30 Mile River, works closely with other lake associations. During her time at the 30 Mile River Watershed Association, she has collaborated with the Maine Lakes Society on various projects, including LakeSmart, as a regional partner.



CHERYL ST. PETER

Cheryl is a retired Professional Engineer and owned an environmental consulting company (County Environmental Engineering, Inc.) for more than 20 years, and a drinking water testing laboratory (Northern Maine Water Testing) for nine years. She is currently VP of the Maine Chapter of the International Appalachian Trail and the Secretary/Treasurer of the road association for Cyr Road. She has lived on Cross Lake for the last 15 years. She owned a camp on the lake for many years before that, and even before that regularly visited her husband's parents' camp on the lake, built more than 50 years ago. She has been active with LakeSmart on Cross Lake; and has spent extensive time boating, kayaking, and canoeing on lakes in the greater Fish River Lakes area.



Resigning Board Members 2019

MATT SCOTT

Matt stepped down in June after six years of board service. A distinguished biologist, administrator, lake activist, and teacher, Matt is widely known to many for his work as a Lake Ambassador, giving in-depth lake science presentations to many dozens of lake associations over the last decade. Matt has visited more than 1,900 Maine lakes over the course of his long career at the Maine Department of Environmental Protection. In fact, he was the first biologist they hired and he founded the Lakes Unit at the Department to oversee the first studies and monitoring efforts in Maine's lakes. The board thanks Matt for his years of service!

DR. PETER KALLIN

Peter served on the board for the last 12 years, and was President from 2015 to 2019. Peter is a fountain of information and has been dubbed by some as the "human internet." He can fill you in on the latest developments in lake science, organizational and board development, wildlife habitat, the annual calendar of natural events, phosphates in fireworks, threats to groundwater, fishing, and anything you want to know about beer, stout and ale. He also knows everybody, and his friendships helped sell hundreds of raffle tickets for the Lake Lovers Raffle at the annual Maine Lakes Conference. He led the policy committee for many years and helped navigate many successes for lake conservation legislation. Thank you, Peter, for your help, expertise, and guidance!

ROB JONES

Rob joined the board in 2000 as a volunteer from the audience at the Maine Lakes Conference. At the time, we were looking for a treasurer, and Rob more than fit the bill. He had extensive experience in the area of non-profit finances from a long career in public service with the state, and was able to bring our finance and budgeting process through a huge growth period where we more than doubled our annual income. Rob's calm and patient nature helped our staff learn the intricacies of organizational accounting. We hope that Rob enjoys more time for his volunteer gigs inspecting boats and searching for invasive plants. Rob has been a great resource, and we thank him for his years of service!

GARRISON BECK

Garrison joined the board in 2016 and served on the Policy and Finance Committees, as well as on staff hiring committees. A Colby College graduate, Garrison worked for Midcoast Conservancy where he was the Director of Water Conservation. He brought a wealth of practical and on-the-ground experience to the board. He moved to Florida last year but loves to keep up to date with Maine lake issues and all the wonderful lake people who helped form his career. Thanks to Garrison for his years of service!

Microplastics

Sampling and Analysis at Depth in Sebago Lake and at the Outflow Point

By Rebecca Barulli

Plastics are long-lasting, man-made materials produced through polymerization. Microplastics are fragments or broken-down pieces of plastics as they degrade. Microplastics are categorized as plastic particles greater than 1 mm but less than 5 mm in size. Microplastics make their way into freshwater environments through wastewater treatment plants, stormwater overflow, incidental release and other mechanisms.

After taking an Environmental Chemistry course at St. Vincent's College in the spring, where we studied microplastics, I continued to study microplastics, primarily focused on Sebago Lake. My class developed a method of sampling and analyzing freshwater to discover the abundance of microplastics per 1-liter sample. I refined our methods to be as accurate as possible, then focused on sampling in two locations in the lake and at an outflow point. Each week, I sampled at either the southern tip of Sebago Lake at the boat launch or the fishing area on Route 35 at the Presumpscot River.

Although the abundance of microplastics per liter sampled varied within the 5 samples I took at each location, microplastics were always present. The numbers ranged from 2 to 43, and 96.7% of the microplastics found were fibers of varying colors and sizes (Fig. 1).

With the assistance of Portland Water District (PWD), I also collected depth profile samples in the Lower Bay of Sebago Lake on June 28th and July 29th (Fig. 2). Microplastics were found in all samples, the deepest of which was taken 40 meters below the surface. The samples taken on June 28th demonstrated that there were a greater number of microplastics per liter sampled below the thermocline than at the surface. This pattern was also identified in the second sample, taken on July 29th. The cause for the variation within each sample at different depths is yet to be determined.

We compared the number of microplastics at each depth to the lake's temperature profile on each day. The PWD/SJC Water Quality Monitoring buoy collects temperature data every 15 minutes and thus enables this comparison. Interestingly, on both days, we found a roughly bell-shaped distribution when comparing to depth, with the most microplastics found where the water's temperature dropped to 45°F. This hints at a relationship between the microplastic distribution and water density but is not enough data to know that with certainty.

Microplastics in Maine lakes had not been extensively studied before, and it's important to understand the limitations to methods and datasets. There are no standardized methods for comparing microplastic abundance in a lake environment to marine environments. The patterns and timelines of how microplastics breakdown are not known, so they could be breaking down into nanoplastics, which cause concern. The methods I used allowed for a certain size of the particle to be visible and identifiable, therefore there could have been much more plastic that I didn't see. This shows that microplastics in Maine lakes need be studied more so that microplastics in different environments can be widely understood and hopefully prevented.

Rebecca is from Tyngsboro, Massachusetts. She is double majoring in Marine Science and Environmental Science and minoring in Sustainability Studies and Biology at St. Joseph's College in Windham, Maine. She is planning to continue work in the research field involving natural resources after graduating in December.



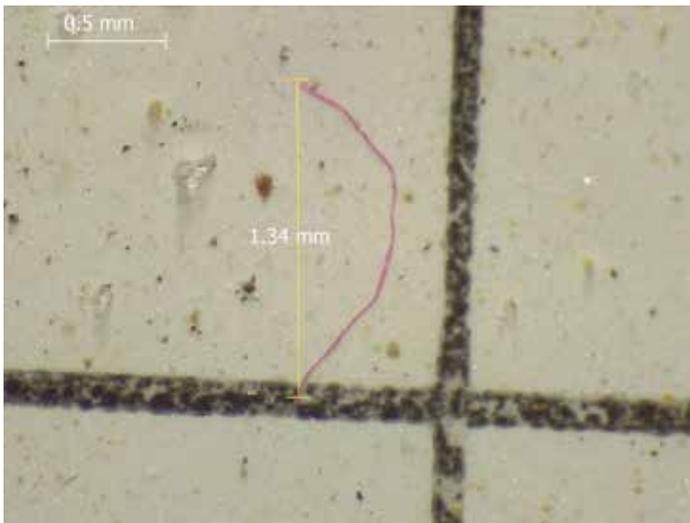


Figure 1: Examples of microplastics found from weekly samples at the Presumpscot River sample site.

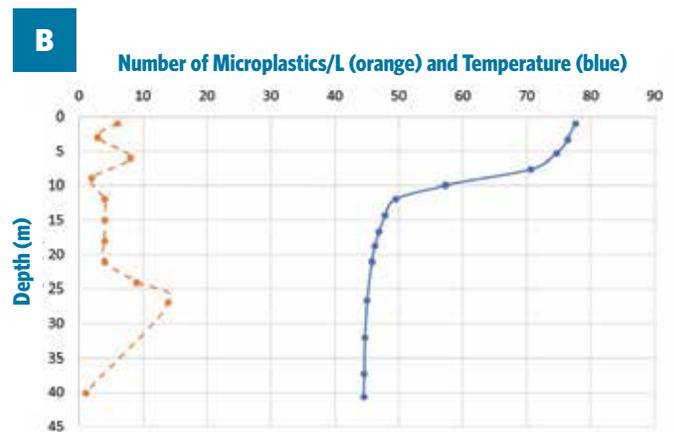
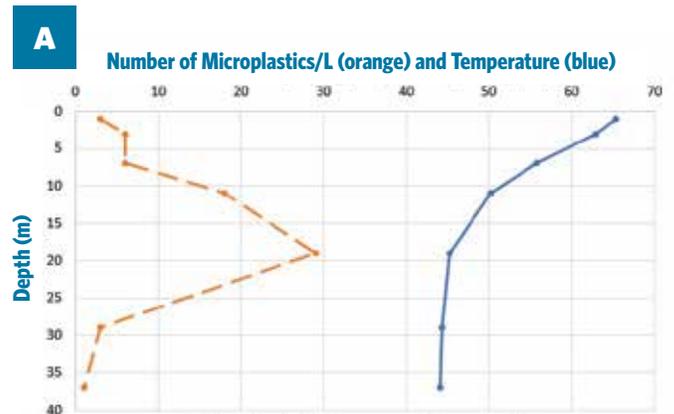


Figure 2: The number of microplastics (orange line) and the temperature of the water (blue line) as they relate to water depth (vertical axis) and temperature (horizontal axis) in samples taken from the Lower Bay of Sebago Lake on (A) 28 June and (B) 29 June.

NOW ACCEPTING NOMINATIONS FOR THE 2020 LAKE ASSOCIATION OF THE YEAR

Lake and watershed associations around the state are on the front-lines of the battle for clean water and healthy lakes. We are looking for your help in identifying the extraordinary associations and organizations that work to protect our lakes. If you know of an association active in their support of lake education, invasive species prevention or control, advocacy, or water quality protection, we'd like to hear from you! Tell us about their activities and programs so we can celebrate their accomplishments and successes. Nominations are due by April 30, 2020. Please email info@mainelakessociety.org or visit our website for a nomination form.

If you know of an individual worthy of recognition, please see our call for Lake Heroes on page 11 and send us more information. Thank you!



Maine Lakes Society

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THANK YOU TO OUR 2019 CONFERENCE SPONSORS!

Thank you and continued gratitude to all the sponsors of this year's Maine Lakes Conference. Their commitment to Maine Lakes Society allows us to plan, organize and present the event at an affordable cost to all attendees. If you know of a business that would like to support the valuable work the conference accomplishes, please contact us at info@mainlakessociety.org.



The Breathable Home



Portland Water District
FROM SEBAGO LAKE TO CASCO BAY



SAVE THE DATE!

Maine Lakes will host its 50th annual Maine Lakes Conference on Saturday, June 20, 2020 at the Hutchinson Center in Belfast. The theme will be 2020: Clear Vision for Clean Lakes, and we will be inviting speakers to share their vision of the next 50 years of Maine lake conservation. You will not want to miss it so please mark your calendars now!